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**Alameda County  
Environmental Health**

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Cameron Park, California 95682  
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October 31, 2007  
Project No. 2007-0057-01

Mr. Barney Chan  
Alameda County Health Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502  
(via GeoTracker)

Re: Quarterly Groundwater Monitoring Report, Third Quarter 2007, for former USA Service Station No. 57, located at 10700 MacArthur Boulevard, Oakland, CA (LOP No. RO0000232)

Dear Mr. Chan:

Stratus Environmental, Inc. (Stratus), on behalf of Moller Investment Group, Inc. (MIGI), is submitting the attached report, which presents the results of third quarter 2007 quarterly monitoring and sampling program, and an update on remediation efforts at the former USA Service Station No. 57, located at 10700 MacArthur Boulevard, Oakland, California (Figure 1). This report has been prepared in compliance with Alameda County Department of Environmental Health (ACDEH) requirements for underground storage tank (UST) investigations.

If you have any questions regarding this report, please contact Scott Bittinger at (530) 676-2062.

Sincerely,

STRATUS ENVIRONMENTAL

*Gowri S. Kowtha*  
Gowri S. Kowtha, P.E.  
Principal Engineer



*Scott G. Bittinger*  
Scott G. Bittinger, P.G.  
Project Manager

Attachment: Quarterly Groundwater Monitoring Report, Third Quarter 2007

cc: Mr. Charles Miller, Moller Investment Group, Inc.  
Mr. John Jay, Jay-Phares Corporation  
Mr. Peter McIntyre, AEI Consultants

Date October 31, 2007

## FORMER USA GASOLINE QUARTERLY GROUNDWATER MONITORING REPORT

Facility No: 57 Address: 10700 MacArthur Blvd., Oakland, California  
MIGI Project Supervisor: Charles Miller  
Consulting Co./Contact Person: Stratus Environmental, Inc./ Scott Bittinger, P.G.  
Consultant Project No: 2007-0057-01  
Primary Agency/Regulatory ID No: Barney Chan, Alameda County Department of Environmental Health / RO0000232

### WORK PERFORMED THIS QUARTER (Third 2007):

1. Stratus measured groundwater elevations and collected groundwater samples from wells S-1, S-2, MW-3 through MW-5, MW-7, MW-8, and EX-1 through EX-4 on July 23, 2007.
2. Stratus directed the installation of two air sparge wells AS-1 and AS-2 on August 23, 2007.
3. Stratus conducted five site visits to collect field and laboratory parameters to evaluate and optimize the performance of the oxygen injection (iSOC™) system.
4. Stratus prepared and submitted a letter (dated August 28, 2007) to the Bay Area Air Quality Management District (BAAQMD) to notify them regarding a two-month dual phase extraction (DPE) and air sparge event at the site.
5. Stratus temporarily shutdown the iSOC™ to allow for the mass removal event. Stratus initiated a combined DPE and air sparge mass removal event on September 4, 2007. Wells EX-1 through EX-4 are being used for extraction, and wells AS-1 and AS-2 are being used for air sparging.
6. Stratus compiled and evaluated groundwater monitoring data.

### WORK PROPOSED FOR NEXT QUARTER (Fourth 2007):

1. The next sampling event is tentatively scheduled for October 2007. Groundwater samples will be collected for laboratory analysis from wells S-1, S-2, MW-3 through MW-5, MW-7, MW-8, and EX-1 through EX-4.
2. Groundwater samples will be analyzed for gasoline range organics (GRO) using U.S. Environmental Protection Agency Method (EPA) Method SW8015B/DHS Luft Manual, and for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromoethane (EDB) using EPA Method SW8260B.
3. Stratus oversaw the destruction of obstructed well MW-6 on October 16, 2007.
4. Upon completion of the seventh DPE and air sparge petroleum hydrocarbon mass removal event, Stratus will prepare and submit a report summarizing the findings of these events to the ACHCSA.
5. Stratus will submit a report documenting the installation of wells AS-1 and AS-2, and the destruction of well MW-6.

6. Upon completion of the hydrocarbon mass removal event, Stratus will resume operation of the oxygen injection system and conduct bi-monthly site visits to conduct routine operation and maintenance of the oxygen injection system.

Current Phase of Project:	Monitoring / Interim Remediation
Frequency of Groundwater Sampling:	All Wells = Quarterly
Frequency of Groundwater Monitoring:	Quarterly
Groundwater Sampling Date:	July 23, 2007
Is Free Product (FP) Present on Site:	No
FP Recovered This Quarter:	NA
Cumulative FP Recovered to Date:	NA
Approximate Depth to Groundwater:	10.10 to 20.00 feet below top of well casing
Groundwater Flow Direction:	South
Groundwater Gradient:	0.02 to 0.04 ft/ft

### INTERIM REMEDIATION SYSTEM OPERATION AND PERFORMANCE

Equipment Inventory:	Oxygen Injection System (iSOC™-Manufactured by inVentures Technologies, Inc.)
System Status:	System shutdown on September 4, 2007
Reporting Period:	June 29, 2007 through September 18, 2007
Historical Highest GRO Concentration:	160,000 µg/L (S-2, 1998)
Historical Highest Benzene Concentration:	13,000 µg/L (EX-2, 2005)
Historical Highest MTBE Concentration:	820 µg/L (MW-3, 1995)
Highest GRO Concentration this Period:	7,200 µg/L (EX-4)
Highest Benzene Concentration this Period:	2,600 µg/L (EX-4)
Highest MTBE Concentration this Period:	630 µg/L (MW-3)

### DISCUSSION:

At the time of the third quarter 2007 monitoring event, groundwater elevations had decreased between 1.30 and 7.29 feet in all wells since the previous monitoring event (April 9, 2007). Depth-to-water measurements were converted to feet above mean sea level (MSL) and used to construct a groundwater elevation contour map (Figure 2). The groundwater elevations measured in wells MW-3 and EX-1 through EX-4 were not used in contour construction. The groundwater flow direction was generally to the south at average gradients ranging from approximately 0.02 to 0.04 ft/ft. South-southeast, south, and radial groundwater flow patterns have been observed during previous monitoring events.

GRO, benzene, and MTBE were reported in wells MW-3, EX-1, EX-2, and EX-4. GRO and benzene were reported in well EX-3, GRO and MTBE were reported in well S-1, and MTBE was reported in wells S-2 and MW-7. The maximum concentrations of GRO (7,200 µg/L) and benzene (2,600 µg/L) were reported in well EX-4, and the maximum concentration of MTBE (630 µg/L) was reported in well MW-3. TBA and 1,2-DCA were reported in well MW-3 at concentrations of 920 µg/L and 99 µg/L, respectively. No concentrations of DIPE, ETBE, TAME, or EDB were reported in any of the wells. These results are generally consistent with historical analytical data. Analytical results of GRO, benzene, and MTBE for groundwater samples collected on July 23, 2007, are presented in Figure 3.

## REMEDIATION SYSTEM STATUS

### System Description

The iSOC™ oxygen injection system is a bioremediation technology that produces high levels of dissolved oxygen for in-situ biodegradation of petroleum hydrocarbon constituents. The iSOC™ system consists of individual injection units (1.62 inches in diameter and approximately 15 inches in length) made of stainless steel, and an industrial grade oxygen cylinder. The individual injection units contain a micro-flow controller that regulates the flow based on the static head and pressure setting at the oxygen cylinder. The injection units also contain micro-porous hollow fibers, which provide a significant mass transfer area and create an ultra saturation zone when oxygen gas pressure is maintained lower than the static groundwater pressure. Each individual injection unit is placed in a monitoring well and connected to a 250 cubic centimeter (cc) oxygen cylinder using a single run ¼-inch diameter tubing.

### Operational History and Monitoring Plan

From startup on January 11, 2006 through December 18, 2006, the individual injection units were placed in wells S-1, S-2, and MW-3. During that period, wells EX-1 through EX-3 were used as observation wells to monitor the performance of the remediation system. In December 2006, the iSOC™ units were moved from wells S-1 and MW-3 to wells EX-1 and EX-2. Since that time, oxygen injection at wells S-2, EX-1, and EX-2 has continued and wells S-1, MW-3, and EX-3 have been used as observation wells. Monitoring wells MW-7 and MW-8 are used as background wells to monitor natural changes in groundwater geochemistry. In September 2007, the oxygen injection system was shutdown to facilitate dual phase extraction (DPE) using wells EX-1 through EX-4, and air sparge using wells AS-1 and AS-2. The following field and laboratory parameters were monitored periodically to evaluate and optimize the performance of the oxygen injection system.

Field Parameters: Depth to water, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), specific conductivity, and temperature.

Laboratory Parameters: GRO, BTEX, oxygenates, BOD, total and ferrous iron, heterotrophic plate counts, total organic carbon, total dissolved solids, nitrates, nitrites, ammonia, sulfates, sulfides, total phosphorus and orthophosphate.

Since system start-up, field parameters were collected on a bi-monthly basis, and samples for laboratory analyses were collected on a quarterly basis. A summary of sampling frequencies, field and laboratory parameters, and the potential significance of both are presented as Table 3.

### Results

A summary of current and historical field data and laboratory results are presented in Tables 4 and 5, respectively. Graphs illustrating DO levels over time from December 2006 to present in injection wells (S-2, EX-1, and EX-2) and in observation and background wells (S-1, MW-3, MW-7, and MW-8) are presented as Figures 4 and 5, respectively. Graphs illustrating DO levels over time from January to December 2006 in historic injection wells (S-1, S-2, and MW-3) and in observation and background wells (EX-1, EX-2, MW-7, and MW-8) are presented in Appendix E.

During the third quarter 2007 (prior to shutdown of the oxygen injection system), average DO levels in injection wells S-2, EX-1, and EX-2 were 2.44 mg/L, 10.00 mg/L, and 5.81 mg/L, respectively. The average DO levels in the observation wells (S-1, MW-3, and EX-3) and the background monitoring wells (MW-7 and MW-8) were in the ranges of 0.72 mg/L to 2.69 mg/L, and 4.64 mg/L to 5.18 mg/L, respectively (Figure 5). Based on the bio-parameter data available, the heterotrophic plate counts reported for the injection wells (EX-1 and EX-2) generally appear to be greater than the plate counts reported for background monitoring wells (MW-7 and MW-8). However, a consistent pattern or correlation of heterotrophic plate counts either with the variation in DO levels or the petroleum hydrocarbon

concentrations has not been identified in the data available to date.

Graphs illustrating concentrations of GRO, benzene, MTBE, and depth to water variations with time at wells S-1, S-2, MW-3, EX-1, and EX-2 are presented in Figures 6 through 10. The dissolved petroleum hydrocarbon concentrations generally appear to be influenced by the groundwater elevation fluctuations. A consistent declining trend in petroleum hydrocarbon concentrations has not been observed in the monitoring wells since the start-up of the oxygen injection system.

A combined DPE and air sparge petroleum hydrocarbon mass removal event was initiated at the site on September 4, 2007, using extraction wells EX-1 through EX-4, and air sparge wells AS-1 and AS-2. Between September 4 and September 20, 2007 an applied vacuum in the range of 10" to 15" inches of mercury (Hg) produced influent soil vapor flow rates in the range of 93.3 to 122.8 cubic feet per minute (cfm) and an average groundwater extraction rate of 0.13 gallons per minute (gpm). A total of 330 gallons of extracted groundwater has been treated using the carbon vessels and discharged to the sanitary sewer between September 4 and September 20, 2007.

#### **ATTACHMENTS:**

- Table 1 Groundwater Elevation and Analytical Summary
- Table 2 Groundwater Analytical Results for Oxygenates and Additional Compounds
- Table 3 Monitoring Plan Summary
- Table 4 Physical Parameter Summary
- Table 5 Analytical Parameter Summary
- Figure 1 Site Location Map
- Figure 2 Groundwater Elevation Contour Map (Third Quarter 2007)
- Figure 3 Groundwater Analytical Summary (Third Quarter 2007)
- Figure 4 DO Variation with Time at Injection Wells
- Figure 5 DO Variation with Time at Observation and Background Wells
- Figure 6 GRO, Benzene, MTBE, and Depth to Water Variation with Time at S-1
- Figure 7 GRO, Benzene, MTBE, and Depth to Water Variation with Time at S-2
- Figure 8 GRO, Benzene, MTBE, and Depth to Water Variation with Time at MW-3
- Figure 9 GRO, Benzene, MTBE, and Depth to Water Variation with Time at EX-1
- Figure 10 GRO, Benzene, MTBE, and Depth to Water Variation with Time at EX-2
- Appendix A Field Data Sheets
- Appendix B Sampling and Analysis Procedures
- Appendix C Certified Analytical Reports and Chain-of-Custody Documentation
- Appendix D GeoTracker Electronic Submittal Information
- Appendix E Historical DO Variation with Time at Injection Wells, and at Observation and Background Wells

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
 10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
S-1	02/12/87						630	4.4	3.5	37	NA
	03/03/95	13.10	74.74	61.64	910	5,900	260	7.6	16	14	NA
	07/24/95	12.35		62.39	NA	NA	NA	NA	NA	NA	NA
	11/22/95	19.30	78.68	59.38	460	6,100	13	0.69	0.99	1.1	460*
	12/06/95	19.59		59.09	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.52		59.16	NA	NA	NA	NA	NA	NA	NA
	01/31/97	15.07		63.61	1,100	200	11	6	3	6	200*
	10/10/97	18.90		59.78	530	2,000	<0.5	2.1	<0.5	<2	230*
	01/20/98	16.79		61.89	1,800	200	<0.5	<0.5	1.5	10	87*
	04/28/98	8.37		70.31	130	7,300	1.9	3.2	<0.5	<0.5	310*
	07/31/98	11.61		67.07	310	2,000	0.54	4.6	3.8	0.82	280*
	06/10/99	14.35		64.33	660	150	0.99	<0.5	<0.5	2.4	80*[1]
	10/18/00	17.56		61.12	<50	330	<0.5	0.93	<0.5	<0.5	44
	03/12/02	16.29		62.39	500	<50	2.8	4.8	0.79	4.4	63
	11/19/02	19.53		59.15	190	NA	<0.50	<0.50	<0.50	<0.50	190
	01/09/03	18.14		60.54	510	NA	1.1	<0.50	0.52	<0.50	11
	04/14/03	18.04		60.64	300	NA	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]	27
	07/21/03	20.31		58.37	300	NA	<0.50	<0.50	<0.50	<0.50	11
	10/09/03	19.46		59.22	390	NA	<0.50	<0.50	<0.50	<0.50	8.8
	01/15/04	18.21	79.66	61.45	200	NA	<0.50	<0.50	<0.50	<0.50	6.0
	04/08/04	19.29		60.37	140	NA	<0.50	<0.50	<0.50	<0.50	12
	08/10/04	18.86		60.80	110	NA	4.6	<0.50	<0.50	0.51	73
	11/11/04	19.81		59.85	160	NA	<0.50	<0.50	<0.50	<0.50	150
	01/19/05	18.12		61.54	440	NA	<0.50	<0.50	1.4	<0.50	140
	04/14/05	13.94		65.72	320	NA	<0.50	<0.50	<0.50	<0.50	120
	07/19/05	14.11		65.55	240	NA	6.1	<0.50	0.60	<0.50	60
	10/24/05	16.53		63.13	320	NA	5.0	<0.50	1.1	<0.50	37
	02/02/06	15.27		64.39	<50	NA	<0.50	<0.50	<0.50	<0.50	45
	04/27/06	9.59		70.07	<50	NA	<0.50	<0.50	<0.50	<0.50	7.7
	07/12/06	11.00		68.66	<50	NA	<0.50	<0.50	<0.50	<0.50	12
	10/17/06	14.54		65.12	<50	NA	<0.50	<0.50	<0.50	<0.50	1.6
	01/08/07	15.87		63.79	260	NA	4.6	<0.50	<0.50	<0.50	15
04/09/07	16.06		63.60	300	NA	<0.50	<0.50	<0.50	<0.50	22	
04/23/07	16.31		63.35	NA	NA	NA	NA	NA	NA	NA	
07/23/07	17.86		61.80	110	NA	<0.50	<0.50	<0.50	<0.50	52	

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
S-2	02/12/87		Sheen				3,400	3,800	1,300	11,000	NA
	03/03/95	15.39	76.86	61.47	24,000	6,000	1,900	440	600	2,500	NA
	07/24/95	14.47		62.39	NA	NA	NA	NA	NA	NA	NA
Sheen	11/22/95	21.52	80.93	59.41	NA	NA	NA	NA	NA	NA	NA
	12/06/95	21.78		59.15	NA	NA	NA	NA	NA	NA	NA
	01/04/96	21.75		59.18	NA	NA	NA	NA	NA	NA	NA
	01/31/97	17.25		63.68	NA	NA	NA	NA	NA	NA	NA
Sheen	10/10/97	21.21		59.72	13,000	<50	260	38	190	280	600*
Sheen	01/20/98	19.07		61.86	1,900	2,300	4.6	6.3	<0.5	4.6	190*
	04/28/98	10.47		70.46	22,000	<100	980	160	320	680	570*
	07/31/98	13.71		67.22	160,000	<50	950	290	550	1,700	550*
	11/02/98	17.31		63.62	14,000	<500	170	70	170	230	490*
	06/10/99	16.48		64.45	17,000	<50	650	230	<25	750	490*[1]
	10/18/00	19.70		61.23	4,400	<50	2	64	5.1	12	270
	03/12/02	18.56		62.37	5,100	660	62	44	52	78	430
	11/19/02	21.70		59.23	26,000	NA	1,400	180	520	340	750
	01/09/03	20.37		60.56	16,000	NA	120	32	76	214	270
	04/14/03	19.93		61.00	16,000	NA	160	76	210	290	400
	07/21/03	22.00		58.93	9,700	NA	270	90	200	277	410
	10/09/03	21.58		59.35	10,000	NA	39	9.2	52	26.5	180
	01/15/04	20.44	81.90	61.46	6,300	NA	21	<2.0 [3]	20	3.1	130
	04/08/04	17.15		64.75	13,000	NA	160	76	170	231	430
	08/10/04	20.98		60.92	10,000	NA	76	13	<5.0 [3]	500	92
	11/11/04	21.95		59.95	20,000	NA	530	240	370	1,730	420
	01/19/05	20.33		61.57	17,000	NA	590	150	250	990	580
	04/14/05	16.17		65.73	20,000	NA	830	230	570	1,980	510
	07/19/05	16.25		65.65	970	NA	48	13	16	57	72
	10/24/05	18.07		63.83	1,200	NA	100	13	52	41	69
	02/02/06	17.26		64.64	2,000	NA	17	12	26	108	340
	04/27/06	11.55		70.35	130	NA	5.1	1.1	2.8	8.8	81
	07/12/06	12.98		68.92	140	NA	<0.50	<0.50	<0.50	0.77	180
	10/17/06	16.59		65.31	130	NA	0.98	<0.50	1.1	2.20	160
	01/08/07	18.21		63.69	69	NA	<0.50	<0.50	<0.50	<0.50	64
	04/09/07	18.29		63.61	360	NA	1.4	1.5	2.2	9.8	270
	07/23/07	20.00		61.90	<50	NA	<0.50	<0.50	<0.50	<0.50	7.7

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MW-3	03/03/95	13.99	76.30	62.31	2,500	1,600	540	92	36	200	NA
	07/24/95	13.33		62.97	NA	NA	NA	NA	NA	NA	NA
	11/22/95	20.94	80.32	59.38	14,000	5,400	5,700	230	430	650	820*
	12/06/95	17.48		62.84	NA	NA	NA	NA	NA	NA	NA
	01/04/96	20.01		60.31	NA	NA	NA	NA	NA	NA	NA
	01/31/97	16.63		63.69	1,100	<50	130	8	5	5	NA
	10/10/97	20.62		59.70	3,400	1,100	830	4	100	<10	160*
	01/20/98	15.40		64.92	3,900	550	7.9	4.1	<0.5	3.7	<5.0*
	04/28/98	10.51		69.81	800	1,000	82	5.2	5.7	5.4	240*
	07/31/98	13.46		66.86	2,200	610	510	7.6	16	5.27	310*
	11/02/98	17.11		63.21	4,900	1,600	220	16	13	13.7	180*
	06/10/99	15.24		65.08	1,000	120	<0.5	<0.5	<0.5	1.1	120*[1]
	10/18/00	15.41		64.91	<50	<50	<0.5	<0.5	<0.5	<0.5	12
	04/08/04	13.70		66.62	<50	NA	<0.50	<0.50	<0.50	<0.50	19
	08/10/04	16.96		63.36	580	NA	19	<1.0[3]	<1.0[3]	3.3	300
	11/11/04	17.40		62.92	3,000	NA	810	<5.0[3]	43	<5.0[3]	690
	01/19/05	13.28		67.04	92	NA	18	<0.50	0.77	<0.50	17
	04/14/05	8.73		71.59	<50	NA	0.52	<0.50	<0.50	<0.50	11
	07/19/05	11.94		68.38	390	NA	82	2.3	1.8	9.2	200
	10/24/05	14.70	77.27	62.57	2,100	NA	460	6.9	7.7	11.9	300
	02/02/06	16.48		60.79	530	NA	11	<0.50	1.2	1.1	560
	04/27/06	7.85		69.42	<300[3]	NA	<1.5[3]	<1.5[3]	<1.5[3]	<1.5[3]	180
	07/12/06	10.08		67.19	250	NA	5.5	<1.0[3]	<1.0[3]	<1.0[3]	190
10/17/06	12.80		64.47	93	NA	8.8	<0.50	<0.50	<0.50	100	
01/08/07	21.68		55.59	200	NA	14	<0.50	0.89	0.95	85	
04/09/07	12.24		65.03	1,400	NA	380	6.6	22	12.5	600	
04/23/07	12.53		64.74	NA	NA	NA	NA	NA	NA	NA	
07/23/07	14.44		62.83	1,600	NA	420	<2.5[3]	27	<2.5[3]	630	



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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-4	11/22/95	14.99	76.42	61.43	<50	200	<0.5	1.5	<0.5	1.7	6.4*
	12/06/95	11.21		65.21	NA	NA	NA	NA	NA	NA	NA
	01/04/96	14.62		61.80	NA	NA	NA	NA	NA	NA	NA
	01/31/97	8.18		68.24	<50	<50	<0.5	2	<0.5	2	11*
	10/10/97	14.14		62.28	<50	<50	<0.5	<0.5	<0.5	<2	<5.0*
	01/20/98	7.05		69.37	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	5.88		70.54	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	8.40		68.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	16.08		60.34	NA	NA	NA	NA	NA	NA	NA
	06/10/99	14.81		61.61	NA	NA	NA	NA	NA	NA	NA
	10/18/00	12.71		63.71	<50	<50	<0.5	0.59	0.82	0.53	<5.0*
	03/12/02	8.92		67.50	<50	<50	<0.5	0.61	0.72	2.5	1.8
	11/19/02	13.24		-13.24	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/09/03	11.00		-11.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/03	11.03		-11.03	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/21/03	13.10		-13.10	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/09/03	13.33		-13.33	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/15/04	12.14		-12.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/04	10.76		65.66	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	08/10/04	12.62		63.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/11/04	11.93		64.49	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/19/05	10.34		66.08	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/05	5.66		[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50
07/19/05	7.55		[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50	
10/24/05	10.12		76.26	66.14	<50	NA	<0.50	<0.50	<0.50	<0.50	
02/02/06	6.99			69.27	<50	NA	<0.50	<0.50	<0.50	<0.50	
04/27/06	NM			NM			Well Not Monitored or Sampled - Covered				
07/12/06	6.05			70.21	<50	NA	<0.50	<0.50	<0.50	<0.50	
10/17/06	NM			NM			Well Not Monitored or Sampled - Covered				
01/08/07	8.82			67.44	<50	NA	<0.50	<0.50	<0.50	<0.50	
04/09/07	8.52			67.74	<50	NA	<0.50	<0.50	<0.50	<0.50	
07/23/07	10.10			66.16	<50	NA	<0.50	<0.50	<0.50	<0.50	

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	
MW-5	11/22/95	19.56	80.52	60.96	<50	280	<0.5	1.8	<0.5	3	2.2*	
	12/06/95	15.84		64.68	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	19.36		61.16	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	13.31		67.21	80	<50	<0.5	0.6	<0.5	2	6*	
	10/10/97	17.80		62.72	<50	<50	<0.5	<0.5	<0.5	<2	<5*	
	01/20/98	12.58		67.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	9.45		71.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	07/31/98	7.38		73.14	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	15.98		64.54	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*	
	06/10/99	14.60		65.92	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	17.77		62.75	<50	<50	<0.5	0.75	<0.5	0.79	28	
	03/12/02	15.72		64.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/19/02	NM		NM								Well Damaged
	01/09/03	NM		NM								Well Damaged
	04/14/03	NM		NM								Well Damaged
	07/21/03	NM		NM								Well Damaged
	10/09/03	NM		NM								Well Damaged
	01/15/04	NM		NM								Well Damaged
	04/08/04	16.80			63.72	<100	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	08/10/04	18.58			61.94	89	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/11/04	NM			NM							Well Damaged
	01/19/05	NM			NM							Well Damaged
	04/14/05	10.57		[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
07/19/05	11.77		[4]	NM	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
10/24/05	14.29		80.78	66.49	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
02/02/06	NM			NM							Well Not Monitored or Sampled - Under Soil Pile	
04/27/06	7.42			73.36	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/06	NM			NM							Well Not Monitored or Sampled - Covered	
10/17/06	NM			NM							Well Not Monitored or Sampled - Covered	
01/08/07	NM			NM							Well Not Monitored or Sampled - Covered	
04/09/07	NM			NM							Well Not Monitored or Sampled - Covered	
04/23/07	11.90			68.88	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
07/23/07	13.98			66.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	
MW-6	11/22/95	21.73	81.64	59.91	<50	140	<0.5	1.2	<0.5	1.5	5.3*	
	12/06/95	18.03		63.61	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	21.67		59.97	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	16.01		65.63	70	<50	<0.5	2	<0.5	<1	5*	
	10/10/97	20.55		61.09	80	<50	<0.5	<0.5	<0.5	<2	<5*	
	01/20/98	15.74		65.90	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	10.78		70.86	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	07/31/98	13.97		67.67	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	17.97		63.67	NA	NA	NA	NA	NA	NA	NA	
	06/10/99	16.92		64.72	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	NM		NM	NM				Unable to Locate			
	03/12/02	NM		NM	NM				Unable to Locate			
	11/19/02	NM		NM	NM				Unable to Locate			
	01/09/03	NM		NM	NM				Unable to Locate			
	04/14/03	NM	NM	NM				Unable to Locate				
	07/21/03	NM	NM	NM				Unable to Locate				
	10/19/03	NM	NM	NM				Unable to Locate				
	01/15/04	NM	NM	NM				Unable to Locate				
	04/08/04	NM	NM	NM				Well Obstructed - Not Sampled				
	08/10/04	NM	NM	NM				Well Obstructed - Not Sampled				
	11/11/04	NM	NM	NM				Well Obstructed - Not Sampled				
	01/19/05	NM	NM	NM				Well Obstructed - Not Sampled				
	04/14/05	15.78	65.86	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/19/05	NM	NM					Well Obstructed - Not Sampled				
	10/24/05	NM	82.32	NM				Well Obstructed - Not Sampled				
	02/02/06	15.93	66.39	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
04/27/06	11.00	71.32	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
07/12/06	12.75	69.57	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
10/17/06	15.95	66.37	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
01/08/07	17.40	64.92					Likely obstructed at 18 ft bgs; contained insufficient water for sampling					
04/09/07	16.20	66.12	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
07/23/07	17.50	64.82					Likely obstructed at 18 ft bgs; contained insufficient water for sampling					

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater							Total	
				Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-7	11/22/95	19.38	78.86	59.48	<50	180	<0.5	0.57	<0.5	0.62	0.73*	
	12/06/95	19.72		59.14	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	19.76		59.10	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	15.25		63.61	70	<50	0.7	1	<0.5	<1	8*	
	10/10/97	19.03		59.83	<50	<50	<0.5	<0.5	<0.5	<2	15*	
	01/20/98	17.11		61.75	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	8.22		70.64	<50	<50	<0.5	<0.5	<0.5	<0.5	9.3*	
	07/31/98	11.53		67.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	15.15		63.71	NA	NA	NA	NA	NA	NA	NA	
	06/10/99	14.23		64.63	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	17.59		61.27	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	03/12/02	16.54		62.32	<50	<50	<0.5	<0.5	<0.5	<0.5	2.9	
	11/19/02	19.59		-19.59	<50	NA	<0.50	<0.50	<0.50	<0.50	3.8	
	01/09/03	18.38		-18.38	<50	NA	<0.50	<0.50	<0.50	<0.50	2.7	
	04/14/03	18.17	-18.17	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
	07/21/03	20.29	-20.29	<50	NA	<0.50	<0.50	<0.50	<0.50	1.8		
	10/09/03	19.48	-19.48	<50	NA	<0.50	<0.50	<0.50	<0.50	2.9		
	01/15/04	18.45	79.81	61.36	<50	NA	<0.50	<0.50	<0.50	<0.50	2.6	
	04/08/04	17.28		62.53	<50	NA	<0.50	<0.50	<0.50	<0.50	0.81	
	08/10/04	18.85		60.96	<50	NA	<0.50	<0.50	<0.50	<0.50	2.1	
	11/11/04	19.85		59.96	<50	NA	<0.50	<0.50	<0.50	<0.50	1.0	
	01/19/05	19.59		60.22	<50	NA	<0.50	<0.50	<0.50	<0.50	1.5	
	04/14/05	14.17		65.64	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/19/05	14.16		65.65	<50	NA	<0.50	<0.50	<0.50	<0.50	1.9	
	10/24/05	16.65		63.16	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/02/06	15.39		64.42	<50	NA	<0.50	<0.50	<0.50	<0.50	1.3	
	04/27/06	8.51		71.30	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/06	9.94	69.87		<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
10/17/06	13.46	66.35		<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
01/08/07	15.03	64.78		<50	NA	<0.50	<0.50	<0.50	<0.50	0.99		
04/09/07	15.27	64.54	<50	NA	<0.50	<0.50	<0.50	<0.50	0.54			
07/23/07	16.96	62.85	<50	NA	<0.50	<0.50	<0.50	<0.50	1.7			

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater							Total	
				Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-8	11/22/95	33.33	79.55	46.22	<50	360	<0.5	1.3	<0.5	2.1	2.1*	
	12/06/95	17.57		61.98	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	20.08		59.47	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	18.72		60.83	80	<50	0.6	1	<0.5	1	8*	
	10/10/97	20.26		59.29	50	<50	<0.5	<0.5	<0.5	<2	<5*	
	01/20/98	15.91		63.64	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	10.39		69.16	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	07/31/98	12.93		66.62	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	16.90		62.65	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*	
	06/10/99	14.98		64.57	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	16.27		63.28	<50	<50	<0.5	<0.5	1.1	6.3	8.6*	
	03/12/02	14.56		64.99	<50	<50	<0.5	0.63	0.55	1.7	0.94	
	11/19/02	21.14		-21.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	01/09/03	17.90		-17.90	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	04/14/03	17.84		-17.84	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/21/03	19.79		-19.79	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	10/09/03	21.02		-21.02	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	01/15/04	18.10	80.50	62.40	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	04/08/04	17.51		62.99	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/10/04	20.76		59.74	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/04	21.38		59.12	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
01/19/05	17.20		63.30	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
04/14/05	12.68		67.82	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
07/19/05	15.78		64.72	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
10/24/05	18.68		61.82	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
02/02/06	14.57		65.93	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
04/27/06	10.48		70.02	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
07/12/06	13.08		67.42	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
10/17/06	15.96		64.54	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
01/08/07	16.70		63.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
04/09/07	16.25		64.25	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		
07/23/07	18.66		61.84	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50		

**TABLE 1**  
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Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater			TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total	
				Elevation (ft msl)	GRO[5] (µg/L)						Xylenes (µg/L)	MTBE (µg/L)
EX-1	10/24/05	14.37	77.72	63.35	5,000	NA	140	8.4	20	195	360	
	02/02/06	1.68		76.04	3,000	NA	3.6	<0.50	14	55.5	0.63	
	04/27/06	1.76		75.96	130	NA	0.98	<0.50	<0.50	2.42	<0.50	
	07/12/06	6.88		70.84	2,600	NA	760	15	34	104	200	
	10/17/06	9.79		67.93	3,300	NA	810	<5.0[3]	32	68	170	
	01/08/07	5.47		72.25	910	NA	9.1	<0.50	2.7	5.9	1.6	
	04/09/07	4.88		72.84	140	NA	1.3	<0.50	1.2	0.93	<0.50	
	07/23/07	12.17		65.55	220	NA	7.4	<0.50	1.7	<0.50	0.55	
EX-2	10/24/05	16.00	76.96	60.96	42,000	NA	13,000	1,300	1,300	2,580	410	
	02/02/06	8.18		68.78	28,000	NA	9,000	1,300	1,100	3,340	200	
	04/27/06	5.22		71.74	24,000	NA	4,000	1,800	650	3,900	86	
	07/12/06	7.32		69.64	22,000	NA	6,000	1,300	810	3,280	190	
	10/17/06	9.22		67.74	31,000	NA	10,000	1,800	1,200	3,400	230	
	01/08/07	10.35		66.61	14,000	NA	4,100	440	440	1,140	90	
	04/09/07	9.67		67.29	620	NA	160	17	24	58	6.0	
	07/23/07	11.46		65.50	610	NA	150	7.5	29	38	5.2	
EX-3	10/24/05	14.85	78.87	63.02	20,000	NA	220	21	660	3,110	<10[3]	
	02/02/06	NM		NM			Well Not Monitored or Sampled - Under Soil Pile					
	04/27/06	NM		NM			Well Not Monitored or Sampled - Covered					
	07/12/06	9.01		68.86	5,700	NA	79	19	120	657	<2.5[3]	
	10/17/06	NM		NM			Well Not Monitored or Sampled - Covered					
	01/08/07	12.31		66.56	970	NA	8.3	0.81	19	19.8	<0.50	
	04/09/07	10.78		68.09	700	NA	8.9	<0.50	11	6.5	<0.50	
	07/23/07	12.82		66.05	1,500	NA	14	<0.50	21	8.9	<0.50	
EX-4	10/24/05	14.93	77.96	63.03	1,900	NA	390	69	8.8	90	11	
	02/02/06	NM		NM			Well Not Monitored or Sampled - Under Soil Pile					
	04/27/06	NM		NM			Well Not Monitored or Sampled - Covered					
	07/12/06	7.37		70.59	6,400	NA	1,400	400	120	1,220	35	
	10/17/06	NM		NM			Well Not Monitored or Sampled - Covered					
	01/08/07	12.92		65.04	3,500	NA	840	51	22	162	25	
	04/09/07	12.43		65.53	4,600	NA	730	78	83	410	6.5	
	07/23/07	14.20		63.76	7,200	NA	2,600	180	100	560	29	

**TABLE 1**  
**GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
<p>Note:</p> <p>* = MTBE analyzed using EPA Method 8020/8021B</p> <p>MTBE = Methyl tert-butyl ether</p> <p>TPHD = Total petroleum hydrocarbons as diesel</p> <p>GRO = Gasoline Range Organics C4-C13</p> <p>GRO analyzed using EPA Method 8015B and the remaining analytes using EPA Method 8260B</p> <p>[1] Laboratory indicates the chromatogram does not match the diesel hydrocarbon range pattern.</p> <p>[2] Reporting limits were increased due to sample foaming.</p> <p>[3] Reporting limits were increased due to high concentrations of target analytes.</p> <p>[4] Casing elevation invalid - well casing modified (cut) on April 12, 2005.</p> <p>[5] Reported as total petroleum hydrocarbons as gasoline (TPHG C3-C14+) prior to second quarter 2006.</p> <p>Monitoring wells surveyed by Morrow Surveying on February 10, 2004, and again on November 29, 2005.</p> <p>Data prior to November 19, 2002 provided by GHH Engineering.</p>											

msl = Mean sea level  
µg/L = micrograms per liter  
NA = Not analyzed  
NM = Not measured

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
S-1	11/19/02	190	<10	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	11	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	27	<20[2]	<2.0[2]	<2.0[2]	<2.0[2]	NA	NA	NA	NA
	07/21/03	11	<10[2]	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	8.8	6.4	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	6.0	10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	12	8.5	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	73	28	<1.0	<1.0	<1.0	16	<2.0	<5,000	<5,000
	11/11/04	150	14	<1.0	<1.0	<1.0	7.3	<2.0	<5,000	<5,000
	01/19/05	140	14	<1.0	<1.0	<1.0	3.8	<2.0	<5,000	<5,000
	04/14/05	120	10	<1.0	<1.0	<1.0	1.4	<2.0	<5,000	<5,000
	07/19/05	60	11	<1.0	<1.0	<1.0	9.6	<2.0	<5,000	<5,000
	10/24/05	37	<10	<1.0	<1.0	<1.0	2.2	<2.0	<5,000	<5,000
	02/02/06	45	<10	<1.0	<1.0	<1.0	1.2	<2.0	<5,000	<5,000
	04/27/06	7.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	12	<10	<1.0	<1.0	<1.0	7.9	<2.0	<5,000	<5,000
	10/17/06	1.6	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	15	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	22	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	52	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA



**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
S-2	11/19/02	750	<200[1]	<20[1]	<20[1]	<20[1]	NA	NA	NA	NA
	01/09/03	270	<100[1]	<10[1]	<10[1]	<10[1]	NA	NA	NA	NA
	04/14/03	400	95	<5.0[1]	<5.0[1]	<5.0[1]	NA	NA	NA	NA
	07/21/03	410	110	<5.0[1]	<5.0[1]	<5.0[1]	NA	NA	NA	NA
	10/09/03	180	57	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	01/15/04	130	48	<4.0[1]	<4.0[1]	<4.0[1]	<4.0[1]	<16[1]	NA	NA
	04/08/04	430	130	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	08/10/04	92	<100[1]	<10[1]	<10[1]	<10[1]	74	<40[1]	<5,000	<5,000
	11/11/04	420	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	<5,000	<5,000
	01/19/05	580	200	<5.0[1]	<5.0[1]	<5.0[1]	8.2	<20[1]	<5,000	<5,000
	04/14/05	510	150	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	07/19/05	72	37	<1.0	<1.0	<1.0	38	<2.0	<5,000	<5,000
	10/24/05	69	33	<1.0	<1.0	<1.0	35	<4.0[1]	<5,000	<5,000
	02/02/06	340	150	<1.0	<1.0	<1.0	3.2	<4.0[1]	<5,000	<5,000
	04/27/06	81	<10	<1.0	<1.0	<1.0	1.3	<2.0	<5,000	<5,000
	07/12/06	180	42	<1.0	<1.0	<1.0	5.8	<2.0	<5,000	<5,000
	10/17/06	160	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	64	<10	<1.0	<1.0	<1.0	2.6	<2.0	<5,000	<5,000
	04/09/07	270	32	<1.0	<1.0	<1.0	1.3	<2.0	<5,000	<5,000
	07/23/07	7.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-3	04/08/04	19	7.6	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	300	2,000	2.2	<2.0[1]	<2.0[1]	270	<8.0[1]	<5,000	<5,000
	11/11/04	690	1,400	<10[1]	<10[1]	<10[1]	140	<40[1]	<5,000	<5,000
	01/19/05	17	19	<1.0	<1.0	<1.0	1.4	<2.0	<5,000	<5,000
	04/14/05	11	25	<1.0	<1.0	<1.0	6.2	<2.0	<5,000	<5,000
	07/19/05	200	1,000	<2.0[1]	<2.0[1]	<2.0[1]	240	<8.0[1]	<5,000	<5,000
	10/24/05	300	750	<5.0[1]	<5.0[1]	<5.0[1]	210	<20[1]	<5,000	<5,000
	02/02/06	560	1,300	2.7	<1.0	<1.0	98	<4.0[1]	<5,000	<5,000
	04/27/06	180	330	<3.0[1]	<3.0[1]	<3.0[1]	220	<12[1]	<5,000	<5,000
	07/12/06	190	24	<2.0[1]	<2.0[1]	<2.0[1]	210	<8.0[1]	<5,000	<5,000
	10/17/06	100	50	<1.0	<1.0	<1.0	21	<2.0	<5,000	<5,000
	01/08/07	85	30	<1.0	<1.0	<1.0	22	<2.0	<5,000	<5,000
	04/09/07	600	510	<5.0[1]	<5.0[1]	<5.0[1]	67	<20[1]	<5,000	<5,000
	07/23/07	630	920	<5.0[1]	<5.0[1]	<5.0[1]	99	<20[1]	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-4	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	<0.50	7.8	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06									
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06									
	01/08/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-5	11/19/02									
	01/09/03									
	04/14/03									
	07/21/03									
	10/09/03									
	01/15/04									
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04									
	01/19/05									
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06									
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	07/12/06									
	10/17/06									
	01/08/07									
	04/09/07									
	04/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA
07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)	
MW-6	11/19/02					Unable to Locate					
	01/09/03					Unable to Locate					
	04/14/03					Unable to Locate					
	07/21/03					Unable to Locate					
	10/19/03					Unable to Locate					
	01/15/04					Unable to Locate					
	04/08/04					Well Obstructed - Not Sampled					
	08/10/04					Well Obstructed - Not Sampled					
	11/11/04					Well Obstructed - Not Sampled					
	01/19/05					Well Obstructed - Not Sampled					
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05					Well Obstructed - Not Sampled					
	10/24/05					Well Obstructed - Not Sampled					
	02/02/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07					Likely obstructed at 18 ft bgs; contained insufficient water for sampling					
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07					Likely obstructed at 18 ft bgs; contained insufficient water for sampling					

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-7	11/19/02	3.8	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	2.7	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	1.8	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	2.9	<5.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	2.6	7.9	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	0.81	9.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	2.1	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	1.0	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	1.5	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	1.9	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	1.3	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	0.99	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	0.54	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	1.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-8	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	<0.50	<10[2]	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	<0.50	9.9	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-1	10/24/05	360	120	<1.0	<1.0	<1.0	<1.0	<4.0[1]	<5,000	<5,000
	02/02/06	0.63	<10	<1.0	<1.0	<1.0	<1.0	<4.0[1]	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	200	110	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	10/17/06	170	<100[1]	<10[1]	<10[1]	<10[1]	30	<40[1]	<5,000	<5,000
	01/08/07	1.6	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	0.55	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
EX-2	10/24/05	410	<2,000[1]	<200[1]	<200[1]	<200[1]	<200[1]	<800[1]	<5,000	<5,000
	02/02/06	200	<1,000[1]	<100[1]	<100[1]	<100[1]	<100[1]	<400[1]	<5,000	<5,000
	04/27/06	86	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	<5,000	<5,000
	07/12/06	190	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	<5,000	<5,000
	10/17/06	230	<1,000[1]	<100[1]	<100[1]	<100[1]	400	<400[1]	<5,000	<5,000
	01/08/07	90	<400[1]	<40[1]	<40[1]	<40[1]	<40[1]	<160[1]	<5,000	<5,000
	04/09/07	6.0	<20[1]	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	<5,000	<5,000
	07/23/07	5.2	<10	<1.0	<1.0	<1.0	<1.0	<4.0[1]	NA	NA
EX-3	10/24/05	<10[1]	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	<5,000	<5,000
	02/02/06									
	04/27/06									
	07/12/06	<2.5[1]	<50[1]	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	10/17/06									
	01/08/07	<0.50	12	<1.0	<1.0	<1.0	1.1	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA



**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**FOR OXYGENATES AND ADDITIONAL COMPOUNDS**

Former USA Service Station No. 57  
 10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-4	10/24/05	11	51	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	02/02/06	Well Not Monitored or Sampled - Under Soil Pile								
	04/27/06	Well Not Monitored or Sampled - Covered								
	07/12/06	35	<200[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	10/17/06	Well Not Monitored or Sampled - Covered								
	01/08/07	25	<100[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	04/09/07	6.5	<100[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	07/23/07	29	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	NA	NA

Note:  
 Oxygenates analyzed using EPA Method 8260B  
 µg/L = micrograms per liter  
 NA = Not analyzed

[1] Reporting limits were increased due to high concentrations of target analytes  
 [2] Reporting limits were increased due to sample foaming

MTBE = Methyl tertiary butyl ether  
 TBA = Tertiary butyl alcohol  
 DIPE = Di-isopropyl ether  
 ETBE = Ethyl tertiary butyl ether  
 TAME = Tertiary amyl methyl ether  
 1,2-DCA = 1,2-Dichloroethane  
 EDB = 1,2-Dibromoethane

**Table 3**  
Former USA Service Station No. 57  
10700 MacArthur Boulevard  
Oakland, California  
Monitoring Plan Summary

Parameter	Sampling Frequency	Parameter Significance	Sampling Locations
<u>Field Parameters</u>			
pH	Monthly	Optimum pH range for microbial activity is 6.5 to 7.5.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Dissolved Oxygen (DO)	Monthly	Oxygen serves as electron acceptor during biodegradation and the microbial activity is directly related to the availability of electron acceptors.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
<u>Laboratory Parameters</u>			
Heterotrophic plate counts	Quarterly	Typical bacterial counts for groundwater range from $10^3$ to $10^8$ counts per liter and in counts below $10^3$ for contaminated groundwater.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Biochemical Oxygen Demand (BOD)	Quarterly	BOD determines the amount of oxygen required due to biochemical oxidation of organic matter. Increase in BOD is an indication of high oxygen demand (lack of oxygen). A decrease in BOD, accompanied by an increase in DO levels, can be a good indicator of microbial activity in the subsurface.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Total Iron & Ferrous iron	Quarterly	Oxygen, a by-product of ozone degradation can react with dissolved iron in groundwater to form ferric oxide, a soluble precipitate.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Petroleum Hydrocarbons & Oxygenates	Quarterly	Chemicals of concern. Baseline and operational concentration levels will be compared in evaluating performance of oxygen injection system.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Total Organic Carbon (TOC)	Quarterly	TOC is a measure of total concentration of organic carbon that may be available for biodegradation. Carbon from the petroleum hydrocarbons is the primary energy source for microbes.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Bioparameters (Nitrates, sulfates, & phosphates)	Quarterly	Nitrates, sulfates and phosphates are nutrients required for microbial growth and reproduction.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells
Total dissolved solids (TDS)	Quarterly	TDS is a measure of dissolved inorganic constituents and small amounts of organic matter. Precipitation of inorganic constituents in groundwater due to oxygen injection can result in scaling.	S-1, MW-3, EX-3, MW-7 MW-8, and all injection wells

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
S-1	07/19/05	Injection well	14.11	0.44	6.89	NM	681
	10/24/05	Injection well	16.53	0.95	7.05	NM	503
	01/11/06	Injection well	16.32	NM	NM	NM	NM
	01/20/06	Injection well	15.85	61.1	7.04	155	919
	02/02/06	Injection well	15.27	3.02	7.06	151	1,069
	02/15/06	Injection well	14.47	26.5	7.08	87	887
	03/03/06	Injection well	14.20	18	6.69	96	1,004
	03/24/06	Injection well	13.10	8.8[1]	7.50	322	924
	04/17/06	Injection well	10.40	18.2	7.10	533	916
	04/27/06	Injection well	9.59	15.15	7.27	NM	822
	05/04/06	Injection well	9.55	10.8	7.50	230	808
	05/16/06	Injection well	9.63	15.1	7.60	133	950
	06/09/06	Injection well	9.86	34.5	8.09	315	1,100
	06/30/06	Injection well	10.61	20.8	7.91	183	1,070
	07/10/06	Injection well	10.82	29.6	8.03	173	949
	07/12/06	Injection well	11.00	NM	7.48	NM	799
	08/03/06	Injection well	11.95	18.3	8.60	144	857
	08/25/06	Injection well	12.73	55	7.79	143	766
	09/13/06	Injection well	13.44	OR	7.11	NM	NM
	09/27/06	Injection well	14.03	OR	7.73	184	683
10/12/06	Injection well	14.43	OR	7.22	239	1,198	
10/17/06	Injection well	14.54	11[2]	7.28	NM	1,241	
11/03/06	Injection well	15.19	14.71[2]	6.43	113	1,225	
11/20/06	Injection well	15.49	6.5	8.60	381	706	
[5]	12/18/06	21 feet (to EX-1)	15.89	15.12[2]	6.66	148	1,132
	01/08/07	21 feet (to EX-1)	15.87	1.8	7.39	119	1,156
	01/16/07	21 feet (to EX-1)	15.87	1.8	7.30	119	1,156
	03/14/07	21 feet (to EX-1)	14.68	2.0	7.23	74	985
	03/29/07	21 feet (to EX-1)	15.89	3.1	7.20	80	971
	04/09/07	21 feet (to EX-1)	16.06	1.57	7.72	0	1,076
	04/16/07	21 feet (to EX-1)	16.15	2.5	7.30	147	992
	04/23/07	21 feet (to EX-1)	16.31	6.9	7.30	121	968
	04/26/07	21 feet (to EX-1)	16.24	2.7	7.20	102	953
	05/02/07	21 feet (to EX-1)	16.34	0.26	7.02	139	1,020
	05/21/07	21 feet (to EX-1)	16.78	0.36	7.06	40	923
	06/09/07	21 feet (to EX-1)	16.96	0.35	7.11	24	1,002
	07/09/07	21 feet (to EX-1)	17.64	0.77	7.03	18	1,272
	07/23/07	21 feet (to EX-1)	17.86	1.09	7.38	162	795
	08/08/07	21 feet (to EX-1)	18.19	6.21	7.07	47	1,293
	08/22/07	21 feet (to EX-1)	18.30	1.0	7.16	38	1,182
[6]	09/04/07	21 feet (to EX-1)	18.57	0.72	7.14	36	1,084
	09/18/07	21 feet (to EX-1)	18.80	1.18	7.23	70	1,096

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
S-2 (injection well)	07/19/05	Injection well	16.25	0.74	7.24	NM	669
	10/24/05	Injection well	18.07	NM	6.88	NM	490
	01/11/06	Injection well	18.52	NM	NM	NM	NM
	01/20/06	Injection well	18.05	30.1	6.55	166	917
	02/02/06	Injection well	17.26	16.66	6.97	120	2.97
	02/15/06	Injection well	16.61	32.6	7.45	93	850
	03/03/06	Injection well	16.30	23.0	6.79	120	875
	03/24/06	Injection well	14.68	2.8[1]	7.75	283	1,050
	04/17/06	Injection well	12.38	19.0	7.11	521	790
	04/27/06	Injection well	11.55	4.17	7.17	NM	794
	05/04/06	Injection well	11.04	11.2	7.65	192	901
	05/16/06	Injection well	11.47	14.4	7.61	119	933
	06/09/06	Injection well	11.76	33.6	8.10	379	757
	06/30/06	Injection well	12.53	18.5	8.17	168	760
	07/10/06	Injection well	12.77	32.6	8.34	158	727
	07/12/06	Injection well	12.98	NM	7.57	NM	648
	08/03/06	Injection well	13.90	10.3	8.70	126	814
	08/25/06	Injection well	14.73	47.8	7.73	149	679
	09/13/06	Injection well	15.45	OR	6.87	NM	NM
	09/27/06	Injection well	16.03	OR	7.20	193	549
	10/12/06	Injection well	16.45	OR	6.67	241	1,176
	10/17/06	Injection well	16.59	2.71[2]	7.10	NM	1,154
	11/03/06	Injection well	17.21	OR	6.55	120	1,221
	11/20/06	Injection well	17.55	7.1	8.46	428	682
	12/18/06	Injection well	17.97	10.01[2]	6.43	149	1,111
	01/08/07	Injection well	18.21	2.19	7.47	142	1,095
	01/16/07	Injection well	18.21	2.1	7.40	142	1,095
	03/14/07	Injection well	17.95	23.68	7.60	225	976
	03/29/07	Injection well	18.15	25.47	7.70	212	558
	04/09/07	Injection well	18.29	OR	7.73	173	1,079
	04/16/07	Injection well	18.34	14.18	7.50	220	962
	04/26/07	Injection well	18.41	15.98	7.50	240	956
	05/02/07	Injection well	18.50	OR	7.29	283	1,009
	05/21/07	Injection well	18.97	OR	7.23	155	901
	06/09/07	Injection well	19.10	OR	7.23	160	957
07/09/07	Injection well	19.79	1.14	7.17	145	1,164	
07/23/07	Injection well	20.00	3.73	7.49	178	756	
08/08/07	Injection well	20.33	OR	7.30	136	1,133	
08/22/07	Injection well	20.44	OR	7.26	111	1,135	
[6]	09/04/07	Injection well	20.69	OR	7.28	136	1,115
	09/18/07	Injection well	20.94	0.41	7.10	86	1,043

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
MW-3	07/19/05	Injection well	11.94	0.53	7.20	NM	784
	10/24/05	Injection well	14.70	1.33	6.66	NM	561
	01/11/06	Injection well	12.57	NM	NM	NM	NM
	01/20/06	Injection well	12.37	30.5	6.14	179	1,855
	02/02/06	Injection well	16.48	11.34	6.91	125	1,898
	02/15/06	Injection well	10.79	34.6	6.67	96	1,760
	03/03/06	Injection well	11.55	31.0	6.47	147	1,712
	03/24/06	Injection well	10.73	9.8[1]	7.20	314	1,540
	04/17/06	Injection well	7.91	17.5	6.83	567	1,442
	04/27/06	Injection well	7.85	19.35	7.10	NM	1,230
	05/04/06	Injection well	8.85	10.2	7.15	259	1,357
	05/16/06	Injection well	9.45	15.6	7.28	147	1,611
	06/09/06	Injection well	9.09	25.1	6.91	325	1,329
	06/30/06	Injection well	9.92	18.8	7.53	152	1,596
	07/10/06	Injection well	9.88	29.5	7.79	155	NM
	07/12/06	Injection well	10.08	NM	7.28	NM	880
	08/03/06	Injection well	11.66	16.1	8.50	159	1,104
	08/25/06	Injection well	11.53	33	7.22	143	941
	09/13/06	Injection well	11.46	OR	4.04	NM	NM
	09/27/06	Injection well	12.47	OR	7.75	181	3,421
10/12/06	Injection well	12.10	OR	7.19	242	3,457	
10/17/06	Injection well	12.80	0.0	7.34	NM	3.23	
[3]	11/03/06	Injection well	NM	NM	NM	NM	NM
	11/20/06	Injection well	13.72	4.4	8.28	380	851
[5]	12/18/06	15 feet (to EX-2)	13.47	OR	6.79	84	2,122
	01/08/07	15 feet (to EX-2)	21.68	10.04	7.19	247	262
	01/16/07	15 feet (to EX-2)	21.68	10.04	7.10	247	262
	03/14/07	15 feet (to EX-2)	10.97	4.6	8.00	133	521
	03/29/07	15 feet (to EX-2)	11.85	4.7	7.90	120	612
	04/09/07	15 feet (to EX-2)	12.24	0.19	7.80	118	993
	04/16/07	15 feet (to EX-2)	12.38	3.3	7.20	203	2.55
	04/23/07	15 feet (to EX-2)	12.53	9.9	7.50	161	683
	04/26/07	15 feet (to EX-2)	12.39	5.5	7.60	216	730
	05/02/07	15 feet (to EX-2)	12.35	4.42	7.68	217	1,011
	05/21/07	15 feet (to EX-2)	12.82	5.19	8.01	110	714
	06/09/07	15 feet (to EX-2)	13.37	3.92	7.36	209	1,104
	07/09/07	15 feet (to EX-2)	14.32	0.79	7.38	106	1,369
	07/23/07	15 feet (to EX-2)	14.44	1.91	7.05	154	1,478
	08/08/07	15 feet (to EX-2)	14.98	1.8	6.84	95	3.54
	08/22/07	15 feet (to EX-2)	15.06	0.59	6.84	88	3.41
[6]	09/04/07	15 feet (to EX-2)	15.43	0.44	6.79	89	2.94
	09/18/07	15 feet (to EX-2)	16.10	0.90	6.88	153	2.95

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
MW-7	07/19/05	70 feet (to S-1)	14.16	NM	7.46	NM	651
	10/24/05	70 feet (to S-1)	16.65	NM	7.41	NM	493
	01/11/06	70 feet (to S-1)	17.05	NM	NM	NM	NM
	01/20/06	70 feet (to S-1)	16.20	2.0	6.49	105	841
	02/02/06	70 feet (to S-1)	15.39	2.04	7.30	38	763
	02/15/06	70 feet (to S-1)	13.74	2.9	6.91	8	828
	03/03/06	70 feet (to S-1)	13.26	8.2	7.19	97	853
	03/24/06	70 feet (to S-1)	11.99	2.6[1]	8.20	202	844
	04/17/06	70 feet (to S-1)	9.40	7.2	7.68	429	876
	04/27/06	70 feet (to S-1)	8.51	2.01	8.02	NM	878
	05/04/06	70 feet (to S-1)	8.37	5.4	8.29	88	855
	05/16/06	70 feet (to S-1)	8.43	9.8	7.51	72	856
	06/09/06	70 feet (to S-1)	8.74	4.6	7.68	376	777
	06/30/06	70 feet (to S-1)	9.50	4.6	8.26	162	787
	07/10/06	70 feet (to S-1)	9.77	4.7	8.56	135	796
	07/12/06	70 feet (to S-1)	9.94	1.82	7.92	12	759
	08/03/06	70 feet (to S-1)	10.83	3.5	8.70	34	760
	08/25/06	70 feet (to S-1)	11.71	6.6	7.50	130	728
	09/13/06	70 feet (to S-1)	12.44	4.34	6.90	NM	NM
	09/27/06	70 feet (to S-1)	13.01	3.95	7.79	137	1,261
	10/12/06	70 feet (to S-1)	13.46	2.96	7.01	244	1,194
	10/17/06	70 feet (to S-1)	13.46	1.69[2]	7.33	NM	1,179
	11/03/06	70 feet (to S-1)	14.21	5.11[2]	6.86	210	1,185
	11/20/06	70 feet (to S-1)	14.54	6.7	9.10	170	740
	12/18/06	80 feet (to EX-1)	14.95	2.94[2]	6.93	142	656
	01/08/07	80 feet (to EX-1)	15.03	1.88	7.73	144	770
	01/16/07	80 feet (to EX-1)	15.03	1.8	7.70	144	770
	03/14/07	80 feet (to EX-1)	14.99	2.9	7.63	193	1,021
	03/29/07	80 feet (to EX-1)	15.13	6.4	7.80	149	935
	04/09/07	80 feet (to EX-1)	15.27	0.47	8.27	200	765
	04/16/07	80 feet (to EX-1)	15.32	2.7	7.60	174	981
	04/26/07	80 feet (to EX-1)	15.40	5.3	7.60	214	911
	05/02/07	80 feet (to EX-1)	15.49	0.97	7.49	303	978
05/21/07	80 feet (to EX-1)	15.81	2.84	7.67	202	780	
06/09/07	80 feet (to EX-1)	16.00	4.65	7.56	210	757	
07/09/07	80 feet (to EX-1)	16.72	0.94	7.86	159	816	
07/23/07	80 feet (to EX-1)	16.96	5.65	7.61	141	1,349	
08/08/07	80 feet (to EX-1)	17.64	6.59	7.63	100	905	
08/22/07	80 feet (to EX-1)	17.36	4.33	7.68	57	1,021	
[6]	09/04/07	80 feet (to EX-1)	17.60	5.69	7.91	23	809
	09/18/07	80 feet (to EX-1)	17.78	4.22	7.68	130	843

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen	
MW-8	07/19/05	47 feet (to MW-3)	15.78	7.55	7.14	NM	798	
	10/24/05	47 feet (to MW-3)	18.68	5.35	6.88	NM	480	
	01/11/06	47 feet (to MW-3)	15.49	NM	NM	NM	NM	
	01/20/06	47 feet (to MW-3)	15.36	8.20	5.97	124	541	
	02/02/06	47 feet (to MW-3)	14.57	8.7	6.83	105	6.34	
	02/15/06	47 feet (to MW-3)	13.82	6.6	6.28	10	459	
	03/03/06	47 feet (to MW-3)	14.38	8.2	6.35	116	1,953	
	03/24/06	47 feet (to MW-3)	12.83	2.7[1]	7.30	256	1,695	
	04/17/06	47 feet (to MW-3)	10.72	8.1	6.66	510	1,464	
	04/27/06	47 feet (to MW-3)	10.48	6.61	7.01	NM	1,400	
	05/04/06	47 feet (to MW-3)	11.04	6.1	7.65	156	1,507	
	05/16/06	47 feet (to MW-3)	11.86	8.3	6.97	101	1,733	
	06/09/06	47 feet (to MW-3)	12.32	6.6	7.09	406	1,336	
	06/30/06	47 feet (to MW-3)	12.79	7.7	7.15	156	1,729	
	07/10/06	47 feet (to MW-3)	13.00	7.2	7.37	163	1,435	
	07/12/06	47 feet (to MW-3)	13.08	0.63	6.94	69	1,018	
	08/03/06	47 feet (to MW-3)	14.10	4.5	8.50	121	1,065	
	08/25/06	47 feet (to MW-3)	14.55	7.4	6.82	172	815	
	09/13/06	47 feet (to MW-3)	15.02	6.22	6.42	NM	NM	
	09/27/06	47 feet (to MW-3)	15.51	6.28	6.58	122	3,999	
	10/12/06	47 feet (to MW-3)	15.85	5.67	6.39	77	3,999	
	10/17/06	47 feet (to MW-3)	15.96	6.13[2]	6.97	NM	6.70	
	[4]	11/03/06	47 feet (to MW-3)	NM	NM	NM	NM	NM
		11/20/06	47 feet (to MW-3)	16.87	3.8	7.67	394	890
		12/18/06	63 feet (to EX-2)	NM	NM	NM	NM	NM
		01/08/07	63 feet (to EX-2)	16.70	1.91	7.08	NM	752
		01/16/07	63 feet (to EX-2)	16.70	1.90	7.00	NM	752
		03/14/07	63 feet (to EX-2)	15.02	5.70	7.00	206	729
		03/29/07	63 feet (to EX-2)	15.97	7.30	7.00	185	706
		04/09/07	63 feet (to EX-2)	16.25	NM	7.74	218	1,495
		04/16/07	63 feet (to EX-2)	16.62	6.30	7.00	212	6.66
		04/26/07	63 feet (to EX-2)	16.57	5.70	7.10	242	667
		05/02/07	63 feet (to EX-2)	16.40	6.15	6.95	195	7.01
	05/21/07	63 feet (to EX-2)	16.85	5.49	6.91	174	5.19	
	06/09/07	63 feet (to EX-2)	17.41	5.28	6.88	222	5.56	
	07/09/07	63 feet (to EX-2)	18.28	0.94	6.84	166	8.99	
	07/23/07	63 feet (to EX-2)	18.66	6.92	7.07	177	8.42	
	08/08/07	63 feet (to EX-2)	19.05	6.23	6.33	108	8.35	
	08/22/07	63 feet (to EX-2)	19.20	5.85	7.15	101	8.27	
[6]	09/04/07	63 feet (to EX-2)	19.55	5.96	6.97	99	7.94	
	09/18/07	63 feet (to EX-2)	23.69	5.74	7.04	179	7.63	

TABLE 4

## Physical Parameter Summary

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
EX-1	10/24/05	20 feet (to S-1)	14.37	1.15	6.56	NM	585
	01/11/06	20 feet (to S-1)	3.11	NM	NM	NM	NM
	01/20/06	20 feet (to S-1)	2.13	2.50	6.79	116	631
	02/02/06	20 feet (to S-1)	1.68	5.84	7.65	128	463
	02/15/06	20 feet (to S-1)	2.27	2.00	7.10	4	646
	03/03/06	20 feet (to S-1)	NM	NM	NM	NM	NM
	03/24/06	20 feet (to S-1)	NM	NM	NM	NM	NM
	04/17/06	20 feet (to S-1)	1.15	7.1	7.40	542	542
	04/27/06	20 feet (to S-1)	1.76	2.4	7.39	NM	609
	05/04/06	20 feet (to S-1)	NM	NM	NM	NM	NM
	05/16/06	20 feet (to S-1)	NM	NM	NM	NM	NM
	06/09/06	20 feet (to S-1)	6.77	2.2	7.62	326	807
	06/30/06	20 feet (to S-1)	6.64	5.2	7.95	183	817
	07/10/06	20 feet (to S-1)	6.71	2.5	8.02	163	767
	07/12/06	20 feet (to S-1)	6.88	0.80	7.48	-10	944
	08/03/06	20 feet (to S-1)	NM	NM	NM	NM	NM
	08/25/06	20 feet (to S-1)	9.14	5.4	7.34	121	690
	09/13/06	20 feet (to S-1)	8.82	3.09	7.01	NM	NM
	09/27/06	20 feet (to S-1)	9.25	3.73	7.23	205	1,104
	10/12/06	20 feet (to S-1)	9.67	2.84	6.93	238	1,145
	10/17/06	20 feet (to S-1)	9.79	1.97[2]	6.90	NM	1,624
	11/03/06	20 feet (to S-1)	10.91	2.19[2]	6.50	170	1,198
	11/20/06	20 feet (to S-1)	10.58	4.4	8.61	398	654
	12/18/06	Injection well	5.63	2.74[2]	6.81	149	741
	01/08/07	Injection well	5.47	3.1	7.56	191	708
	01/16/07	Injection well	5.47	3.1	7.50	191	708
	03/14/07	Injection well	3.07	14.84	7.60	231	692
	03/29/07	Injection well	4.47	11.89	7.69	216	700
	04/09/07	Injection well	4.88	6.81	7.87	167	812
	04/16/07	Injection well	4.37	14.17	7.70	202	703
	04/26/07	Injection well	4.59	15.63	7.80	239	674
	05/02/07	Injection well	5.34	OR	7.73	309	734
	05/21/07	Injection well	5.74	6.49	7.38	208	673
06/09/07	Injection well	6.18	2.33	7.42	72	714	
07/09/07	Injection well	11.67	1.04	7.35	154	910	
07/23/07	Injection well	12.17	8.32	7.70	189	667	
08/08/07	Injection well	13.26	13.22	7.22	92	996	
08/22/07	Injection well	12.90	17.43	7.32	132	985	
[6]	09/04/07	Injection well	12.42	OR	7.26	113	988
	09/18/07	Injection well	NM	NM	NM	NM	NM



**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
EX-2	10/24/05	15 feet (to MW-3)	16.00	2.83	6.85	NM	588
	01/11/06	15 feet (to MW-3)	10.22	NM	NM	NM	NM
	01/20/06	15 feet (to MW-3)	8.98	2.90	5.93	157	1,570
	02/02/06	15 feet (to MW-3)	8.18	15.60	6.87	138	18.99
	02/15/06	15 feet (to MW-3)	7.74	2.20	6.49	58	1,472
	03/03/06	15 feet (to MW-3)	NM	NM	NM	NM	NM
	03/24/06	15 feet (to MW-3)	NM	NM	NM	NM	NM
	04/17/06	15 feet (to MW-3)	5.74	5.6	6.86	555	1,223
	04/27/06	15 feet (to MW-3)	5.22	2.48	7.17	NM	1,184
	05/04/06	15 feet (to MW-3)	NM	NM	NM	NM	NM
	05/16/06	15 feet (to MW-3)	NM	NM	NM	NM	NM
	06/09/06	15 feet (to MW-3)	8.00	4.6	7.51	374	1,190
	06/30/06	15 feet (to MW-3)	7.37	2.0	7.52	9	1,286
	07/10/06	15 feet (to MW-3)	7.16	1.8	7.69	44	1,210
	07/12/06	15 feet (to MW-3)	7.32	1.0	7.43	-4	1,169
	08/03/06	15 feet (to MW-3)	NM	NM	NM	NM	NM
	08/25/06	15 feet (to MW-3)	8.69	1.4	7.08	127	937
	09/13/06	15 feet (to MW-3)	8.51	1.25	6.58	NM	NM
	09/27/06	15 feet (to MW-3)	8.96	1.41	6.78	11	2,114
	10/12/06	15 feet (to MW-3)	9.10	0.63	6.64	38	2,062
	10/17/06	15 feet (to MW-3)	9.22	1.97[2]	6.97	NM	1,896
	11/03/06	15 feet (to MW-3)	9.78	0.72[2]	6.45	84	1,903
	11/20/06	15 feet (to MW-3)	9.87	3.6	8.10	388	887
	12/18/06	Injection well	9.70	1.28[2]	6.60	93	1,875
	01/08/07	Injection well	10.35	4.83	7.26	70	1,717
	01/16/07	Injection well	10.35	4.8	7.20	70	1,717
	03/14/07	Injection well	8.83	8.8	7.50	143	1,229
	03/29/07	Injection well	9.41	7.5	7.50	103	1,322
	04/09/07	Injection well	9.67	8.03	7.78	173	1,365
	04/16/07	Injection well	9.96	1.6	7.40	143	1,397
	04/26/07	Injection well	10.02	12.7	7.50	142	1,278
	05/02/07	Injection well	10.09	9.32	7.34	312	1,348
	05/21/07	Injection well	10.40	4.06	7.22	207	1,238
	06/09/07	Injection well	10.73	3.93	7.21	171	1,346
07/09/07	Injection well	11.25	1.13	7.46	169	1,684	
07/23/07	Injection well	11.46	15.95	7.68	196	1,031	
08/08/07	Injection well	11.65	9.89	7.25	150	1,611	
08/22/07	Injection well	11.71	1.02	7.24	129	1,610	
[6]	09/04/07	Injection well	10.98	1.04	7.19	127	1,558
	09/18/07	Injection well	NM	NM	NM	NM	NM

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
EX-3	10/24/05	45 feet (to S-2)	14.93	NM	7.06	NM	676
	01/11/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	01/20/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	02/02/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	02/15/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	03/03/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	03/24/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	04/17/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	04/27/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	05/04/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	05/16/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	06/09/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	06/30/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	07/10/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	07/12/06	45 feet (to S-2)	9.01	0.5	7.40	0	894
	08/03/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	08/25/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	09/13/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	09/27/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	10/12/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	10/17/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	11/03/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	11/20/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	12/18/06	45 feet (to S-2)	NM	NM	NM	NM	NM
	01/08/07	45 feet (to S-2)	12.31	2.42	7.15	-40	1,234
	01/16/07	45 feet (to S-2)	12.31	2.4	7.10	-40	1,234
	03/14/07	45 feet (to S-2)	NM	NM	NM	NM	NM
	03/29/07	45 feet (to S-2)	NM	NM	NM	NM	NM
	04/09/07	45 feet (to S-2)	10.78	0.53	7.90	93	813
	04/16/07	45 feet (to S-2)	6.00	1.9	7.40	176	525
	04/26/07	45 feet (to S-2)	9.65	2.3	7.40	165	723
	05/02/07	45 feet (to S-2)	10.20	0.83	7.21	-3	1,012
	05/21/07	45 feet (to S-2)	11.00	0.42	7.11	13	987
06/09/07	45 feet (to S-2)	11.40	0.46	7.13	-13	1,190	
07/09/07	45 feet (to S-2)	12.41	0.77	7.05	35	1,291	
07/23/07	45 feet (to S-2)	12.82	8.75	7.08	12	1,342	
08/08/07	45 feet (to S-2)	13.29	2.4	7.05	76	1,260	
08/22/07	45 feet (to S-2)	13.43	1.0	7.05	56	1,265	
[6]	09/04/07	45 feet (to S-2)	13.73	0.52	7.06	61	1,374
	09/18/07	45 feet (to S-2)	NM	NM	NM	NM	NM

**TABLE 4**

**Physical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard Oakland, California

Well Number	Date	Distance to nearest injection well	Depth to water feet bgs	DO mg/L	pH	ORP mV	Specific Conductivity millisiemen
NOTES:  pH, specific conductivity, ORP and DO were measured on site using field instruments NM = Not Measured OR = Over the range of the field instrument [1] DO instrument appears to have malfunctioned [2] DO was originally measured in % and then converted to mg/L [DO in mg/L = 0.10* DO in %] [3] Not measured since well was hidden under dirt pile [4] Not measured due to well blocked off by spools [5] Removed iSOC unit from well [6] iSOC was discontinued. Start-up of DPE using wells EX-1 through EX-4.							

TABLE 5

## Analytical Parameter Summary

Former USA Service Station No. 57  
10700 McArthur Boulevard, Oakland, California

Well Number	Date	Distance to nearest injection well	BOD <sup>1</sup> µg/L	Heterotrophic plate count <sup>2</sup> CFU/ml	TOC <sup>3</sup> µg/L	Ferrous iron <sup>4</sup> µg/L	Total iron <sup>4</sup> µg/L	Nitrite as NO <sub>2</sub> <sup>5</sup> µg/L	Nitrate as NO <sub>3</sub> <sup>5</sup> µg/L	Ammonia Nitrogen <sup>6</sup> µg/L	Sulfate as SO <sub>4</sub> <sup>5</sup> µg/L	Sulfide <sup>7</sup> µg/L	Total Ortho-phosphates <sup>8</sup> µg/L	TDS <sup>9</sup> µg/L	Total Phosphorus <sup>8</sup> µg/L
S-1	01/11/06	Injection well	<3,000	3,000	7,800	<50	690	<250	<250	<100	32,000	<100	190	NA	120
	04/23/07	21	<3,000	110[3]	6,700	<50	5,400	<250	<250	<100	44,000	<100	<100	650,000	<100
	07/23/07	21	<3,000	9	6,500	57	1,600	<250	<250	<100	24,000	<100	<100	780,000	<100
S-2	01/11/06	Injection well	19,000	18,000	6,600	<50	<300	<250	<250	<100	2,500	<100	120	NA	<100
MW-3	01/11/06	Injection well	<3,000	23,000	3,400	<50	420	<250	<250	<100	15,000	<100	130	NA	120
	04/23/07	15	<3,000	27,000[3]	11,000	<50	1,000	<250	<250	<100	20,000	<100	100	1,700,000	<100
	07/23/07	15	4,100	4,400	10,000	900	19,000	<250	<250	180	9,100	130	<100	1,600,000	850
MW-7	01/11/06	70	<3,000	19,000	3,900	<50	<300	<250	600	<100	21,000	<100	180	NA	180
	04/27/06	70	<3,000	24	2,300	<50	<300	<250	2,400	<100	50,000	<100	210	660,000	150
	07/12/06	70	<3,000	33	2,500	<50	<300	<250	2,600	<100	56,000	<100	130	670,000	<100
	10/17/06	70	<3,000	8	3,400	<50	1,300	<250	2,200	<100	55,000	<100	<100	650,000	<100
	01/08/07	80	<3,000	100	2,400	<50	1,000	<250	2,400	<100	59,000	<100	110	630,000	120
	04/09/07	80	<3,000	64	2,000	<50	430	<250	2,400	<100	53,000	<100	120	630,000	380
	07/23/07	80	<3,000	170	2,400	<50	<300	<250	1,200	<100	52,000	<100	110	600,000	<100
MW-8	01/11/06	47	<3,000	380	1,500	<50	1,500	<250	4,100	<100	62,000	<100	190	NA	170
	04/27/06	47	<3,000	660	1,000	<50	3,200	<250	4,200	<100	66,000	120	230	5,900,000	140
	07/12/06	47	<3,000	S[1]	2,100	<50	5,300	<250	4,800	<100	79,000	<100	180	2,400,000	170
	10/17/06	47	<3,000	3,500	1,900	<50	3,600	<250	4,500	<100	79,000	<100	<100	5,400,000	130
	01/08/07	63	<3,000	600	2,200	<50	7,300	8,500	4,300	<100	84,000	<100	230	5,600,000	160
	04/09/07	63	<3,000	590	1,800	<50	4,000	<250	2,500	<100	83,000	<100	120	5,700,000	120
	07/23/07	63	<3,000	790	1,500	<50	25,000	<1,300[4]	1,600	<100	80,000	<100	140	4,400,000	220

**TABLE 5**

**Analytical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard, Oakland, California

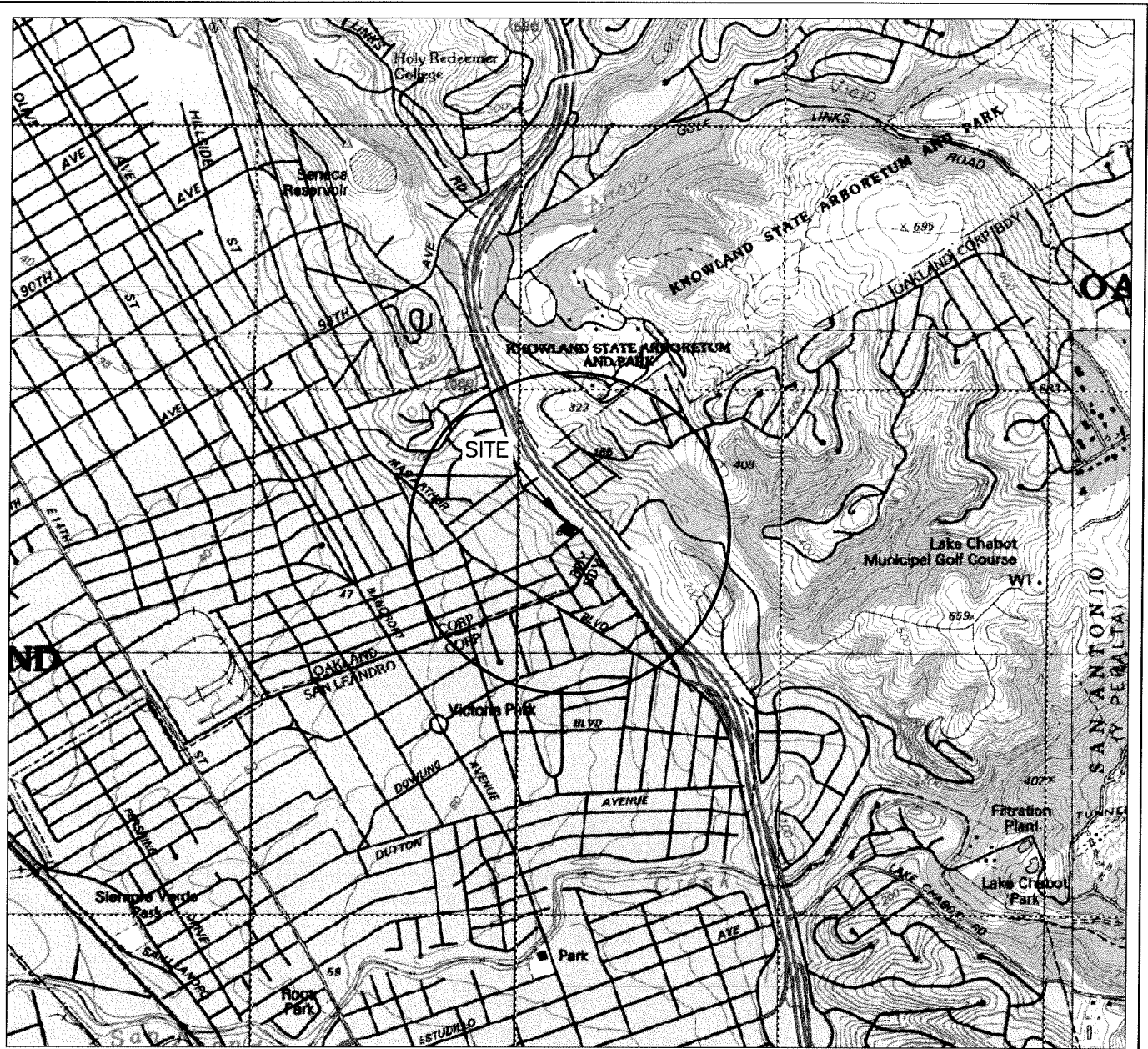
Well Number	Date	Distance to nearest injection well	BOD <sup>1</sup> µg/L	Heterotrophic plate count <sup>2</sup> CFU/ml	TOC <sup>3</sup> µg/L	Ferrous iron <sup>4</sup> µg/L	Total iron <sup>4</sup> µg/L	Nitrite as NO <sub>2</sub> <sup>5</sup> µg/L	Nitrate as NO <sub>3</sub> <sup>5</sup> µg/L	Ammonia Nitrogen <sup>6</sup> µg/L	Sulfate as SO <sub>4</sub> <sup>5</sup> µg/L	Sulfide <sup>7</sup> µg/L	Total Ortho-phosphates <sup>8</sup> µg/L	TDS <sup>9</sup> µg/L	Total Phosphorus <sup>8</sup> µg/L
EX-1	01/11/06	20	<3,000	4,500	9,500	<50	540	<250	1,400	<100	69,000	<100	220	NA	200
	04/27/06	20	<3,000	9,800	6,800	<50	6,000	<250	260	<100	69,000	<100	160	400,000	290
	07/12/06	20	25,000	19,000	26,000	230	7,400	<250	<250	1,200	8,600	<100	300	1,100,000	220
	10/17/06	20	32,000	11,000	30,000	60	53,000	<250	<250	1,800	4,700	<100	<100	1,000,000	330
	01/08/07	Injection well	4,100	11,000[2]	6,300	<50	5,500	<250	850	<100	60,000	<100	170	390,000	120
	04/09/07	Injection well	<3,000	780	6,400	<50	930	<250	1,400	<100	87,000	<100	120	480,000	170
EX-2	01/11/06	15	48,000	85,000	17,000	<50	1,200	<250	<250	120	21,000	<100	230	NA	140
	04/27/06	15	22,000	82,000	17,000	<50	770	<250	<250	<100	22,000	<100	140	1,200,000	240
	07/12/06	15	23,000	41,000	17,000	<50	2,000	<250	<250	<100	6,700	<100	220	1,200,000	150
	10/17/06	15	38,000	3,600	18,000	<50	37,000	<250	<250	<100	<500	<100	<100	1,200,000	<100
	01/08/07	Injection well	14,000	41,000	14,000	<50	20,000	420	<250	<100	5,000	<100	140	960,000	250
	04/09/07	Injection well	<3,000	8,200	7,000	<50	14,000	<250	<250	<100	11,000	<100	<100	790,000	180
EX-3	07/12/06	45	9,400	15,000	14,000	<50	14,000	<250	<250	<100	32,000	220	320	930,000	250
	10/17/06	45	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/08/07	45	9,900	6,600	11,000	130	54,000	<250	<250	<100	31,000	<100	160	840,000	370
	04/09/07	45	8,400	13,000	12,000	420	3,800	<250	<250	<100	69,000	630	<100	800,000	210
	07/23/07	45	10,000	30,000	9,900	<50	210,000	<250	<250	<100	45,000	590	<100	740,000	400

**TABLE 5**

**Analytical Parameter Summary**

Former USA Service Station No. 57  
10700 McArthur Boulevard, Oakland, California

Well Number	Date	Distance to nearest injection well	BOD <sup>1</sup> µg/L	Heterotrophic plate count <sup>2</sup> CFU/ml	TOC <sup>3</sup> µg/L	Ferrous iron <sup>4</sup> µg/L	Total iron <sup>4</sup> µg/L	Nitrite as NO <sub>2</sub> <sup>5</sup> µg/L	Nitrate as NO <sub>3</sub> <sup>5</sup> µg/L	Ammonia Nitrogen <sup>6</sup> µg/L	Sulfate as SO <sub>4</sub> <sup>5</sup> µg/L	Sulfide <sup>7</sup> µg/L	Total Ortho-phosphates <sup>8</sup> µg/L	TDS <sup>9</sup> µg/L	Total Phosphorus <sup>8</sup> µg/L
<p>NOTES:</p> <p><sup>1</sup> Biochemical oxygen demand (BOD) was analyzed using EPA Method 405.1</p> <p><sup>2</sup> Heterotrophic plate count (HPC) was conducted using SM 9215</p> <p><sup>3</sup> Total organic carbon (TOC) was analyzed using EPA Method 415.1</p> <p><sup>4</sup> Ferrous iron &amp; Total iron was analyzed using SM3500-Fe D</p> <p><sup>5</sup> Nitrite, nitrate and sulfates were analyzed using EPA Method 300.0</p> <p><sup>6</sup> Ammonia nitrogen was analyzed using EPA Method 350.3</p> <p><sup>7</sup> Sulfide was analyzed using EPA Method 376.2</p> <p><sup>8</sup> Total orthophosphate and total phosphorus were analyzed by EPA Method 365.2</p> <p><sup>9</sup> Total dissolved solids (TDS) analyzed using EPA Method 160.1</p> <p>µg/L = micrograms per liter NA = Not analyzed NS = Not sampled</p> <p>S[1] = Spreaders frequently cover more than half the plate and interfere with obtaining a reliable plate count. [2] = This sample was extracted/analyzed outside the EPA recommended holding time. [3] = The sample was received outside of the EPA recommended holding time. [4] = Reporting limits were increased due to high concentrations of non-target analytes.</p>															



GENERAL NOTES:  
 BASE MAP FROM U.S.G.S.  
 OAKLAND, CA  
 7.5 MINUTE TOPOGRAPHIC  
 PHOTOREVISED 1980



QUADRANGLE LOCATION

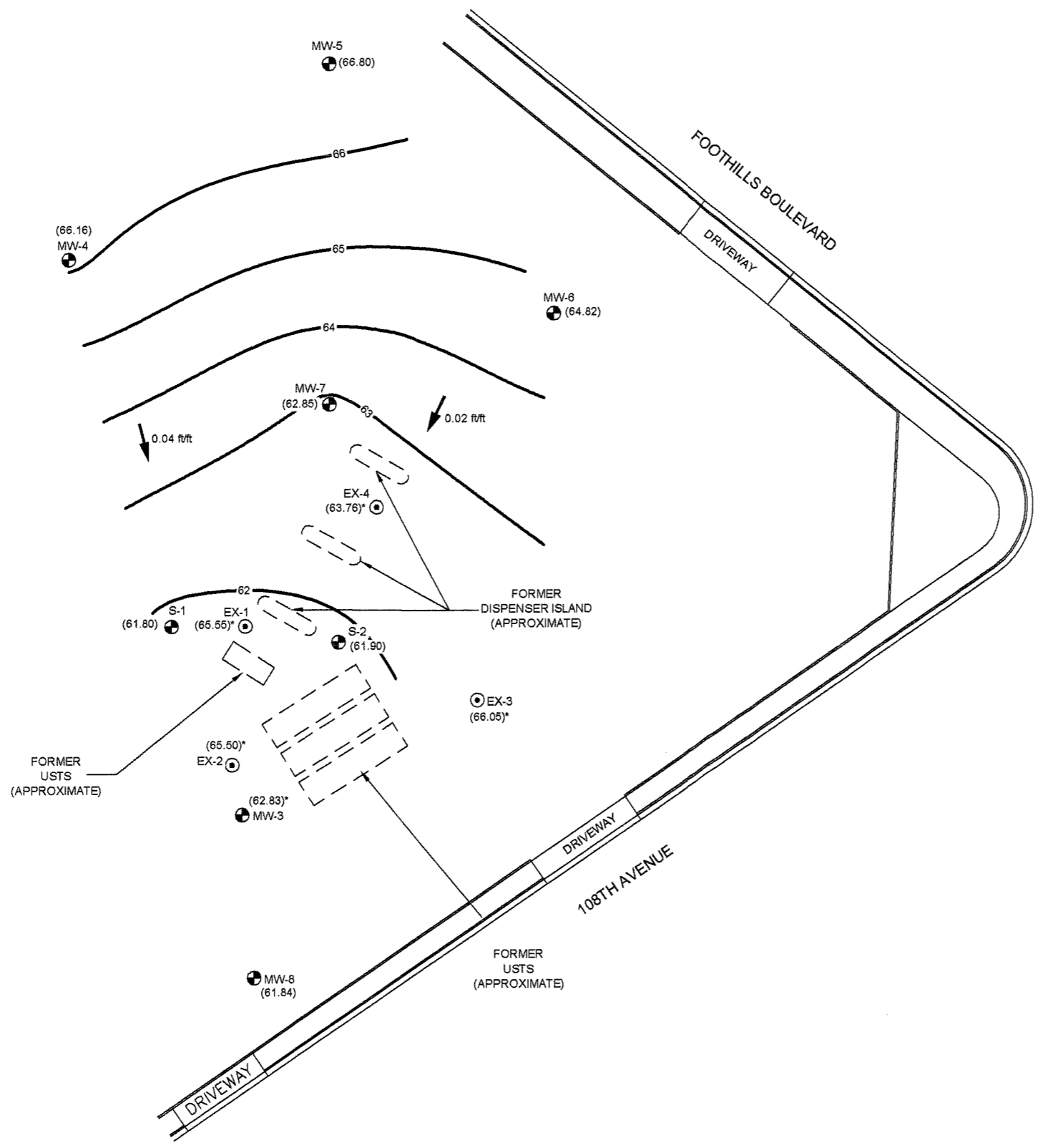


SCALE 1:24,000

*STRATUS*  
 ENVIRONMENTAL, INC.

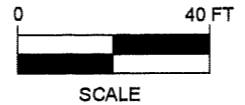
FORMER USA SERVICE STATION NO. 57  
 10700 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA  
 SITE LOCATION MAP

FIGURE  
**1**  
 PROJECT NO.  
 2007-0057-01



- LEGEND
- MW-3 MONITORING WELL LOCATION
  - ⊙ EX-1 EXTRACTION WELL LOCATION
  - (61.80) GROUND WATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
  - 64 — WATER TABLE CONTOUR IN FEET RELATIVE TO MEAN SEA LEVEL
  - ➔ INFERRED DIRECTION OF GROUND WATER FLOW
- WELLS MEASURED: 7/23/07  
 \* NOT USED FOR CONTOURING

USA57 Quarterly  
 JMP  
 REV August 13, 2007 USA 57 Quarterly Figures

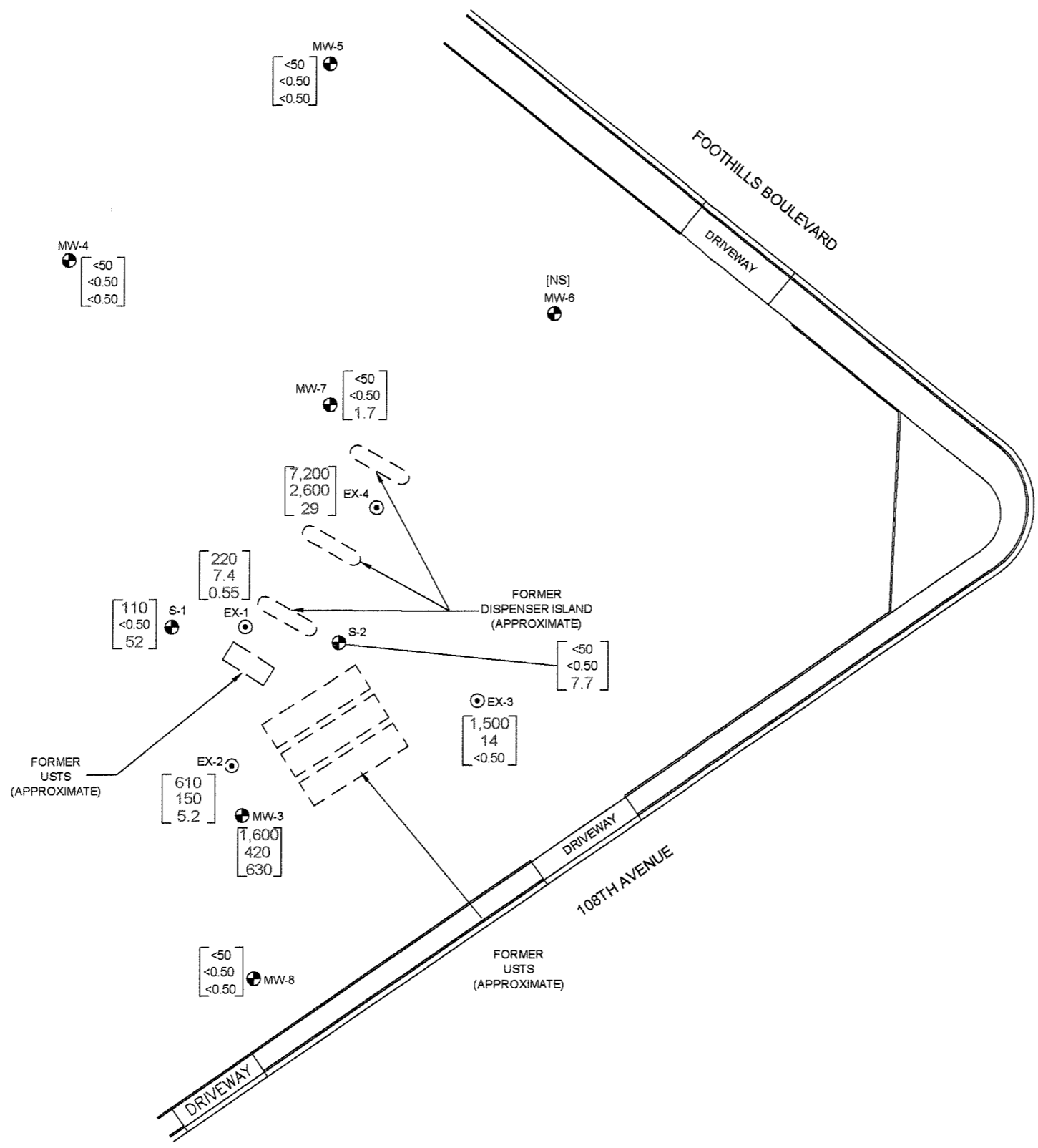


FORMER USA SERVICE STATION NO. 57  
 10700 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP  
 3rd QUARTER 2007

FIGURE  
**2**  
 PROJECT NO.  
 2007-0057-01



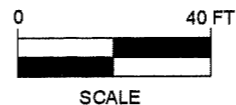


LEGEND

- MW-3 MONITORING WELL LOCATION
  - ⊙ EX-1 EXTRACTION WELL LOCATION
  - [ <50 ] GASOLINE RANGE ORGANICS (GRO) IN µg/L
  - [ <0.50 ] BENZENE CONCENTRATION IN µg/L
  - [ <0.50 ] METHYL TERTIARY BUTYL ETHER (MTBE) IN µg/L
- SAMPLES COLLECTED ON 7/23/07  
 GRO ANALYZED BY EPA METHOD 8015B  
 BENZENE & MTBE ANALYZED BY EPA METHOD 8260B  
 [NS] = NOT SAMPLED

USA57 Quarterly  
 .IMP  
 REV August 13, 2007 USA 57 Quarterly Figures

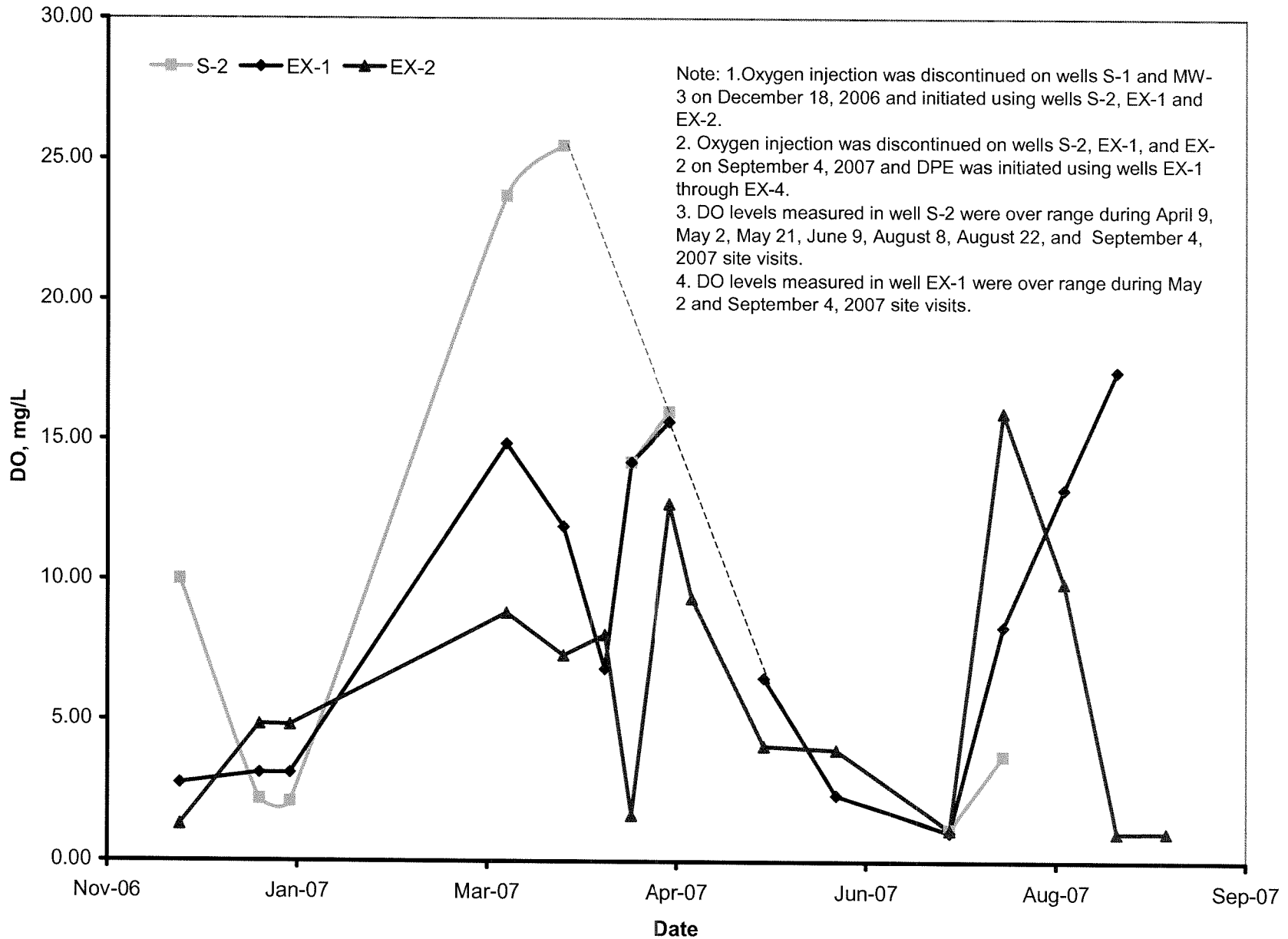
STRATUS  
 ENVIRONMENTAL, INC.



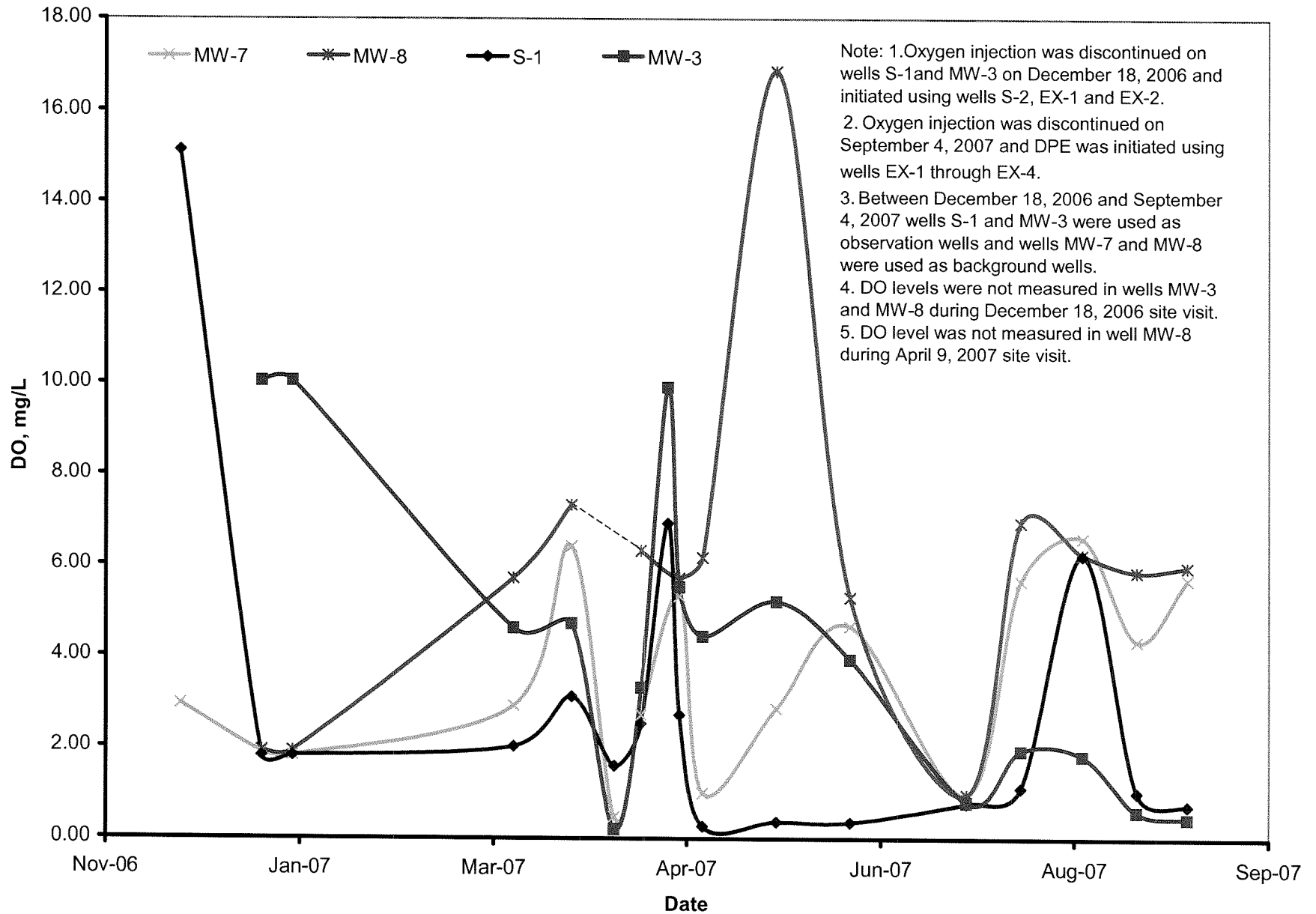
FORMER USA SERVICE STATION NO. 57  
 10700 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA  
 GROUNDWATER ANALYTICAL SUMMARY  
 3rd QUARTER 2007

FIGURE  
 3  
 PROJECT NO.  
 2007-0057-01

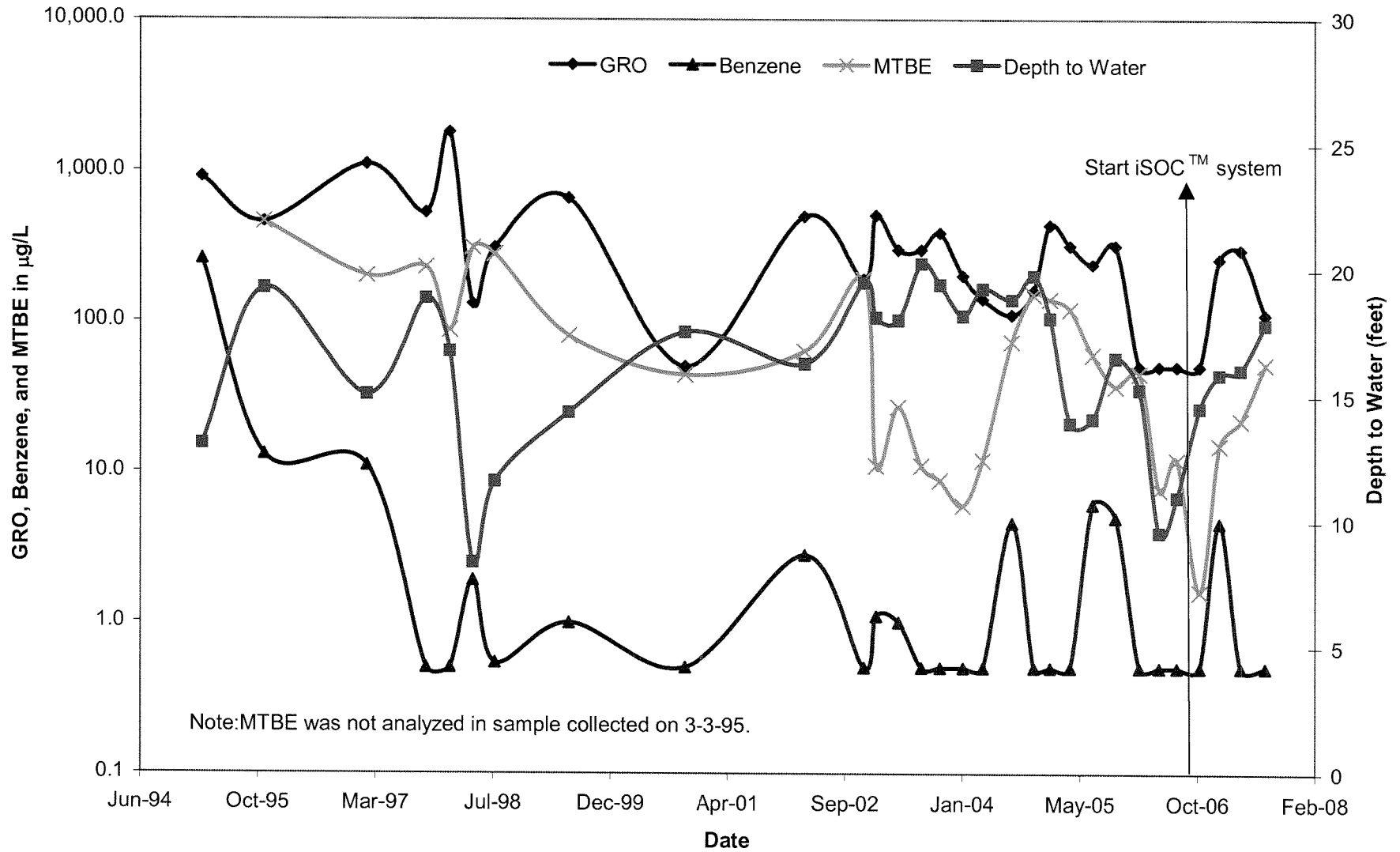
**Figure 4**  
**DO Variation with Time at Injection Wells**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



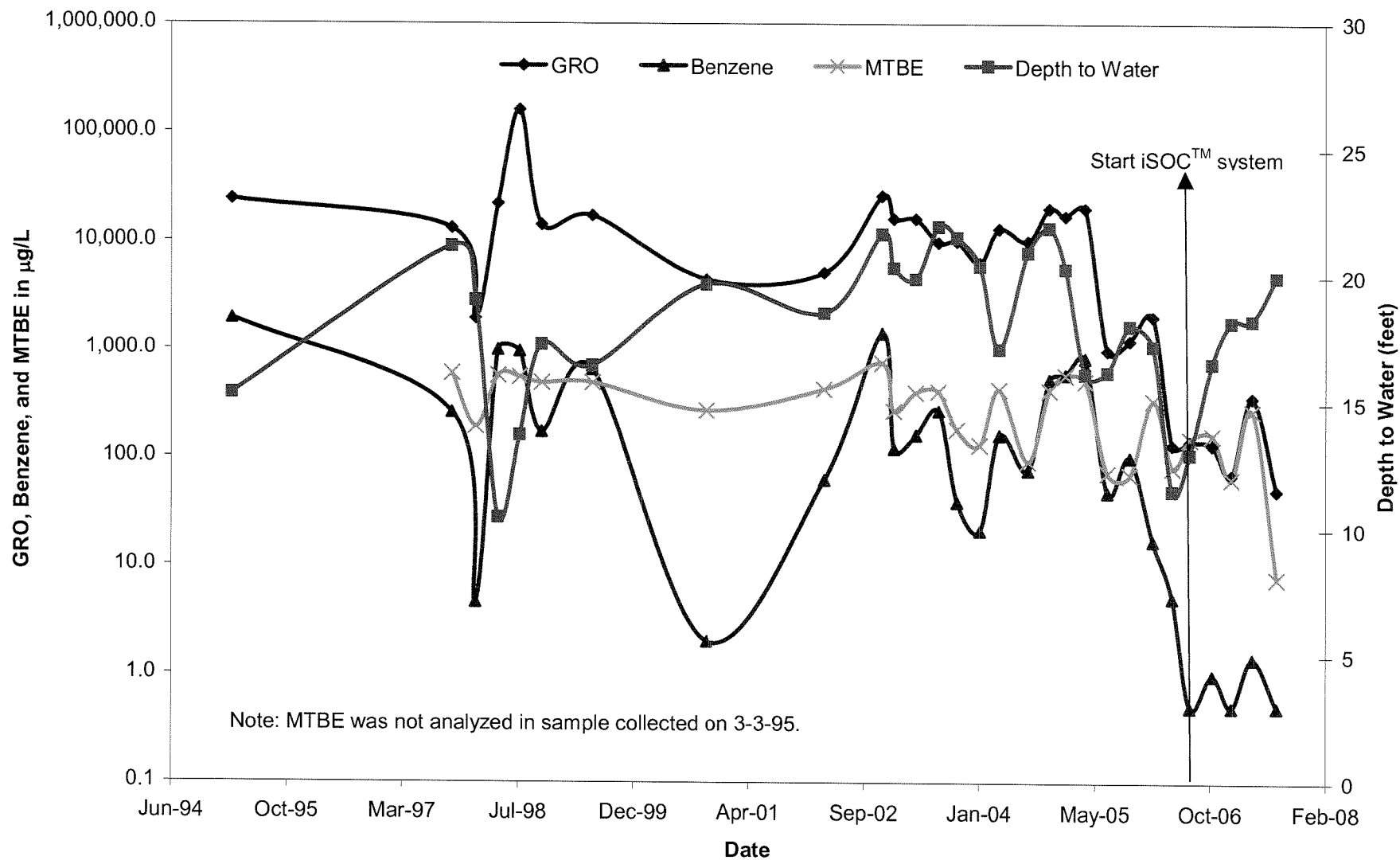
**Figure 5**  
**DO Variation with Time at Observation and Background Wells**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



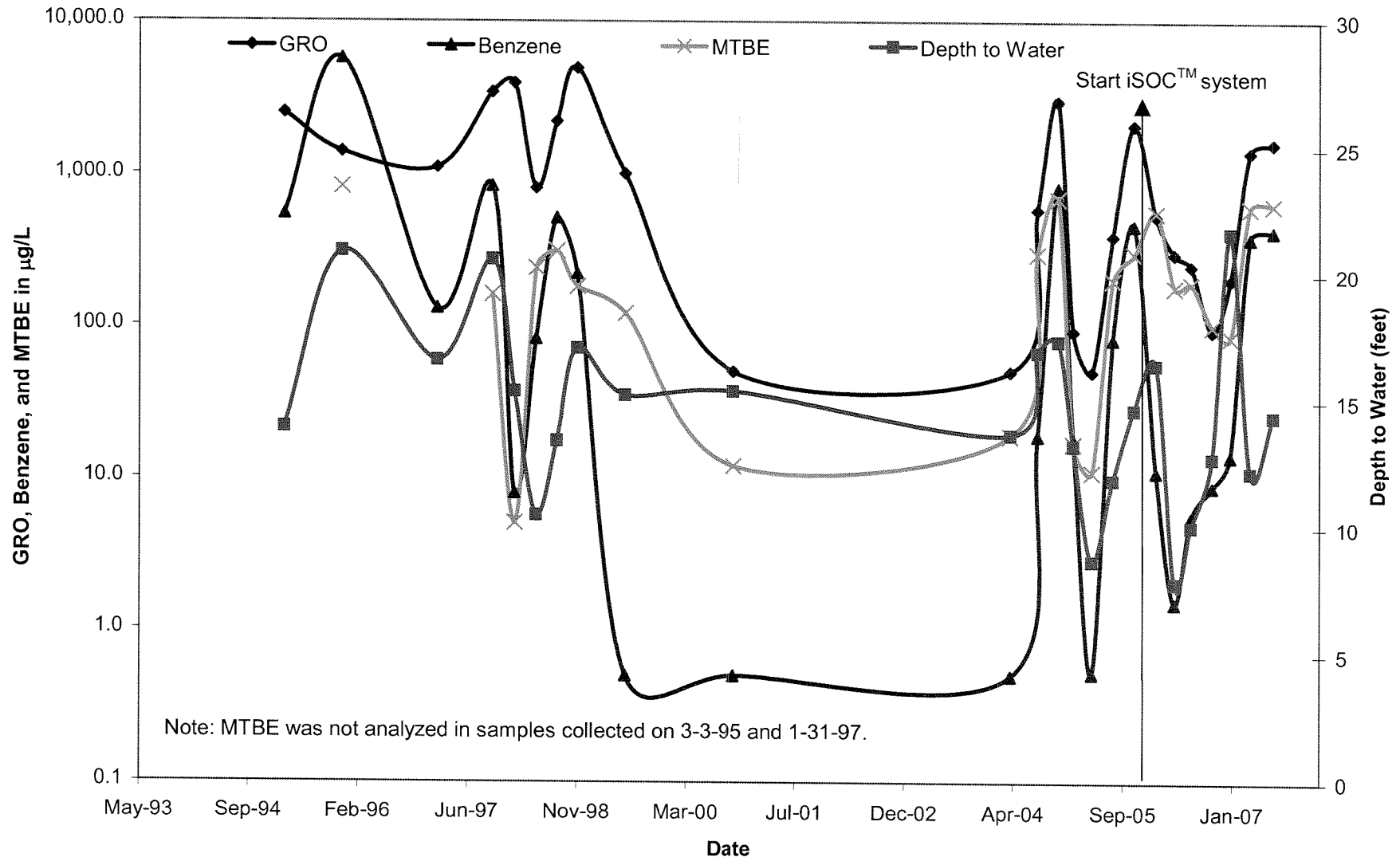
**Figure 6**  
**GRO, Benzene, MTBE, and Depth to Water Variation with Time at S-1**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



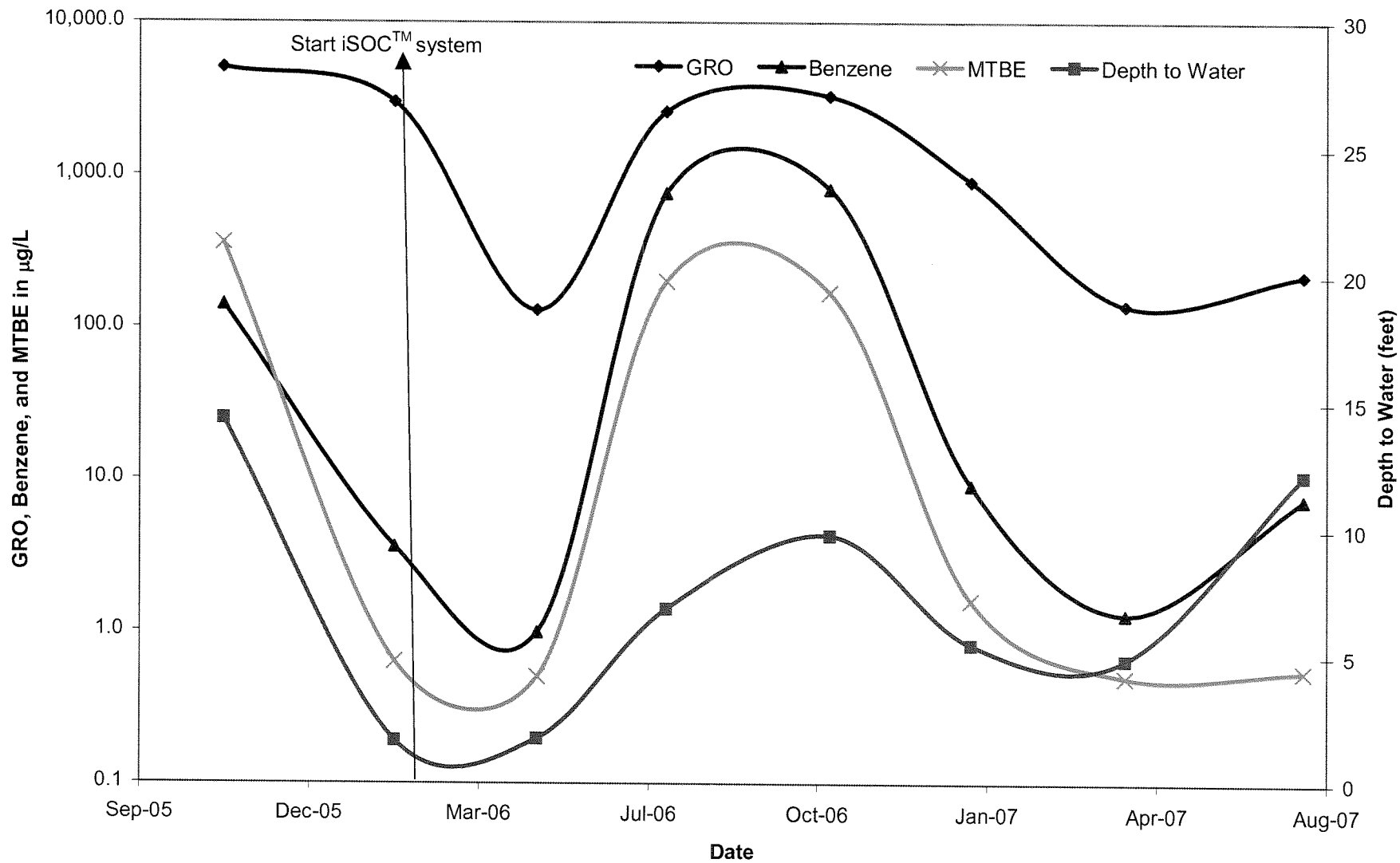
**Figure 7**  
**GRO, Benzene, MTBE, and Depth to Water Variation with Time at S-2**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



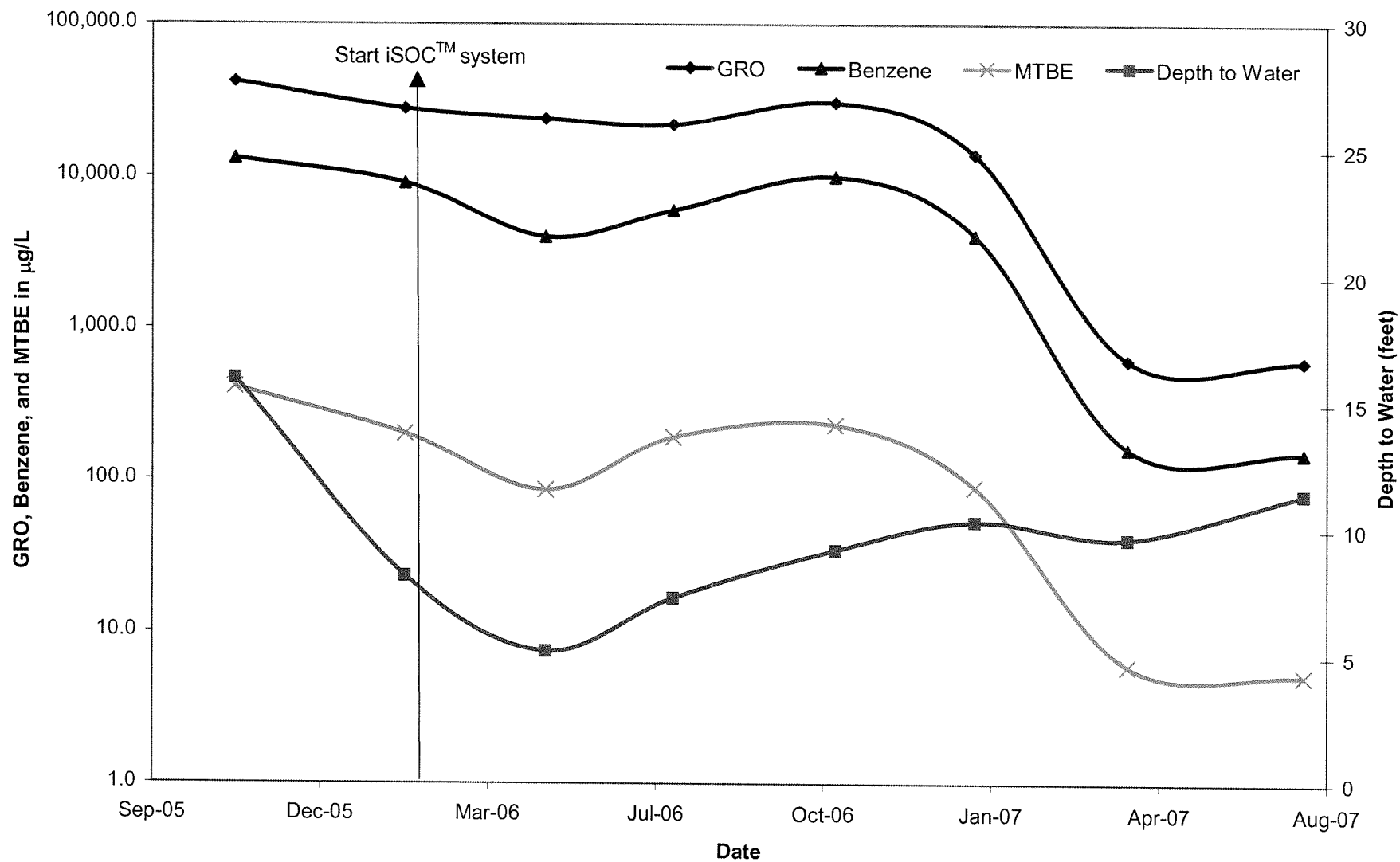
**Figure 8**  
**GRO, Benzene, MTBE, and Depth to Water Variation with Time at MW-3**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



**Figure 9**  
**GRO, Benzene, MTBE, and Depth to Water Variation with Time at EX-1**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California



**Figure 10**  
**GRO, Benzene, MTBE, and Depth to Water Variation with Time at EX-2**  
 Former USA Service Station No. 57  
 10700 MacArthur Boulevard  
 Oakland, California





**APPENDIX A**  
**FIELD DATA SHEETS**

# STRATUS

ENVIRONMENTAL, INC.

Site Address: 10700 McArthur Blvd  
 City: Oakland CA  
 Sampled By: GW/VZ

Site Number: USA-57  
 Project No. 2007-0057-01  
 Project PM Conri  
 Date Sampled 07-23-07

**ORIGINAL**

Site Contact Phone No.

Water Level Data					Purge Volume Calculations					Well Purge Method				Sample Record			Field Data
Well ID	Time	Depth to water feet	Top of Screen feet	Total Depth of Well feet	Casing Water Column (A)	Well Diameter (inches)	Multiplier Value (B)	Three Casing Volumes (gallons)	Actual Water Purged (gallons)	No Purge	Bailer	Pump	Other	DTW At Sample Time	Sample I.D.	Sample Time	Dissolved Oxygen (mg/L)
MW-3	0638	14.44		40.60	26.16	4	2	52.32	31	Dry @ 3 gal	X			36.70	MW-3	1133	1.91 *
MW-4	0644	10.10		38.30	28.20	4	2	56.40	40	Dry @ 40 gal	X			30.63	MW-4	0742	6.54
MW-5	0646	13.98		37.00	23.02	4	2	46.04	18	Dry @ 18 gal	X			15.50	MW-5	0811	4.79
MW-6	0620	DRY	17.50	18.30	DRY	4	2	N/A	N/A	X				N/A	MW-6	N/A	N/A
MW-7	0627	16.96		41.50	24.54	4	2	49.08	19	Dry @ 19 gal	X			20.45	MW-7	0911	5.65 *
MW-8	0640	18.66		37.30	18.64	4	2	37.28	14	Dry @ 14 gal	X			28.81	MW-8	1112	6.92 *
S-1	0631	17.86		34.30	16.44	3	1	16.44	10	Dry @ 10 gal	X			21.59	S-1	1041	1.09 *
S-2	0628	20.00		43.50	23.50	3	1	23.50	23.50			X		35.03	S-2	0829	3.73
EX-1	0633	12.17		24.00	11.83	4	2	23.66	15	Dry @ 15 gal	X			21.69	EX-1	0942	8.32
EX-2	0630	11.46		25.80	14.34	4	2	28.68	22	X Dry @ 22 gal				23.94	EX-2	1018	15.95
EX-3	0636	12.82		24.60	11.78	4	2	23.56	13	X Dry @ 13 gal				23.08	EX-3	1007	8.25 *
EX-4	0631	14.20		24.50	10.30	4	2	20.60	12	X Dry @ 12 gal				22.65	EX-4	0729	7.05

217.50

\* Special analysis

(A) Casing water Column  
 Depth wtr. Depth to Bottom

Multiplier Values  
 2"=0.5 4"=2.0 6"=4.4

**ORIGINAL**

102

Well ID	<u>MW-3</u>				<u>1133</u>
purge start time	<u>1102</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>21.9</u>	<u>7.05</u>	<u>1478</u>	<u>0</u>	
time	<u>22.1</u>	<u>7.08</u>	<u>1454</u>	<u>26</u>	
time	<u>22.3</u>	<u>7.10</u>	<u>1506</u>	<u>(31)</u>	
time	<u>Dry @ 31 gal</u>				
purge stop time	<u>ORP 154</u>				

Well ID	<u>MW-4</u>				<u>0742</u>
purge start time	<u>0708</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>20.4</u>	<u>7.81</u>	<u>2800</u>	<u>0</u>	
time	<u>22.3</u>	<u>7.73</u>	<u>613</u>	<u>28</u>	
time	<u>21.2</u>	<u>7.63</u>	<u>666</u>	<u>(40)</u>	
time	<u>Dry @ 40 gal</u>				
purge stop time	<u>ORP 163</u>				

Well ID	<u>MW-5</u>				<u>0811</u>
purge start time	<u>0750</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>19.8</u>	<u>8.48</u>	<u>4.47m</u>	<u>0</u>	
time	<u>Dry @ 18 gal</u>				
time	<u>19.3</u>	<u>8.13</u>	<u>3.84m</u>	<u>(18)</u>	
time					
purge stop time	<u>ORP 127</u>				

Well ID	<u>MW-6</u>				
purge start time	<u>DRY</u>				
	Temp C	pH	cond	gallons	
time					
time					
time					
time					
purge stop time	<u>ORP</u>				

Well ID	<u>MW-7</u>				<u>0911</u>
purge start time	<u>0846</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>21.6</u>	<u>7.61</u>	<u>1349</u>	<u>0</u>	
time	<u>20.9</u>	<u>7.58</u>	<u>1061</u>	<u>18</u>	
time	<u>19.2</u>	<u>7.53</u>	<u>1080</u>	<u>(19)</u>	
time	<u>Dry @ 19 gal</u>				
purge stop time	<u>ORP 141</u>				

Well ID	<u>MW-8</u>				<u>1116</u>
purge start time	<u>1050</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>22.1</u>	<u>7.07</u>	<u>8.42m</u>	<u>0</u>	
time	<u>Dry @ 14 gal</u>				
time	<u>19.5</u>	<u>7.03</u>	<u>9.10m</u>	<u>(14)</u>	
time					
purge stop time	<u>ORP 177</u>				

102

Well ID	<u>S-1</u>				<u>1041</u>
purge start time	<u>1005</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>22.8</u>	<u>7.38</u>	<u>795</u>	<u>0</u>	
time	<u>23.3</u>	<u>7.36</u>	<u>793</u>	<u>8</u>	
time	<u>Dry @ 10 gal</u>				
time	<u>21.1</u>	<u>7.29</u>	<u>913</u>	<u>(10)</u>	
purge stop time	<u>ORP 162</u>				

Well ID	<u>S-2</u>				<u>0829</u>
purge start time	<u>0809</u>				<u>No Odor</u>
	Temp C	pH	cond	gallons	
time	<u>20.2</u>	<u>7.49</u>	<u>756</u>	<u>0</u>	
time	<u>20.4</u>	<u>7.33</u>	<u>765</u>	<u>14</u>	
time	<u>20.7</u>	<u>7.40</u>	<u>767</u>	<u>23.50</u>	
time					
purge stop time	<u>0823</u>	<u>ORP 178</u>			

40

ORIGINAL

87

Well ID <u>EX-1</u> <u>0942</u>					Well ID <u>EX-2</u> <u>1018</u>				
purge start time <u>0932</u> <u>Odor</u>					purge start time <u>Bailer</u> <u>No Odor</u>				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>21.1</u>	<u>7.70</u>	<u>667</u>	<u>0</u>	time	<u>20.5</u>	<u>7.68</u>	<u>1031</u>	<u>0</u>
time	<u>21.4</u>	<u>7.57</u>	<u>671</u>	<u>12</u>	time	<u>20.4</u>	<u>7.48</u>	<u>1049</u>	<u>14</u>
time	<u>Dry @ 15 gal</u>				time	<u>Dry @ 22 gal</u>			
time	<u>20.8</u>	<u>7.53</u>	<u>668</u>	<u>(15)</u>	time	<u>21.1</u>	<u>7.48</u>	<u>1031</u>	<u>(22)</u>
purge stop time <u>ORP 189</u>					purge stop time <u>ORP 196</u>				
Well ID <u>EX-3</u> <u>1007</u>					Well ID <u>EX-4</u> <u>0729</u>				
purge start time <u>Bailer</u> <u>Odor</u>					purge start time <u>Bailer</u> <u>Odor</u>				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>19.0</u>	<u>7.08</u>	<u>1342</u>	<u>0</u>	time	<u>19.1</u>	<u>6.90</u>	<u>1068</u>	<u>0</u>
time	<u>18.9</u>	<u>7.12</u>	<u>1352</u>	<u>12</u>	time	<u>19.0</u>	<u>7.17</u>	<u>1038</u>	<u>10</u>
time	<u>Dry @ 13 gal</u>				time	<u>Dry @ 12 gal</u>			
time	<u>19.0</u>	<u>7.24</u>	<u>1358</u>	<u>(13)</u>	time	<u>18.9</u>	<u>7.29</u>	<u>1052</u>	<u>(12)</u>
purge stop time <u>skreen</u> <u>ORP 12</u>					purge stop time <u>ORP 16</u>				
Well ID					Well ID				
purge start time					purge start time				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time					time				
time					time				
time					time				
time					time				
purge stop time					purge stop time				
Well ID					Well ID				
purge start time					purge start time				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time					time				
time					time				
time					time				
time					time				
purge stop time					purge stop time				

Former USA Service Station No. 57  
 10700 McArthur Boulevard  
 Oakland, CA  
 Oxygen Injection System Using iSOC

Date: 7-9-07  
 Onsite Time: 0945  
 Offsite Time: 0715

Technician: Vince Z  
 Project Engineer:  
 Weather Conditions: High Fog  
 Ambient Temperature: 60

ORIGINAL

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels

No. of Oxygen Cylinders On Site: 6

No. of Cylinders Connected to Panels: 3

No. of Empty Cylinders: 2

Field Measurements (Monthly)							
Well ID	Time	DTW	pH	DO	Cond	Temp	ORP
S-1		17.64	7.03	.77	1272	18.8	18
S-2		19.79	7.17	1.14	1164	18.3	145
MW-3		14.32	7.38	.79	1369	18.4	106
EX-1		11.67	7.35	1.04	910	18.6	154
EX-2		11.25	7.46	1.13	1684	18.4	169
EX-3		12.41	7.05	.77	1291	18.5	35
MW-7		16.72	7.86	.94	816	18.5	159
MW-8		18.28	6.84	.94	899m	18.1	166

Connected Cylinders	
O <sub>2</sub> Cylinder	Pressure
1	2300
2	1250
3	1900
4	Full
5	∅
6	∅

Ex-2  
 S-2  
 S-1

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2

Former USA Service Station No. 57  
 10700 McArthur Boulevard  
 Oakland, CA  
 Oxygen Injection System Using iSOC

Date: 7-22-07  
 Onsite Time: 0600  
 Offsite Time: 0800

Technician: Vince Z  
 Project Engineer: \_\_\_\_\_  
 Weather Conditions: Foggy  
 Ambient Temperature: 70+

ORIGINAL

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels *switched out*

No. of Oxygen Cylinders On Site: 6 *EX-2 cylinder*

No. of Cylinders Connected to Panels: 3 *found hole*

No. of Empty Cylinders: 3 *in hose to well EX-2 - Did not hook up new cylinder*

Field Measurements (Monthly)							
Well ID	Time	DTW	pH	DO	Temp	CON	ORP
S-1		17.86	7.38	1.09	22.8	795	162
S-2		20.00	7.49	3.73	20.2	756	178
MW-3		14.44	7.05	1.91	22.9	1478	154
EX-1		12.17	7.70	8.32	21.1	667	189
EX-2		11.46	7.68	15.95	20.5	1031	196
EX-3		12.82	7.08	8.75	19.0	1342	12
MW-7		16.96	7.61	5.65	21.6	1349	141
MW-8		18.66	7.07	6.92	22.1	8.42	177

Connected Cylinders	
O <sub>2</sub> Cylinder	Pressure
1	<del>1350</del>
2	1350
3	2000
4	
5	
6	

EX-2  
 S-2  
 S-1

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2

Former USA Service Station No. 57  
 10700 McArthur Boulevard  
 Oakland, CA  
 Oxygen Injection System Using iSOC

Date: 8-8-07  
 Onsite Time: 0515  
 Offsite Time: 0815

Technician: Vince E  
 Project Engineer: \_\_\_\_\_  
 Weather Conditions: Clear  
 Ambient Temperature: 60's

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels

No. of Oxygen Cylinders On Site: 6

No. of Cylinders Connected to Panels: 3

No. of Empty Cylinders: 2

ORIGINAL

Field Measurements (Monthly)							
Well ID	Time	DTW	pH	DO	Cond	ORP	TEMP
S-1	0610	18.19	7.07	6.21	1293	47	19.3
S-2	0620	20.33	7.30	N/A	1133	136	18.3
MW-3	0601	14.98	6.84	1.80	3054 <sub>m</sub>	95	19.0
EX-1	0616	13.26	7.22	13.22	996	92	18.7
EX-2	0626	11.65	7.25	9.89	1611	150	19.6
EX-3	0544	13.29	7.05	2.40	1260	76	18.8
MW-7	0535	17.64	7.63	6.59	905	100	19.4
MW-8	0555	19.05	6.33	6.23	835 <sub>m</sub>	108	18.4

Connected Cylinders	
O <sub>2</sub> Cylinder	Pressure
1	2000
2	1200
3	1900
4	
5	
6	

Ex-2  
 S-2  
 S-1

D/O @  
 S-2  
 out of Range

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2

Replaced  
 hose @ Ex-2  
 Cylinder 1  
 3 new tanks  
 (cylinders)  
 at site.

Former USA Service Station No. 57  
 10700 McArthur Boulevard  
 Oakland, CA  
 Oxygen Injection System Using iSOC

Date: 08-22-07  
 Onsite Time: 0515  
 Offsite Time: 0640

Technician: Vince E  
 Project Engineer: \_\_\_\_\_  
 Weather Conditions: Clear  
 Ambient Temperature: 70's

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels

No. of Oxygen Cylinders On Site: 6

No. of Cylinders Connected to Panels: 3

No. of Empty Cylinders: 3

ORIGINAL

Field Measurements (Monthly)							
Well ID	Time	DTW	pH	DO	TEMP	COND	ORP
S-1	0602	18.30	7.16	1.00	19.6	1182	38
S-2	0607	20.44	7.26	0.5	18.6	1135	111
MW-3	0557	15.06	6.84	.59	19.2	3.41	88
EX-1	0615	12.90	7.32	17.43	19.4	985	132
EX-2	0621	11.71	7.24	1.02	20.1	1610	129
EX-3	0541	13.43	7.05	1.00	19.0	1265	56
MW-7	0533	17.36	7.68	4.33	19.6	1021	57
MW-8	0550	19.20	7.15	5.85	18.5	8.27	101

Connected Cylinders	
O <sub>2</sub> Cylinder	Pressure
1	1300
2	1150
3	1900
4	
5	
6	

EX-2  
 S-2  
 S-1

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2



8-28-07  
CNLL

USA 57

Outland

ORIGINAL

42

0700 onsite carbon change out Lead carbon  
Prep For DPE Event 30 DAYS  
9-3-07

0930 offsite carbons Home Water

Former USA Service Station No. 57  
 10700 McArthur Boulevard  
 Oakland, CA  
 Oxygen Injection System Using iSOC

Date: 9-4-07  
 Onsite Time: 0545  
 Offsite Time: \_\_\_\_\_

Technician: Vince Z  
 Project Engineer: \_\_\_\_\_  
 Weather Conditions: clear  
 Ambient Temperature: 60's

ORIGINAL

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels

No. of Oxygen Cylinders On Site: 6

No. of Cylinders Connected to Panels: 3

No. of Empty Cylinders: 0

DPE TEST TANKS (OFF)

Field Measurements (Monthly)								
Well ID	Time	DTW	pH	DO	TEMP	COND	ORP	TWD
S-1	0707	18.57	7.14	.72	20.0	1084	36	
S-2	0724	20.69	7.28	0r	19.0	1115	136	
MW-3	0617	15.43	6.79	.44	19.9	2.94	89	
EX-1	0717	12.42	7.26	0r	19.8	988	113	24.10
EX-2	0728	10.98	7.19	1.04	20.3	1558	127	24.87
EX-3	0637	13.73	7.06	.52	19.6	1374	61	24.60
MW-7	0657	17.60	7.91	5.69	20.0	809	23	
MW-8	0626	19.55	6.97	5.96	18.9	7.98	99	
EX-1								
EX-2								
EX-3		14.35						25.22
EX-4		14.30	7.05	.40	20.0	1030	9	24.55

Added Extended casing

Connected Cylinders		psi
O <sub>2</sub> Cylinder	Pressure	
1	<del>52</del>	38
2	<del>52</del>	70
3	<del>52</del>	50
4		
5		
6		

162 casing Added

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2

548

**Former USA Service Station No. 57**  
 10700 McArthur Boulevard  
 Oakland, CA  
**Oxygen Injection System Using iSOC**

Date: 9-18-07  
 Onsite Time: 0415  
 Offsite Time: \_\_\_\_\_

Technician: Vince Z  
 Project Engineer: Gowri  
 Weather Conditions: Clear  
 Ambient Temperature: 60'S

iSOC™ Panel:

No. of iSOC Panels: Three 3-Injection Well Panels

No. of Oxygen Cylinders On Site: 6

No. of Cylinders Connected to Panels: 0 **OFF LINE**

No. of Empty Cylinders: 0

ORIGINAL

Field Measurements (Monthly)								"KPA"	
Well ID	Time	DTW	pH	DO	Temp	COND	ORP	ICAC	
S-1	0507	18.8	7.23	1.18	19.7	1096	70	<del>0.1</del>	
S-2	0516	20.94	7.10	.41	18.9	1043	86	<del>0.1</del> N/A	
MW-3	0451	16.10	6.88	.90	19.4	2.95m	153	0	
EX-1	on system		~~~~~						
EX-2	~~~~~		~~~~~						
EX-3	on system		~~~~~						
MW-7	0427	17.78	7.68	4.22	20.0	843	130	6	
MW-8	0440	23.69	7.04	5.74	18.7	763m	179	0	
Central Temp	1478								
EFF Temp	1374	gals - 0199 55 0							
HRS	11616.7								
INS. H <sub>2</sub> O	.40	in. Hg (-9.5)			(H <sub>2</sub> O 18 psi 23)				
TEMP	132 F								

N/A

Connected Cylinders	
O <sub>2</sub> Cylinder	Pressure
1	
2	
3	
4	
5	
6	

Lab Parameters	Sampling Frequency	Sample Locations	Analytical Method
Bio-chemical oxygen demand	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 405.1
Total Iron & Ferrous Iron	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM3500
Heterotrophic Plate Counts	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	SM 9215B
Total Organic Carbon	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 415.1
Total Dissolved Solids	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 160.1
Nitrates, nitrites and ammonia	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 350.3
Sulfide and Sulfates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 376.2 & EPA 300.0
Total Phosphorus & orthophosphates	Quarterly	S-1, MW-3, EX-3, MW-7, & MW-8	EPA 365.2

**ORIGINAL**

Site Name & Address  
Former USA Station 57

10700 MacArthur Boulevard, Oakland

Test Well ID  
Extracting from EX-1 through EX-4

Date

9.9.07

Test Operators  
CHILL-Gewirtz

Vince

Equipment Model  
and Serial Nos.

PID Model

Mw-RAE

DPE System Parameters													Comments/Notes
Date & Time	Hour Meter Reading	System Applied Vacuum	System Inf Air Flow Rate <sup>1</sup>	System Inf Air Temp	Dilution Air Flow Rate <sup>2</sup>	Dilution Air Temp	Control Temp	Effluent Air Temp	System Influent PID	Effluent PID	Totalizer Reading		
	hrs	"Hg	scfm	deg F	scfm	deg F	deg F	deg F	ppmv	ppmv	gallons		
	11489.5	15	1900	139	0	0					199307		
09:40													
10:00	SHOT	AIR	SPARGE	OFF									
10:15	11490.5	15	2000	137	0	0	1490	1370	230	0.2	<del>199320</del>	199320	
11:15	11491.4	14"	2100	140	0	0	1450	1337	140	0	199340	199340	
9-11-07 0908	outside	System Down			Correction for PYS								
10:15	11524.0	12"	2500	130	0	0	1450	1374	160	0	199410	199410	
9-11-07 0500	0500	Unit Down	System Down										
0545	11592.6	10"	2500	130	0	0	1483	1359	139	0	199550	199550	

<sup>1</sup> Diameter of the system influent air flow pipe is \_\_\_\_\_ inches

<sup>2</sup> Diameter of the dilution air flow pipe is \_\_\_\_\_ inches

Site Name & Address Former USA Station 57  
10700 MacArthur Boulevard, Oakland

Test Well ID Extracting from EX-1 through EX-4

Date 9-19-09  
 Test Operators CHILL

Equipment Model and Serial Nos. \_\_\_\_\_  
 PID Model \_\_\_\_\_

Date & Time	DPE System Parameters											
	Hour Meter Reading hrs	System Applied Vacuum "Hg	System Inf Air Flow Rate <sup>1</sup> fpm/cfm	System Inf Air Temp deg F	Dilution Air Flow Rate <sup>2</sup> fpm/cfm	Dilution Air Temp deg F	Control Temp deg F	Effluent Air Temp deg F	System Influent PID ppmv	Effluent PID ppmv	Totalizer Reading gallons	Comments/Notes
9-19-09 0700	out of propane will come back 9/20/09 Restart											
9-20-09 0500	11640.0		2000	125	-	-	1538	1404	418	0	199550	Restart
	A/S	40 PSI	2.8 SCFM	To wells	AS-2	38 PSI	AS-1	30 PSI	A well Head			
9-25-09 900	11668.1	14	2100	134	0	0	1527	1414	400	0	199630	
	A/S	32 PSI	4 SCFM	To Both wells	AS-2	28 PSI	AS-1	18 PSI				
10/3/09 0530	11762.2	8	2700	128	0	0	1480	1396	1060	0	199690	Air Samples Water Samples
	A/S Dead											
10-5-09 0500	Install New compressor - SUE system down here Propane											
	11808.8	A/S	up	3.4 SCFM	To Both wells	AS-2	30 PSI	AT well				
								AS-1	30 PSI	AT well		
											199690	

<sup>1</sup> Diameter of the system influent air flow pipe is 3 inches

<sup>2</sup> Diameter of the dilution air flow pipe is 2 inches

## **APPENDIX B**

### **SAMPLING AND ANALYSIS PROCEDURES**

## **SAMPLING AND ANALYSIS PROCEDURES**

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The sampling and analysis procedures as well as the quality assurance plan are contained in this appendix. The procedures and adherence to the quality assurance plan will provide for consistent and reproducible sampling methods; proper application of analytical methods; accurate and precise analytical results; and finally, these procedures will provide guidelines so that the overall objectives of the monitoring program are achieved.

### **Ground Water and Liquid-Phase Petroleum Hydrocarbon Depth Assessment**

A water/hydrocarbon interface probe is used to assess the liquid-phase petroleum hydrocarbon (LPH) thickness, if present, and a water level indicator is used to measure the ground water depth in monitoring wells that do not contain LPH. Depth to ground water or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for hydrocarbon sheen.

### **Subjective Analysis of Ground Water**

Prior to purging, a water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

### **Monitoring Well Purging and Sampling**

Monitoring wells are purged using a pump or bailer until pH, temperature, and conductivity of the purge water has stabilized and a minimum of three well volumes of water have been removed. If three well volumes can not be removed in one half hour's time, the well is allowed to recharge to 80% of original level. After recharging, a ground water sample is then removed from each of the wells using a disposable bailer.

A Teflon bailer, electric submersible or bladder pump will be the only equipment used for well sampling. When samples for volatile organic analysis are being collected, the pump flow will be regulated at approximately 100 milliliters per minute to minimize pump effluent turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa will be used in sampling for volatile organics. These bottles will be filled completely to prevent air from remaining in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum will be placed over the positive meniscus to eliminate air. After the bottle is capped, it is inverted and tapped to verify that it contains no air bubbles. The sample containers for other parameters will be filled, filtered as required, and capped.

The water sample is collected, labeled, and handled according to the Quality Assurance Plan. Water generated during the monitoring event is disposed of according to regulatory accepted method pertaining to the site.

## **QUALITY ASSURANCE PLAN**

Procedures to provide data quality should be established and documented so that conditions adverse to quality, such as deficiencies, deviations, nonconformants, defective material, services, and/or equipment, can be promptly identified and corrected.

### **General Sample Collection and Handling Procedures**

Proper collection and handling are essential to ensure the quality of a sample. Each sample is collected in a suitable container, preserved correctly for the intended analysis, and stored prior to analysis for no longer than the maximum allowable holding time. Details on the procedures for collection and handling of samples used on this project can be found in this section.

### **Soil and Water Sample Labeling and Preservation**

Label information includes a unique sample identification number, job identification number, date, and time. After labeling all soil and water samples are placed in a Ziploc<sup>®</sup> type bag and placed in an ice chest cooled to approximately 4° Celsius. Upon arriving at Stratus' office the samples are transferred to a locked refrigerator cooled to approximately 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain-of-custody form. Trip blanks supplied by the laboratory accompany the groundwater sample containers and groundwater samples.

Upon recovery, the sample container is sealed to minimize the potential of volatilization and cross-contamination prior to chemical analysis. Soil sampling tubes are typically closed at each end with Teflon<sup>®</sup> sheeting and plastic caps. The sample is then placed in a Ziploc<sup>®</sup> type bag and sealed. The sample is labeled and refrigerated at approximately 4° Celsius for delivery, under strict chain-of-custody, to the analytical laboratory.

### **Sample Identification and Chain-of-Custody Procedures**

Sample identification and chain-of-custody procedures document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis has a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, is recorded on the borehole log or in the field records. The samples are analyzed by a California-certified laboratory.

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and



noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and contain adequate volumes for analysis. These conditions are noted on a Laboratory Sample Receipt Checklist that becomes part of the laboratory report upon request.

If these conditions are met, each sample is assigned a unique log number for identification throughout analysis and reporting. The log number is recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory. The sample description, date received, client's name, and other relevant information is also recorded.

### **Equipment Cleaning**

Sample bottles, caps, and septa used in sampling for volatile and semivolatile organics will be triple rinsed with high-purity deionized water. After being rinsed, sample bottles will be dried overnight at a temperature of 200°C. Sample caps and septa will be dried overnight at a temperature of 60°C. Sample bottles, caps, and septa will be protected from solvent contact between drying and actual use at the sampling site. Sampling containers will be used only once and discarded after analysis is complete.

Plastic bottles and caps used in sampling for metals will be soaked overnight in a 1-percent nitric acid solution. Next, the bottles and caps will be triple rinsed with deionized water. Finally, the bottles and caps will be air dried before being used at the site. Plastic bottles and caps will be constructed of linear polyethylene or polypropylene. Sampling containers will be used only once and discarded after analysis is complete. Glass and plastic bottles used by Stratus to collect groundwater samples are supplied by the laboratory.

Before the sampling event is started, equipment that will be placed in the well or will come in contact with groundwater will be disassembled and cleaned thoroughly with detergent water, and then steam cleaned with deionized water. Any parts that may absorb contaminants, such as plastic pump valves, etc. will be cleaned as described above or replaced.

During field sampling, equipment surfaces that are placed in the well or contact groundwater will be steam cleaned with deionized water before the next well is purged or sampled. Equipment blanks will be collected and analyzed from non-disposable sampling equipment that is used for collecting groundwater samples at the rate of one blank per twenty samples collected.

### **Internal Quality Assurance Checks**

Internal quality assurance procedures are designed to provide reliability of monitoring and measurement of data. Both field and laboratory quality assurance checks are necessary to evaluate the reliability of sampling and analysis results. Internal quality assurance procedures generally include:

- Laboratory Quality Assurance

- Documentation of instrument performance checks
- Documentation of instrument calibration
- Documentation of the traceability of instrument standards, samples, and data
- Documentation of analytical and QC methodology (QC methodology includes use of spiked samples, duplicate samples, split samples, use of reference blanks, and check standards to check method accuracy and precision)

- Field Quality Assurance

- Documentation of sample preservation and transportation
- Documentation of field instrument calibration and irregularities in performance

Internal laboratory quality assurance checks will be the responsibility of the contract laboratories. Data and reports submitted by field personnel and the contract laboratory will be reviewed and maintained in the project files.

**Types of Quality Control Checks**

Samples are analyzed using analytical methods outlined in EPA Manual SW 846 and approved by the California Regional Water Quality Control Board-Central Valley Region in the Leaking Underground Fuel Tanks (LUFT) manual and appendices. Standard contract laboratory quality control may include analysis or use of the following:

- Method blanks – reagent water used to prepare calibration standards, spike solutions, etc. is analyzed in the same manner as the sample to demonstrate that analytical interferences are under control.
- Matrix spiked samples – a known amount of spike solution containing selected constituents is added to the sample at concentrations at which the accuracy of the analytical method is to satisfactorily monitor and evaluate laboratory data quality.
- Split samples – a sample is split into two separate aliquots before analysis to assess the reproducibility of the analysis.
- Surrogate samples – samples are spiked with surrogate constituents at known concentrations to monitor both the performance of the analytical system and the effectiveness of the method in dealing with the sample matrix.
- Control charts – graphical presentation of spike or split sample results used to track the accuracy or precision of the analysis.
- Quality control check samples – when spiked sample analysis indicates atypical instrument performance, a quality check sample, which is prepared independently of the calibration standards and contains the constituents of interest, is analyzed to confirm that measurements were performed accurately.

- Calibration standards and devices – traceable standards or devices to set instrument response so that sample analysis results represent the absolute concentration of the constituent.

Field QA samples will be collected to assess sample handling procedures and conditions. Standard field quality control may include the use of the following, and will be collected and analyzed as outlined in EPA Manual SW 846.

- Field blanks – reagent water samples are prepared at the sampling location by the same procedure used to collect field groundwater samples and analyzed with the groundwater samples to assess the impact of sampling techniques on data quality. Typically, one field blank per twenty groundwater samples collected will be analyzed per sampling event.
- Field replicates – duplicate or triplicate samples are collected and analyzed to assess the reproducibility of the analytical data. One replicate groundwater sample per twenty samples collected will be analyzed per sampling event, unless otherwise specified. Triplicate samples will be collected only when specific conditions warrant and generally are sent to an alternate laboratory to confirm the accuracy of the routinely used laboratory.
- Trip blanks – reagent water samples are prepared before field work, transported and stored with the samples and analyzed to assess the impact of sample transport and storage for data quality. In the event that any analyte is detected in the field blank, a trip blank will be included in the subsequent groundwater sampling event.

Data reliability will be evaluated by the certified laboratory and reported on a cover sheet attached to the laboratory data report. Analytical data resulting from the testing of field or trip blanks will be included in the laboratory's report. Results from matrix spike, surrogate, and method blank testing will be reported, along with a statement of whether the samples were analyzed within the appropriate holding time.

Stratus will evaluate the laboratory's report on data reliability and note significant QC results that may make the data biased or unacceptable. Data viability will be performed as outlined in EPA Manual SW 846. If biased or unacceptable data is noted, corrective actions (including re-sample/re-analyze, etc.) will be evaluated on a site-specific basis.

**APPENDIX C**

**CERTIFIED ANALYTICAL REPORTS AND  
CHAIN-OF-CUSTODY DOCUMENTATION**



# Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778  
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

# FILE COPY

## ANALYTICAL REPORT

AUG 13 2007

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received 07/23/07

Job#: 2007-0057-01/USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B  
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH-P (GRO)	1,600	500 µg/L	07/23/07	07/25/07
MW-3	Tertiary Butyl Alcohol (TBA)	920	50 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	630	2.5 µg/L	07/23/07	07/25/07
STR07072325-01A	Di-isopropyl Ether (DIPE)	ND V	5.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND V	5.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	99	5.0 µg/L	07/23/07	07/25/07
	Benzene	420	2.5 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND V	5.0 µg/L	07/23/07	07/25/07
	Toluene	ND V	2.5 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND V	20 µg/L	07/23/07	07/25/07
	Ethylbenzene	27	2.5 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND V	2.5 µg/L	07/23/07	07/25/07
	o-Xylene	ND V	2.5 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	ND	50 µg/L	07/23/07	07/25/07
MW-4	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/23/07	07/25/07
STR07072325-02A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	ND	50 µg/L	07/23/07	07/25/07
MW-5	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/23/07	07/25/07
STR07072325-03A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07



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Client ID :	TPH-P (GRO)	ND	50 µg/L	07/23/07	07/25/07
<b>MW-7</b>	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	1.7	0.50 µg/L	07/23/07	07/25/07
STR07072325-04A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	ND	50 µg/L	07/23/07	07/25/07
<b>MW-8</b>	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/23/07	07/25/07
STR07072325-05A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	110	50 µg/L	07/23/07	07/25/07
<b>S-1</b>	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	52	0.50 µg/L	07/23/07	07/25/07
STR07072325-06A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	ND	50 µg/L	07/23/07	07/25/07
<b>S-2</b>	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	7.7	0.50 µg/L	07/23/07	07/25/07
STR07072325-07A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	1.0 µg/L	07/23/07	07/25/07
	Benzene	ND	0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/23/07	07/25/07
	Toluene	ND	0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	ND	0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND	0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND	0.50 µg/L	07/23/07	07/25/07



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Client ID :	TPH-P (GRO)	220		50 µg/L	07/23/07	07/25/07
<b>EX-1</b>	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	0.55		0.50 µg/L	07/23/07	07/25/07
STR07072325-08A	Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND		1.0 µg/L	07/23/07	07/25/07
	Benzene	7.4		0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	07/23/07	07/25/07
	Toluene	ND		0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND		2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	1.7		0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	ND		0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND		0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	610		100 µg/L	07/23/07	07/25/07
<b>EX-2</b>	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	5.2		0.50 µg/L	07/23/07	07/25/07
STR07072325-09A	Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND		1.0 µg/L	07/23/07	07/25/07
	Benzene	150		0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	07/23/07	07/25/07
	Toluene	7.5		0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	V	4.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	29		0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	27		0.50 µg/L	07/23/07	07/25/07
	o-Xylene	11		0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	1,500		50 µg/L	07/23/07	07/25/07
<b>EX-3</b>	Tertiary Butyl Alcohol (TBA)	ND		10 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	ND		0.50 µg/L	07/23/07	07/25/07
STR07072325-10A	Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND		1.0 µg/L	07/23/07	07/25/07
	Benzene	14		0.50 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	07/23/07	07/25/07
	Toluene	ND		0.50 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND		2.0 µg/L	07/23/07	07/25/07
	Ethylbenzene	21		0.50 µg/L	07/23/07	07/25/07
	m,p-Xylene	8.9		0.50 µg/L	07/23/07	07/25/07
	o-Xylene	ND		0.50 µg/L	07/23/07	07/25/07
Client ID :	TPH-P (GRO)	7,200		2,000 µg/L	07/23/07	07/25/07
<b>EX-4</b>	Tertiary Butyl Alcohol (TBA)	ND	V	200 µg/L	07/23/07	07/25/07
Lab ID :	Methyl tert-butyl ether (MTBE)	29		10 µg/L	07/23/07	07/25/07
STR07072325-11A	Di-isopropyl Ether (DIPE)	ND	V	20 µg/L	07/23/07	07/25/07
	Ethyl Tertiary Butyl Ether (ETBE)	ND	V	20 µg/L	07/23/07	07/25/07
	1,2-Dichloroethane	ND	V	20 µg/L	07/23/07	07/25/07
	Benzene	2,600		10 µg/L	07/23/07	07/25/07
	Tertiary Amyl Methyl Ether (TAME)	ND	V	20 µg/L	07/23/07	07/25/07
	Toluene	180		10 µg/L	07/23/07	07/25/07
	1,2-Dibromoethane (EDB)	ND	V	80 µg/L	07/23/07	07/25/07
	Ethylbenzene	100		10 µg/L	07/23/07	07/25/07
	m,p-Xylene	350		10 µg/L	07/23/07	07/25/07
	o-Xylene	210		10 µg/L	07/23/07	07/25/07



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Gasoline Range Organics (GRO) C4-C13

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Reported in micrograms per Liter, per client request.

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

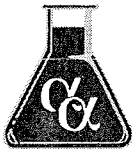
Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

*RS*

7/31/07

Report Date





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## VOC Sample Preservation Report

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Work Order: STR07072325

Project: 2007-0057-01/USA 57

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Alpha's Sample ID	Client's Sample ID	Matrix	pH
07072325-01A	MW-3	Aqueous	2
07072325-02A	MW-4	Aqueous	2
07072325-03A	MW-5	Aqueous	2
07072325-04A	MW-7	Aqueous	2
07072325-05A	MW-8	Aqueous	2
07072325-06A	S-1	Aqueous	2
07072325-07A	S-2	Aqueous	2
07072325-08A	EX-1	Aqueous	2
07072325-09A	EX-2	Aqueous	2
07072325-10A	EX-3	Aqueous	2
07072325-11A	EX-4	Aqueous	2

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7/31/07  
Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Total Organic Carbon as NonPurgeable Organic Carbon  
EPA Method SW9060/415.1/SM-5310C

Client ID :	Lab ID :	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
<b>MW-3</b>	STR07072325-01A	Total Organic Carbon	10,000	1,000 µg/L	07/23/07	07/25/07
<b>MW-7</b>	STR07072325-04A	Total Organic Carbon	2,400	1,000 µg/L	07/23/07	07/25/07
<b>MW-8</b>	STR07072325-05A	Total Organic Carbon	1,500	1,000 µg/L	07/23/07	07/25/07
<b>S-1</b>	STR07072325-06A	Total Organic Carbon	6,500	1,000 µg/L	07/23/07	07/25/07
<b>EX-3</b>	STR07072325-10A	Total Organic Carbon	9,900	4,000 µg/L	07/23/07	07/25/07

Reported in micrograms per Liter, per client request.

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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7/31/07

Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Total Dissolved Solids (TDS)  
SM2540C

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-3 Lab ID : STR07072325-01A Solids, Total Dissolved (TDS)	1,600,000	10,000 µg/L	07/23/07	08/02/07
Client ID : MW-7 Lab ID : STR07072325-04A Solids, Total Dissolved (TDS)	600,000	10,000 µg/L	07/23/07	07/30/07
Client ID : MW-8 Lab ID : STR07072325-05A Solids, Total Dissolved (TDS)	4,400,000	25,000 µg/L	07/23/07	08/03/07
Client ID : S-1 Lab ID : STR07072325-06A Solids, Total Dissolved (TDS)	780,000	10,000 µg/L	07/23/07	07/31/07
Client ID : EX-3 Lab ID : STR07072325-10A Solids, Total Dissolved (TDS)	740,000	10,000 µg/L	07/23/07	07/30/07

Reported in micrograms per Liter, per client request.

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8/3/07

Report Date



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## ANALYTICAL REPORT

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3330 Cameron Park Drive  
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Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

### Orthophosphate in Water EPA Method 365.3 / SM4500PE

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-3 Lab ID: STR07072325-01A	Total Orthophosphate	ND	100 µg/L	07/23/07 11:33	07/24/07 14:44
Client ID: MW-7 Lab ID: STR07072325-04A	Total Orthophosphate	110	100 µg/L	07/23/07 09:11	07/24/07 14:48
Client ID: MW-8 Lab ID: STR07072325-05A	Total Orthophosphate	140	100 µg/L	07/23/07 11:12	07/24/07 14:48
Client ID: S-1 Lab ID: STR07072325-06A	Total Orthophosphate	ND	100 µg/L	07/23/07 10:41	07/24/07 14:48
Client ID: EX-3 Lab ID: STR07072325-10A	Total Orthophosphate	ND	100 µg/L	07/23/07 10:07	07/24/07 14:49

ND = Not Detected  
Reported in micrograms per Liter, per client request.

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7/31/07

Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
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Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

### Phosphorus EPA Method 365.3 / SM4500PE

Client ID :	Lab ID :	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
MW-3	STR07072325-01A	Phosphorus, Total (As P)	850	100 µg/L	07/23/07	07/25/07
MW-7	STR07072325-04A	Phosphorus, Total (As P)	ND	100 µg/L	07/23/07	07/25/07
MW-8	STR07072325-05A	Phosphorus, Total (As P)	220	100 µg/L	07/23/07	07/25/07
S-1	STR07072325-06A	Phosphorus, Total (As P)	ND	100 µg/L	07/23/07	07/25/07
EX-3	STR07072325-10A	Phosphorus, Total (As P)	400	100 µg/L	07/23/07	07/25/07

ND = Not Detected

Reported in micrograms per Liter, per client request.

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7/31/07

Report Date



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## ANALYTICAL REPORT

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Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Sulfide  
EPA Method 376.2 / SM4500-S D

Client ID :	Lab ID :	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
MW-3	STR07072325-01A	Sulfide	130	100 µg/L	07/23/07	07/26/07
MW-7	STR07072325-04A	Sulfide	ND	100 µg/L	07/23/07	07/26/07
MW-8	STR07072325-05A	Sulfide	ND	100 µg/L	07/23/07	07/26/07
S-1	STR07072325-06A	Sulfide	ND	100 µg/L	07/23/07	07/26/07
EX-3	STR07072325-10A	Sulfide	590	200 µg/L	07/23/07	07/26/07

ND = Not Detected  
Reported in micrograms per Liter, per client request.

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Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/31/07

Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

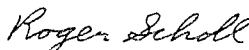

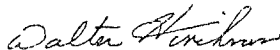
Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Ammonia as Nitrogen  
SM4500-NH3D

Client ID :	Lab ID :	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
MW-3	STR07072325-01A	Nitrogen, Ammonia (As N)	180	100 µg/L	07/23/07	07/27/07
MW-7	STR07072325-04A	Nitrogen, Ammonia (As N)	ND	100 µg/L	07/23/07	07/27/07
MW-8	STR07072325-05A	Nitrogen, Ammonia (As N)	ND	100 µg/L	07/23/07	07/27/07
S-1	STR07072325-06A	Nitrogen, Ammonia (As N)	ND	100 µg/L	07/23/07	07/27/07
EX-3	STR07072325-10A	Nitrogen, Ammonia (As N)	ND	100 µg/L	07/23/07	07/27/07

ND = Not Detected  
Reported in micrograms per Liter, per client request.



  
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*W*  
7/31/07  
Report Date



# Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778  
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57


Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-3	Nitrite (NO2) - N	ND	250 µg/L	07/23/07 11:33	07/24/07 22:52
Lab ID : STR07072325-01A	Nitrate (NO3) - N	ND	250 µg/L	07/23/07 11:33	07/24/07 22:52
Client ID : MW-7	Nitrite (NO2) - N	ND	250 µg/L	07/23/07 09:11	07/24/07 23:11
Lab ID : STR07072325-04A	Nitrate (NO3) - N	1,200	250 µg/L	07/23/07 09:11	07/24/07 23:11
Client ID : MW-8	Nitrite (NO2) - N	ND D	1,300 µg/L	07/23/07 11:12	07/25/07 11:06
Lab ID : STR07072325-05A	Nitrate (NO3) - N	1,600	1,300 µg/L	07/23/07 11:12	07/25/07 11:06
Client ID : S-1	Nitrite (NO2) - N	ND	250 µg/L	07/23/07 10:41	07/25/07 10:47
Lab ID : STR07072325-06A	Nitrate (NO3) - N	ND	250 µg/L	07/23/07 10:41	07/25/07 10:47
Client ID : EX-3	Nitrite (NO2) - N	ND	250 µg/L	07/23/07 10:07	07/25/07 00:43
Lab ID : STR07072325-10A	Nitrate (NO3) - N	ND	250 µg/L	07/23/07 10:07	07/25/07 00:43

D = Reporting Limits were increased due to high concentrations of non-target analytes.

ND = Not Detected  
Reported in micrograms per Liter, per client request.

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7/31/07

Report Date





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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-3 Lab ID : STR07072325-01A	Sulfate (SO4) 9,100	1,000 µg/L	07/23/07	07/24/07
Client ID : MW-7 Lab ID : STR07072325-04A	Sulfate (SO4) 52,000	2,000 µg/L	07/23/07	07/26/07
Client ID : MW-8 Lab ID : STR07072325-05A	Sulfate (SO4) 80,000	5,000 µg/L	07/23/07	07/25/07
Client ID : S-1 Lab ID : STR07072325-06A	Sulfate (SO4) 24,000	1,000 µg/L	07/23/07	07/25/07
Client ID : EX-3 Lab ID : STR07072325-10A	Sulfate (SO4) 45,000	1,000 µg/L	07/23/07	07/25/07

Reported in micrograms per Liter, per client request.

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7/31/07

Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

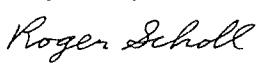

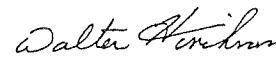
Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Iron by Spectrophotometer  
SM3500-Fe D

Client ID :	Lab ID :	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
MW-3	STR07072325-01A	Iron, Total	19,000	600 µg/L	07/23/07	07/30/07
MW-7	STR07072325-04A	Iron, Total	ND	300 µg/L	07/23/07	07/30/07
MW-8	STR07072325-05A	Iron, Total	25,000	600 µg/L	07/23/07	07/30/07
S-1	STR07072325-06A	Iron, Total	1,600	300 µg/L	07/23/07	07/30/07
EX-3	STR07072325-10A	Iron, Total	210,000	6,000 µg/L	07/23/07	07/30/07

ND = Not Detected  
Reported in micrograms per Liter, per client request.




  
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7/31/07  
Report Date



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## ANALYTICAL REPORT

Stratus Environmental  
3330 Cameron Park Drive  
Cameron Park, CA 956828861

Attn: Gowri Kowtha  
Phone: (530) 676-6001  
Fax: (530) 676-6005  
Date Received : 07/23/07

Job#: 2007-0057-01/USA 57

Iron by Spectrophotometer  
SM3500-Fe D

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-3 Lab ID : STR07072325-01A	Iron, Ferrous (+2)	900	50 µg/L	07/23/07	07/24/07
Client ID : MW-7 Lab ID : STR07072325-04A	Iron, Ferrous (+2)	ND	50 µg/L	07/23/07	07/24/07
Client ID : MW-8 Lab ID : STR07072325-05A	Iron, Ferrous (+2)	ND	50 µg/L	07/23/07	07/24/07
Client ID : S-1 Lab ID : STR07072325-06A	Iron, Ferrous (+2)	57	50 µg/L	07/23/07	07/24/07
Client ID : EX-3 Lab ID : STR07072325-10A	Iron, Ferrous (+2)	ND	50 µg/L	07/23/07	07/24/07

ND = Not Detected  
Reported in micrograms per Liter, per client request.

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7/31/07

Report Date



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Date:  
03-Aug-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID:		Type	MBLK	Test Code:	SM2540C	Batch ID:	W0726DS	Analysis Date:	08/03/2007 00:00		
Sample ID:	MBLK-W0726DS	Units :	µg/L	Run ID:	WETLAB_070803A	Prep Date:	08/03/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)		ND	10000								

### Laboratory Control Spike

File ID:		Type	LCS	Test Code:	SM2540C	Batch ID:	W0726DS	Analysis Date:	08/03/2007 00:00		
Sample ID:	LCS-W0726DS	Units :	µg/L	Run ID:	WETLAB_070803A	Prep Date:	08/03/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)		197000	10000	200000		99	80	120			

### Comments:

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Reported in micrograms per Liter, per client request.



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Date:  
27-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID:	Type	MBLK	Test Code:	EPA Method SW9060/415.1/SM-5310C						
Sample ID:	Units :	µg/L	Run ID:	TOC_070725A						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	ND	1000								

### Laboratory Control Spike

File ID:	Type	LCS	Test Code:	EPA Method SW9060/415.1/SM-5310C						
Sample ID:	Units :	µg/L	Run ID:	TOC_070725A						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	5580	1000	5000		112	74	126			

### Sample Matrix Spike

File ID:	Type	MS	Test Code:	EPA Method SW9060/415.1/SM-5310C						
Sample ID:	Units :	µg/L	Run ID:	TOC_070725A						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	7430	1000	5000	2383	101	56	137			

### Sample Matrix Spike Duplicate

File ID:	Type	MSD	Test Code:	EPA Method SW9060/415.1/SM-5310C						
Sample ID:	Units :	µg/L	Run ID:	TOC_070725A						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Organic Carbon	7160	1000	5000	2383	96	56	137	7429	3.7(20)	

#### Comments:

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Date:  
26-Jul-07

## OC Summary Report

Work Order:  
07072325

Method Blank		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0724OP				Analysis Date: 07/24/2007 00:00			
Sample ID:	MBLK-W0724OP	Units : µg/L	Run ID: WETLAB_070724D				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Orthophosphate	ND	100								
Laboratory Control Spike		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0724OP				Analysis Date: 07/24/2007 00:00			
Sample ID:	LCS-W0724OP	Units : µg/L	Run ID: WETLAB_070724D				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Orthophosphate	1040	100	1000		104	73	127			
Sample Matrix Spike		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0724OP				Analysis Date: 07/24/2007 00:00			
Sample ID:	07072325-01AMS	Units : µg/L	Run ID: WETLAB_070724D				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Orthophosphate	1140	100	1000		0	114	73	127		
Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0724OP				Analysis Date: 07/24/2007 00:00			
Sample ID:	07072325-01AMSD	Units : µg/L	Run ID: WETLAB_070724D				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Total Orthophosphate	1140	100	1000		0	114	73	127	1137	0.0(20)

### Comments:

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Date:  
26-Jul-07

## QC Summary Report

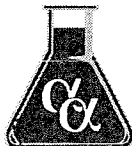
Work Order:  
07072325

Method Blank		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0725TP				Analysis Date: 07/25/2007 00:00			
Sample ID:	MBLK-W0725TP	Units : µg/L	Run ID: WETLAB_070725A				Prep Date: 07/25/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	ND	100								
Laboratory Control Spike		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0725TP				Analysis Date: 07/25/2007 00:00			
Sample ID:	LCS-W0725TP	Units : µg/L	Run ID: WETLAB_070725A				Prep Date: 07/25/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	968	100	1000		97	73	127			
Sample Matrix Spike		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0725TP				Analysis Date: 07/25/2007 00:00			
Sample ID:	07072325-01AMS	Units : µg/L	Run ID: WETLAB_070725A				Prep Date: 07/25/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1850	100	1000		848	99.9	73	127		
Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 365.3 / SM4500PE							
File ID:			Batch ID: W0725TP				Analysis Date: 07/25/2007 00:00			
Sample ID:	07072325-01AMSD	Units : µg/L	Run ID: WETLAB_070725A				Prep Date: 07/25/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Phosphorus, Total (As P)	1860	100	1000		848	101	73	127	1847	0.5(20)

### Comments:

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Date:  
27-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID: 07072506.D

Type **MBLK** Test Code: **EPA Method SW8015B**

Batch ID: **MS15W0725B**

Analysis Date: **07/25/2007 10:27**

Sample ID: **MBLK MS15W0725B**

Units : **µg/L**

Run ID: **MSD\_15\_070725A**

Prep Date: **07/25/2007**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	ND	50								
Surr: 1,2-Dichloroethane-d4	10.2		10		102	75	128			
Surr: Toluene-d8	10.4		10		104	80	120			
Surr: 4-Bromofluorobenzene	10.1		10		101	80	120			

### Laboratory Control Spike

File ID: 07072504.D

Type **LCS** Test Code: **EPA Method SW8015B**

Batch ID: **MS15W0725B**

Analysis Date: **07/25/2007 09:30**

Sample ID: **GLCS MS15W0725B**

Units : **µg/L**

Run ID: **MSD\_15\_070725A**

Prep Date: **07/25/2007**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	428	50	400		107	70	130			
Surr: 1,2-Dichloroethane-d4	10.5		10		105	75	128			
Surr: Toluene-d8	9.78		10		98	80	120			
Surr: 4-Bromofluorobenzene	9.85		10		99	80	120			

### Sample Matrix Spike

File ID: 07072511.D

Type **MS** Test Code: **EPA Method SW8015B**

Batch ID: **MS15W0725B**

Analysis Date: **07/25/2007 12:22**

Sample ID: **07072453-01AGS**

Units : **µg/L**

Run ID: **MSD\_15\_070725A**

Prep Date: **07/25/2007**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	1610	250	2000		81	60	131			
Surr: 1,2-Dichloroethane-d4	51.5		50		103	75	128			
Surr: Toluene-d8	50.1		50		100	80	120			
Surr: 4-Bromofluorobenzene	50.9		50		102	80	120			

### Sample Matrix Spike Duplicate

File ID: 07072512.D

Type **MSD** Test Code: **EPA Method SW8015B**

Batch ID: **MS15W0725B**

Analysis Date: **07/25/2007 12:45**

Sample ID: **07072453-01AGSD**

Units : **µg/L**

Run ID: **MSD\_15\_070725A**

Prep Date: **07/25/2007**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	1740	250	2000		87	60	131	1612	7.8(20)	
Surr: 1,2-Dichloroethane-d4	53		50		106	75	128			
Surr: Toluene-d8	49.7		50		99	80	120			
Surr: 4-Bromofluorobenzene	50.2		50		100	80	120			

### Comments:

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Date:  
27-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID: 07072506.D

Sample ID: MBLK MS15W0725A

Units : µg/L

Type MBLK Test Code: EPA Method SW8260B

Batch ID: MS15W0725A

Analysis Date: 07/25/2007 10:27

Run ID: MSD\_15\_070725A

Prep Date: 07/25/2007

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
1,2-Dichloroethane	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
1,2-Dibromoethane (EDB)	ND	2								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	10.2		10		102	75	128			
Surr: Toluene-d8	10.4		10		104	80	120			
Surr: 4-Bromofluorobenzene	10.1		10		101	80	120			

### Laboratory Control Spike

File ID: 07072503.D

Sample ID: LCS MS15W0725A

Units : µg/L

Type LCS Test Code: EPA Method SW8260B

Batch ID: MS15W0725A

Analysis Date: 07/25/2007 09:07

Run ID: MSD\_15\_070725A

Prep Date: 07/25/2007

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	9	0.5	10		90	70	130			
Benzene	9.94	0.5	10		99	70	130			
Toluene	9.81	0.5	10		98	80	120			
Ethylbenzene	9.55	0.5	10		96	80	120			
m,p-Xylene	9.87	0.5	10		99	70	130			
o-Xylene	10.2	0.5	10		102	70	130			
Surr: 1,2-Dichloroethane-d4	9.32		10		93	75	128			
Surr: Toluene-d8	10.1		10		101	80	120			
Surr: 4-Bromofluorobenzene	9.79		10		98	80	120			

### Sample Matrix Spike

File ID: 07072509.D

Sample ID: 07072453-01AMS

Units : µg/L

Type MS Test Code: EPA Method SW8260B

Batch ID: MS15W0725A

Analysis Date: 07/25/2007 11:36

Run ID: MSD\_15\_070725A

Prep Date: 07/25/2007

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	49.8	1.3	50	0	99.6	62	139			
Benzene	46.2	1.3	50	0	92	70	130			
Toluene	44.8	1.3	50	0	90	67	130			
Ethylbenzene	43.3	1.3	50	0	87	70	130			
m,p-Xylene	45.5	1.3	50	0	91	69	130			
o-Xylene	47.9	1.3	50	0	96	70	130			
Surr: 1,2-Dichloroethane-d4	48.7		50		97	75	128			
Surr: Toluene-d8	50.8		50		102	80	120			
Surr: 4-Bromofluorobenzene	49.9		50		99.8	80	120			

### Sample Matrix Spike Duplicate

File ID: 07072510.D

Sample ID: 07072453-01AMSD

Units : µg/L

Type MSD Test Code: EPA Method SW8260B

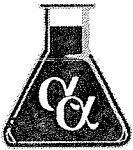
Batch ID: MS15W0725A

Analysis Date: 07/25/2007 11:59

Run ID: MSD\_15\_070725A

Prep Date: 07/25/2007

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	51.4	1.3	50	0	103	62	139	49.8	3.1(20)	
Benzene	49.3	1.3	50	0	99	70	130	46.19	6.6(20)	
Toluene	46.7	1.3	50	0	93	67	130	44.79	4.2(20)	
Ethylbenzene	46.3	1.3	50	0	93	70	130	43.31	6.6(20)	
m,p-Xylene	48.9	1.3	50	0	98	69	130	45.45	7.3(20)	
o-Xylene	49.7	1.3	50	0	99	70	130	47.88	3.7(20)	
Surr: 1,2-Dichloroethane-d4	48.4		50		97	75	128			
Surr: Toluene-d8	49.5		50		99	80	120			
Surr: 4-Bromofluorobenzene	49.7		50		99	80	120			



# *Alpha Analytical, Inc.*

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

**Date:**  
27-Jul-07

## QC Summary Report

**Work Order:**  
07072325

**Comments:**

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:  
30-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID:		Type	MBLK	Test Code:	EPA Method 376.2 / SM4500-S D						
Sample ID:	MBLK-W0726SU	Units :	µg/L	Batch ID:	W0726SU	Analysis Date:	07/26/2007 00:00				
Analyte		Run ID:	WETLAB_070726F	Prep Date:	07/26/2007						
		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfide		ND	100								

### Laboratory Control Spike

File ID:		Type	LCS	Test Code:	EPA Method 376.2 / SM4500-S D						
Sample ID:	LCS-W0726SU	Units :	µg/L	Batch ID:	W0726SU	Analysis Date:	07/26/2007 00:00				
Analyte		Run ID:	WETLAB_070726F	Prep Date:	07/26/2007						
		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfide		945	100	1000		95	75	130			

### Sample Matrix Spike

File ID:		Type	MS	Test Code:	EPA Method 376.2 / SM4500-S D						
Sample ID:	07072325-04AMS	Units :	µg/L	Batch ID:	W0726SU	Analysis Date:	07/26/2007 00:00				
Analyte		Run ID:	WETLAB_070726F	Prep Date:	07/26/2007						
		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfide		1160	100	1000		0	116	65	150		

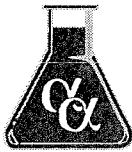
### Sample Matrix Spike Duplicate

File ID:		Type	MSD	Test Code:	EPA Method 376.2 / SM4500-S D						
Sample ID:	07072325-04AMSD	Units :	µg/L	Batch ID:	W0726SU	Analysis Date:	07/26/2007 00:00				
Analyte		Run ID:	WETLAB_070726F	Prep Date:	07/26/2007						
		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfide		1260	100	1000		0	126	65	150	1164	7.6(20)

### Comments:

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Date:  
30-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID:		Type <b>MBLK</b>	Test Code: <b>SM4500-NH3D</b>	Batch ID: <b>W0727AM</b>	Analysis Date: <b>07/27/2007 00:00</b>
Sample ID:	<b>MBLK-W0727AM</b>	Units : <b>µg/L</b>	Run ID: <b>WETLAB_070727D</b>	Prep Date: <b>07/27/2007</b>	
Analyte		Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Nitrogen, Ammonia (As N)		ND	100		

### Laboratory Control Spike

File ID:		Type <b>LCS</b>	Test Code: <b>SM4500-NH3D</b>	Batch ID: <b>W0727AM</b>	Analysis Date: <b>07/27/2007 00:00</b>
Sample ID:	<b>LCS-W0727AM</b>	Units : <b>µg/L</b>	Run ID: <b>WETLAB_070727D</b>	Prep Date: <b>07/27/2007</b>	
Analyte		Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Nitrogen, Ammonia (As N)		5270	100	5000	105 70 130

### Sample Matrix Spike

File ID:		Type <b>MS</b>	Test Code: <b>SM4500-NH3D</b>	Batch ID: <b>W0727AM</b>	Analysis Date: <b>07/27/2007 00:00</b>
Sample ID:	<b>07072001-01AMS</b>	Units : <b>µg/L</b>	Run ID: <b>WETLAB_070727D</b>	Prep Date: <b>07/27/2007</b>	
Analyte		Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Nitrogen, Ammonia (As N)		5320	100	5000	0 106 65 138

### Sample Matrix Spike Duplicate

File ID:		Type <b>MSD</b>	Test Code: <b>SM4500-NH3D</b>	Batch ID: <b>W0727AM</b>	Analysis Date: <b>07/27/2007 00:00</b>
Sample ID:	<b>07072001-01AMSD</b>	Units : <b>µg/L</b>	Run ID: <b>WETLAB_070727D</b>	Prep Date: <b>07/27/2007</b>	
Analyte		Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Nitrogen, Ammonia (As N)		5490	100	5000	0 110 65 138 5320 3.2(20)

### Comments:

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Date:  
30-Jul-07

## QC Summary Report

Work Order:  
07072325

<b>Method Blank</b>		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 45		MBLK	Batch ID: 17973A				Analysis Date: 07/24/2007 21:57			
Sample ID: MB-17973	Units : µg/L		Run ID: IC_2_070724B				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	250								
Nitrate (NO3) - N	ND	250								

<b>Laboratory Fortified Blank</b>		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 46		LFB	Batch ID: 17973A				Analysis Date: 07/24/2007 22:15			
Sample ID: LFB-17973	Units : µg/L		Run ID: IC_2_070724B				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1180	250	1250		94	90	110			
Nitrate (NO3) - N	1300	250	1250		104	90	110			

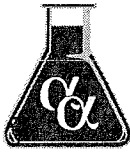
<b>Sample Matrix Spike</b>		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 50		LFM	Batch ID: 17973A				Analysis Date: 07/24/2007 23:29			
Sample ID: 07072325-04ALFM	Units : µg/L		Run ID: IC_2_070724B				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1300	250	1250		0 104	80	120			
Nitrate (NO3) - N	2460	250	1250	1243	97	80	120			

<b>Sample Matrix Spike Duplicate</b>		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 51		LFMD	Batch ID: 17973A				Analysis Date: 07/24/2007 23:48			
Sample ID: 07072325-04ALFMD	Units : µg/L		Run ID: IC_2_070724B				Prep Date: 07/24/2007			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1300	250	1250		0 104	80	120	1297	0.2(10)	
Nitrate (NO3) - N	2530	250	1250	1243	103	80	120	2456	3.2(10)	

### Comments:

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Date:  
30-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID: 45	Type MBLK	Test Code: EPA Method 300.0 / 9056								
Sample ID: MB-17973	Units : µg/L	Run ID: IC_2_070724B	Batch ID: 17973B							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	500								

### Laboratory Fortified Blank

File ID: 46	Type LFB	Test Code: EPA Method 300.0 / 9056								
Sample ID: LFB-17973	Units : µg/L	Run ID: IC_2_070724B	Batch ID: 17973B							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	10100	500	10000		101	90	110			

### Sample Matrix Spike

File ID: 50	Type LFM	Test Code: EPA Method 300.0 / 9056								
Sample ID: 07072325-04ALFM	Units : µg/L	Run ID: IC_2_070724B	Batch ID: 17973B							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	63500	500	10000	53590	99	80	120			

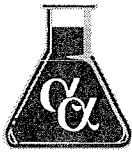
### Sample Matrix Spike Duplicate

File ID: 51	Type LFMD	Test Code: EPA Method 300.0 / 9056								
Sample ID: 07072325-04ALFMD	Units : µg/L	Run ID: IC_2_070724B	Batch ID: 17973B							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	63900	500	10000	53590	103	80	120	63510	0.6(10)	

### Comments:

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Date:  
31-Jul-07

## QC Summary Report

Work Order:  
07072325

### Method Blank

File ID:		Type	MBLK	Test Code:	SM3500-Fe D	Batch ID:	W0724FR	Analysis Date:	07/24/2007 00:00		
Sample ID:	MBLK-W0724FR	Units :	µg/L	Run ID:	WETLAB_070724H	Prep Date:	07/24/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)		ND		50							

### Laboratory Control Spike

File ID:		Type	LCS	Test Code:	SM3500-Fe D	Batch ID:	W0724FR	Analysis Date:	07/24/2007 00:00		
Sample ID:	LCS-W0724FR	Units :	µg/L	Run ID:	WETLAB_070724H	Prep Date:	07/24/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)		1370	50	1500		92	85	115			

### Sample Matrix Spike

File ID:		Type	MS	Test Code:	SM3500-Fe D	Batch ID:	W0724FR	Analysis Date:	07/24/2007 00:00		
Sample ID:	07072450-01AMS	Units :	µg/L	Run ID:	WETLAB_070724H	Prep Date:	07/24/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)		1450	50	1500		0	96	70	130		

### Sample Matrix Spike Duplicate

File ID:		Type	MSD	Test Code:	SM3500-Fe D	Batch ID:	W0724FR	Analysis Date:	07/24/2007 00:00		
Sample ID:	07072450-01AMSD	Units :	µg/L	Run ID:	WETLAB_070724H	Prep Date:	07/24/2007				
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Iron, Ferrous (+2)		1440	50	1500		0	96	70	130	1447	0.6(20)

### Comments:

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# Alpha Analytical, Inc.

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Date:  
31-Jul-07

## OC Summary Report

Work Order:  
07072325

### Method Blank

Method Blank		Type	Test Code: SM3500-Fe D								
File ID:			Batch ID: W0730FT			Analysis Date: 07/30/2007 00:00					
Sample ID:	MBLK-W0730FT	Units : µg/L	Run ID: WETLAB_070730A			Prep Date: 07/30/2007					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Iron, Total	ND	300									

### Laboratory Control Spike

Laboratory Control Spike		Type	Test Code: SM3500-Fe D								
File ID:			Batch ID: W0730FT			Analysis Date: 07/30/2007 00:00					
Sample ID:	LCS-W0730FT	Units : µg/L	Run ID: WETLAB_070730A			Prep Date: 07/30/2007					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Iron, Total	9750	300	10000		97	85	115				

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: SM3500-Fe D								
File ID:			Batch ID: W0730FT			Analysis Date: 07/30/2007 00:00					
Sample ID:	07072325-01AMS	Units : µg/L	Run ID: WETLAB_070730A			Prep Date: 07/30/2007					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Iron, Total	20200	300	1500	18790	91	70	130				

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: SM3500-Fe D								
File ID:			Batch ID: W0730FT			Analysis Date: 07/30/2007 00:00					
Sample ID:	07072325-01AMSD	Units : µg/L	Run ID: WETLAB_070730A			Prep Date: 07/30/2007					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Iron, Total	20100	300	1500	18790	84	70	130	20150	0.5(20)		

### Comments:

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# CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

July 30, 2007

CLS Work Order #: CQG0788  
COC #:

Reyna Vallejo  
Alpha Analytical, Inc.-Sparks  
255 Glendale Ave.; Suite 21  
Sparks, NV 89431

**Project Name: STR07072325**

Enclosed are the results of analyses for samples received by the laboratory on 07/23/07 16:15. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.  
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

# CALIFORNIA LABORATORY SERVICES

07/30/07 14:32

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks NV, 89431	Project: STR07072325 Project Number: STR07072325 Project Manager: Reyna Vallejo	CLS Work Order #: CQG0788 COC #:
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## Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>STR07072325-01A (MW-3) (CQG0788-01) Water</b> <b>Sampled: 07/23/07 11:33</b> <b>Received: 07/23/07 16:15</b>									
Biochemical Oxygen Demand	4.1	3.0	mg/L	1	CQ06121	07/24/07	07/29/07	SM5210B	
<b>STR07072325-04A (MW-7) (CQG0788-02) Water</b> <b>Sampled: 07/23/07 09:11</b> <b>Received: 07/23/07 16:15</b>									
Biochemical Oxygen Demand	ND	3.0	mg/L	1	CQ06121	07/24/07	07/29/07	SM5210B	
<b>STR07072325-05A (MW-8) (CQG0788-03) Water</b> <b>Sampled: 07/23/07 11:12</b> <b>Received: 07/23/07 16:15</b>									
Biochemical Oxygen Demand	ND	3.0	mg/L	1	CQ06121	07/24/07	07/29/07	SM5210B	
<b>STR07072325-06A (S-1) (CQG0788-04) Water</b> <b>Sampled: 07/23/07 10:41</b> <b>Received: 07/23/07 16:15</b>									
Biochemical Oxygen Demand	ND	3.0	mg/L	1	CQ06121	07/24/07	07/29/07	SM5210B	
<b>STR07072325-10A (EX-3) (CQG0788-05) Water</b> <b>Sampled: 07/23/07 10:07</b> <b>Received: 07/23/07 16:15</b>									
Biochemical Oxygen Demand	10	3.0	mg/L	1	CQ06121	07/24/07	07/29/07	SM5210B	

# CALIFORNIA LABORATORY SERVICES

07/30/07 14:32

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks NV, 89431	Project: STR07072325 Project Number: STR07072325 Project Manager: Reyna Vallejo	CLS Work Order #: CQG0788 COC #:
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## Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>STR07072325-01A (MW-3) (CQG0788-01) Water Sampled: 07/23/07 11:33 Received: 07/23/07 16:15</b>									
Plate Count	4400	10	CFU/mL	10	CQ06149	07/23/07	07/25/07	SM 9215	
<b>STR07072325-04A (MW-7) (CQG0788-02) Water Sampled: 07/23/07 09:11 Received: 07/23/07 16:15</b>									
Plate Count	170	1	CFU/mL	1	CQ06149	07/23/07	07/25/07	SM 9215	
<b>STR07072325-05A (MW-8) (CQG0788-03) Water Sampled: 07/23/07 11:12 Received: 07/23/07 16:15</b>									
Plate Count	790	10	CFU/mL	10	CQ06149	07/23/07	07/25/07	SM 9215	
<b>STR07072325-06A (S-1) (CQG0788-04) Water Sampled: 07/23/07 10:41 Received: 07/23/07 16:15</b>									
Plate Count	9	1	CFU/mL	1	CQ06149	07/23/07	07/25/07	SM 9215	
<b>STR07072325-10A (EX-3) (CQG0788-05) Water Sampled: 07/23/07 10:07 Received: 07/23/07 16:15</b>									
Plate Count	30000	100	CFU/mL	100	CQ06149	07/23/07	07/25/07	SM 9215	

# CALIFORNIA LABORATORY SERVICES

07/30/07 14:32

Alpha Analytical, Inc.-Sparks 255 Glendale Ave.; Suite 21 Sparks NV, 89431	Project: STR07072325 Project Number: STR07072325 Project Manager: Reyna Vallejo	CLS Work Order #: CQG0788 COC #:
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## Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

### Batch CQ06121 - General

<b>Blank (CQ06121-BLK1)</b>				Prepared: 07/24/07 Analyzed: 07/29/07						
Biochemical Oxygen Demand	ND	3.0	mg/L							
<b>LCS (CQ06121-BS1)</b>				Prepared: 07/24/07 Analyzed: 07/29/07						
Biochemical Oxygen Demand	183	3.0	mg/L	200		91.5	55-125			
<b>LCS Dup (CQ06121-BSD1)</b>				Prepared: 07/24/07 Analyzed: 07/29/07						
Biochemical Oxygen Demand	195	3.0	mg/L	200		97.5	55-125	6.35	24	

# CALIFORNIA LABORATORY SERVICES

07/30/07 14:32

Alpha Analytical, Inc.-Sparks  
255 Glendale Ave.; Suite 21  
Sparks NV, 89431

Project: STR07072325  
Project Number: STR07072325  
Project Manager: Reyna Vallejo

CLS Work Order #: CQG0788  
COC #:

## Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

# Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

## Sample Receipt Checklist

Date Report is due to Client : 8/1/2007

Date of Notice : 7/24/2007 10:28:35

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name: **Stratus Environmental**

Project ID : 2007-0057-01/USA 57

Project Manager: **Gowri Kowtha**

Client's EMail: **gkowtha@stratusinc.net**

Work Order Number: **STR07072325**

Client's Phone: **(530) 676-6001**

Client's FAX: **(530) 676-6005**

Date Received: **7/23/2007**

Received by: **Kathryn Murray**

### Chain of Custody (COC) Information

Carrier name FedEx

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	Not Present <input checked="" type="checkbox"/>
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Sub Contract Lab Used :	None <input type="checkbox"/>	<input checked="" type="checkbox"/> See Comments	

### Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Cooler Temperature 4°C
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	N/A <input type="checkbox"/>

### Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	If YES : see the Chain of Custody (COC)

Comments : Sac Office to sub BOD and HPC to CLS.

# CHAIN-OF-CUSTODY RECORD

# CA

**Alpha Analytical, Inc.**  
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778  
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR07072325

Report Due By : 5:00 PM On : 01-Aug-07

**Client:**  
 Stratus Environmental  
 3330 Cameron Park Drive  
 Suite 550  
 Cameron Park, CA 95682-8861

Gowri Kowtha  
 TEL : (530) 676-6001  
 FAX : (530) 676-6005  
 EMail gkowtha@stratusinc.net

EDD Required : Yes

Sampled by : G. Wilkins

**Report Attention :** Gowri Kowtha  
**CC Report :**

**Job :** 2007-0057-01/USA 57  
**PO :**

Client's COC # : 17608

<u>Cooler Temp</u>	<u>Samples Received</u>	<u>Date Printed</u>
4 °C	23-Jul-07	24-Jul-07

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles			PWS #	Requested Tests									Sample Remarks
				ORG	SUB	TAT		3500FE_20 S_W	3500FE_TO T_W	AMMONIA_W	ANIONS(A)_W	ANIONS(B)_W	BOD	HETEROTR OPIC	ORTHOPH OS_W		
STR07072325-01A	MW-3	AQ	07/23/07 11:33	13	2	6		FE+2	FE.Total	NH3	NO2,NO3,S O4	NO2,NO3,SO 4	BOD	SUB	Ortho	Sac Office subbed BOD and HPC to CLS.	
STR07072325-02A	MW-4	AQ	07/23/07 07:42	5	0	6											
STR07072325-03A	MW-5	AQ	07/23/07 08:11	5	0	6											
STR07072325-04A	MW-7	AQ	07/23/07 09:11	13	2	6		FE+2	FE.Total	NH3	NO2,NO3,S O4	NO2,NO3,SO 4	BOD	SUB	Ortho	Sac Office subbed BOD and HPC to CLS.	
STR07072325-05A	MW-8	AQ	07/23/07 11:12	13	2	6		FE+2	FE.Total	NH3	NO2,NO3,S O4	NO2,NO3,SO 4	BOD	SUB	Ortho	Sac Office subbed BOD and HPC to CLS.	
STR07072325-06A	S-1	AQ	07/23/07 10:41	13	2	6		FE+2	FE.Total	NH3	NO2,NO3,S O4	NO2,NO3,SO 4	BOD	SUB	Ortho	Sac Office subbed BOD and HPC to CLS.	
STR07072325-07A	S-2	AQ	07/23/07 08:29	5	0	6											
STR07072325-08A	EX-1	AQ	07/23/07 09:42	5	0	6											
STR07072325-09A	EX-2	AQ	07/23/07 10:18	5	0	6											
STR07072325-10A	EX-3	AQ	07/23/07 10:07	13	2	6		FE+2	FE.Total	NH3	NO2,NO3,S O4	NO2,NO3,SO 4	BOD	SUB	Ortho	Sac Office subbed BOD and HPC to CLS.	

**Comments:** Chain prelogged on 7/23/07 in order for Sac Office to sub BOD and HPC to CLS, rest of samples rec'd 7/24/07. Security seals intact. Frozen ice. TOC pH=2 for all samples. Send copy of receipt checklist with final report. :

Signature	Print Name	Company	Date/Time
<i>K Murray</i>	K Murray	Alpha Analytical, Inc.	7/24/07 1030

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

# CHAIN-OF-CUSTODY RECORD

# CA

WorkOrder : STR07072325

**Alpha Analytical, Inc.**  
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778  
 TEL: (775) 355-1044 FAX: (775) 355-0406

Report Due By : 5:00 PM On : 01-Aug-07

**Client:**  
 Stratus Environmental  
 3330 Cameron Park Drive  
 Suite 550  
 Cameron Park, CA 95682-8861

Gowri Kowtha  
 TEL : (530) 676-6001  
 FAX : (530) 676-6005  
 EMail gkowtha@stratusinc.net

EDD Required : Yes

Sampled by : G. Wilkins

Report Attention : Gowri Kowtha

Job : 2007-0057-01/USA 57

Cooler Temp	Samples Received	Date Printed
4 °C	23-Jul-07	24-Jul-07

CC Report :

PO :

Client's COC # : 17608

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests						Sample Remarks	
				ORG	SUB	TAT	PWS #	PHOSPHO RUS_W	SULFIDE	TDS	TOC_W	TPH/P_W	VOC_W		
STR07072325-01A	MW-3	AQ	07/23/07 11:33	13	2	6		Total	Sulfide	X	TOC	GAS-C	BTEX/OXY/1,2-DCA/EDB_C		Sac Office subbed BOD and HPC to CLS.
STR07072325-02A	MW-4	AQ	07/23/07 07:42	5	0	6						GAS-C	BTEX/OXY/1,2-DCA/EDB_C		
STR07072325-03A	MW-5	AQ	07/23/07 08:11	5	0	6						GAS-C	BTEX/OXY/1,2-DCA/EDB_C		
STR07072325-04A	MW-7	AQ	07/23/07 09:11	13	2	6		Total	Sulfide	X	TOC	GAS-C	BTEX/OXY/1,2-DCA/EDB_C		Sac Office subbed BOD and HPC to CLS.
STR07072325-05A	MW-8	AQ	07/23/07 11:12	13	2	6		Total	Sulfide	X	TOC	GAS-C	BTEX/OXY/1,2-DCA/EDB_C		Sac Office subbed BOD and HPC to CLS.
STR07072325-06A	S-1	AQ	07/23/07 10:41	13	2	6		Total	Sulfide	X	TOC	GAS-C	BTEX/OXY/1,2-DCA/EDB_C		Sac Office subbed BOD and HPC to CLS.
STR07072325-07A	S-2	AQ	07/23/07 08:29	5	0	6						GAS-C	BTEX/OXY/1,2-DCA/EDB_C		
STR07072325-08A	EX-1	AQ	07/23/07 09:42	5	0	6						GAS-C	BTEX/OXY/1,2-DCA/EDB_C		

**Comments:** Chain prelogged on 7/23/07 in order for Sac Office to sub BOD and HPC to CLS, rest of samples rec'd 7/24/07. Security seals intact. Frozen ice. TOC pH=2 for all samples. Send copy of receipt checklist with final report. :

Signature	Print Name	Company	Date/Time
<i>K Murray</i>	<i>K Murray</i>	Alpha Analytical, Inc.	7/24/07 1030

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other



Billing Information :

# CHAIN-OF-CUSTODY RECORD

# CA

## WorkOrder : STR07072325

**Alpha Analytical, Inc.**  
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778  
 TEL: (775) 355-1044 FAX: (775) 355-0406

Report Due By : 5:00 PM On : 01-Aug-07

**Client:**

Stratus Environmental  
 3330 Cameron Park Drive  
 Suite 550  
 Cameron Park, CA 95682-8861

**Gowri Kowtha**  
 TEL : (530) 676-6001  
 FAX : (530) 676-6005  
 EMail gkowtha@stratusinc.net

EDD Required : Yes

Sampled by : G. Wilkins

Report Attention : Gowri Kowtha

CC Report :

Job : 2007-0057-01/USA 57

PO :

Client's COC # : 17608

Cooler Temp

Samples Received

Date Printed

4 °C

23-Jul-07

24-Jul-07

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests						Sample Remarks			
				ORG	SUB	TAT	PWS #	PHOSPHO RUS_W	SULFIDE	TDS	TOC_W	TPH/P_W	VOC_W				
STR07072325-09A	EX-2	AQ	07/23/07 10:18	5	0	6											
STR07072325-10A	EX-3	AQ	07/23/07 10:07	13	2	6		Total	Sulfide	X	TOC	GAS-C	BTEX/OXY/1,2-DCA/EDB_C				Sac Office subbed BOD and HPC to CLS.
STR07072325-11A	EX-4	AQ	07/23/07 07:29	5	0	6											

**Comments:** Chain prelogged on 7/23/07 in order for Sac Office to sub BOD and HPC to CLS, rest of samples rec'd 7/24/07. Security seals intact. Frozen ice. TOC pH=2 for all samples. Send copy of receipt checklist with final report. :

Signature	Print Name	Company	Date/Time
<i>K Murray</i>	<i>K Murray</i>	Alpha Analytical, Inc.	7/24/07 1030

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

**Billing Information:**

Name Stratus Environmental  
 Address 3330 Cameron Park Dr.  
 City, State, Zip Cameron Park CA 95682  
 Phone Number 530-676-6001 Fax \_\_\_\_\_



**Alpha Analytical, Inc.**  
 255 Glendale Avenue, Suite 21  
 Sparks, Nevada 89431-5778  
 Phone (775) 355-1044  
 Fax (775) 355-0406

Samples Collected From Which State?  
 AZ \_\_\_\_\_ CA  NV \_\_\_\_\_ WA \_\_\_\_\_  
 ID \_\_\_\_\_ OR \_\_\_\_\_ OTHER \_\_\_\_\_

17608

Page # 1 of 1

Client Name		P.O. #		Job #		Analyses Required						Required QC Level?				
VSA-57				2007-0057-01		GRO	BTEX	50xys	EPB	1,2DCA	See Column	I	II	III	IV	
Address		E-Mail Address		Phone #								Fax #		Global ID #		REMARKS
10700 McArthur Blvd.												EDD / EDF? YES <input checked="" type="checkbox"/> NO _____		Global ID # <u>T0600101808</u>		
Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Report Attention	Lab ID Number	Office Use Only	Sample Description	TAT	Field Filtered	Total and type of containers** See below						
1133	07/23	AQ	G. Wilkins / V. Lutka	Conri	STRO7072325-01		MW-3	std		15	X	X	X	X	X	Special analysis
0742					02		MW-4			5v						Heterotrophic plate count
0811					03		MW-5			5v						Nitrate Ammonia total P
					not sampled		<del>MW-6</del>									Ferrous Iron & total Iron
0911					04		MW-7			15					X	Sulfide
1112					05		MW-8			15					X	TOC
1041					06		S-1			15					X	BOD
0829					07		S-2			5v						TDS Sulfate
0942					08		Ex-1			5v						Nitrate, Nitrite, ortho P
1018					09		Ex-2			5v						
1007					10		Ex-3			15						
0729					11		Ex-4			5v					X	BOD, HPL Subbed to CLS

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
	G. Wilkins	Stratus	07-23-07	1506
	Mike Gibbons	Stratus	7-23-07	1506
	K. Murray	AAI	7/24/07	1025

\*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air \*\* L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other  
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.

CR40788

**Alpha Analytical, Inc.**

255 Glendale Avenue  
Suite 21  
Sparks, Nevada 89431-5778  
Phone: (775) 355-1044  
Fax: (775) 355-0406

**SUB CHAIN-OF-CUSTODY RECORD**

Work Order : STR07072325

\*Please reference the Work Order number on all reports and invoices.  
\*Also please include the dates of analysis and detection limits.  
Please send the report to Alpha Analytical (Sparks).  
Attention To Reyna Vallejo (reyna@alpha-analytical.com).

Page 1 of 1

Report Due By : 5:00 PM

On : 01-Aug-07

**Subcontractor:**

CLS Labs  
3249 Fitzgerald Rd.  
Suite 21  
Rancho Cordova, CA 95742

TEL: (916) 638-7301  
FAX: (916) 638-4510  
Acct #:

EDD Required:

Yes


**Required QC:**

Final Rpt, MBLK, LCS, MS/MSD With Surrogates

23-Jul-07

Alpha's Sample ID	Client's Sample ID	Matrix	Collection Date	Type (#) of Bottles		Requested Tests		Sample Comments
				Preserved	Other	SM5210B	Standard Method 9215B	
STR07072325-01A	MW-3	Aqueous	07/23/07 11:33	OTHERP (1)	OTHER (1)	Biochemical Oxygen Demand	Heterotropic Plate Count	Sac Office subbed BOD and HPC to CLS.
STR07072325-04A	MW-7	Aqueous	07/23/07 09:11	OTHERP (1)	OTHER (1)	Biochemical Oxygen Demand	Heterotropic Plate Count	Sac Office subbed BOD and HPC to CLS.
STR07072325-05A	MW-8	Aqueous	07/23/07 11:12	OTHERP (1)	OTHER (1)	Biochemical Oxygen Demand	Heterotropic Plate Count	Sac Office subbed BOD and HPC to CLS.
STR07072325-08A	S-1	Aqueous	07/23/07 10:41	OTHERP (1)	OTHER (1)	Biochemical Oxygen Demand	Heterotropic Plate Count	Sac Office subbed BOD and HPC to CLS.
STR07072325-10A	EX-3	Aqueous	07/23/07 10:07	OTHERP (1)	OTHER (1)	Biochemical Oxygen Demand	Heterotropic Plate Count	Sac Office subbed BOD and HPC to CLS.

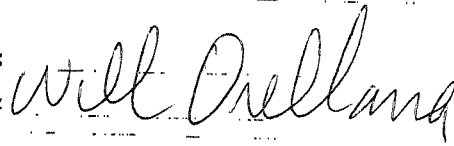
**Comments:**

Relinquished by:   
Relinquished by:

Date/Time  
7/23 4/15

Received by:

Received by:



Date/Time

7/23/07  
1615 50

1/2  
07-23-2007  
03:28:05 p.m.  
Alpha Analytical, Sparks, NV  
Alpha Analytical - Sparks,  
7753550406

**APPENDIX D**

**GEOTRACKER**

**ELECTRONIC SUBMITTAL INFORMATION**

## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

### UPLOADING A GEO\_WELL FILE

**Processing is complete. No errors were found!  
Your file has been successfully submitted!**

<b>Submittal Title:</b>	<b>USA 57, GEO_WELL, Third Quarter 2007</b>
<b>Facility Global ID:</b>	<b>T0600101808</b>
<b>Facility Name:</b>	<b>USA PETROLEUM</b>
<b>Submittal Date/Time:</b>	<b>8/10/2007 11:17:29 AM</b>
<b>Confirmation Number:</b>	<b>9380613565</b>

[Back to Main Menu](#)

Logged in as STRATUS NOCAL (AUTH\_RP)

[CONTACT SITE ADMINISTRATOR.](#)

## Electronic Submittal Information

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Your EDF file has been successfully uploaded!

**Confirmation Number:** 8892927348

**Date/Time of Submittal:** 10/2/2007 11:29:01 AM

**Facility Global ID:** T0600101808

**Facility Name:** USA PETROLEUM

**Submittal Title:** GW Analytical Report Third Quarter 07

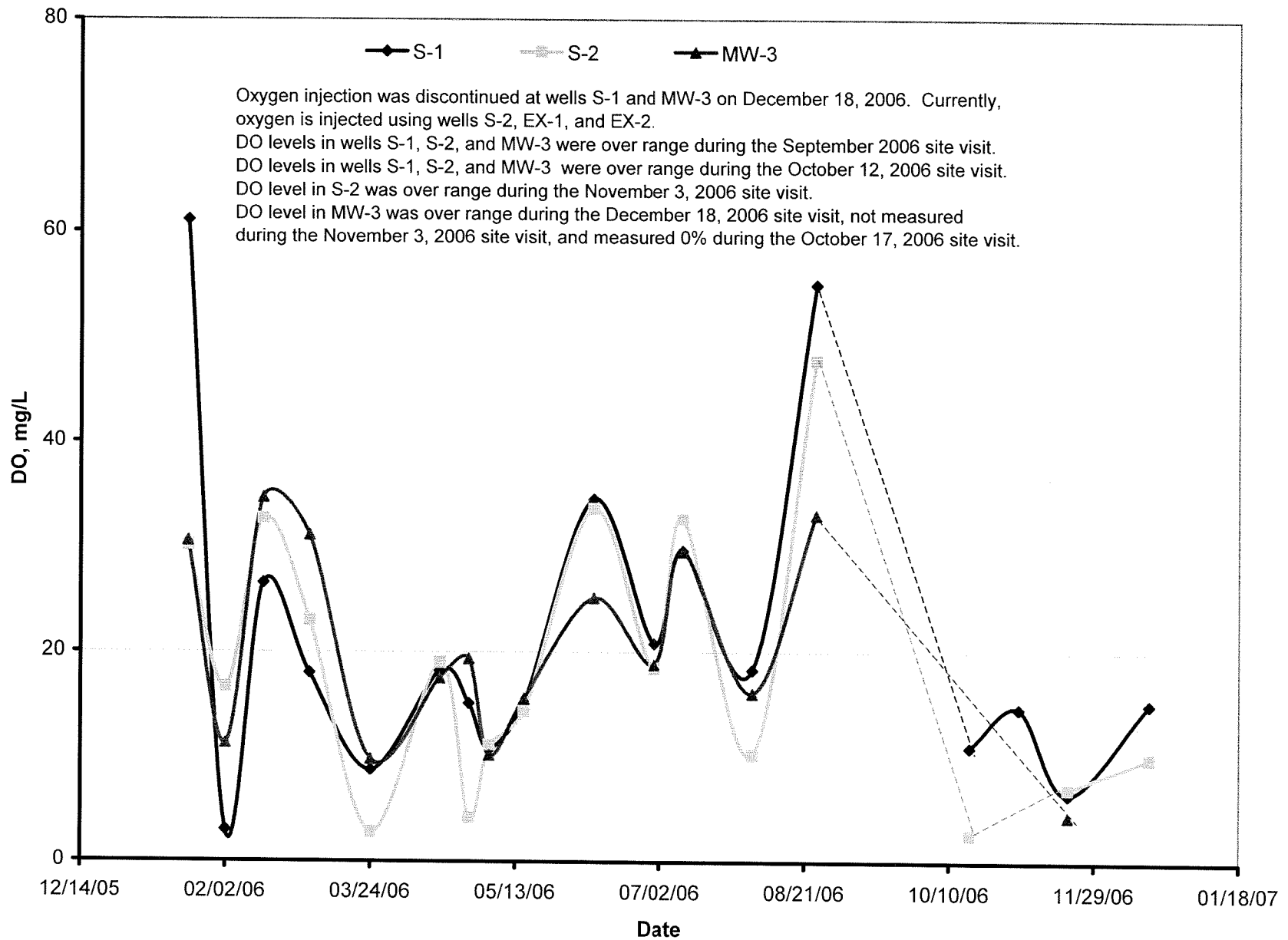
**Submittal Type:** GW Monitoring Report

## **APPENDIX E**

### **HISTORICAL DO VARIATION WITH TIME AT INJECTION WELLS, AND AT OBSERVATION AND BACKGROUND WELLS**

### Historical DO Variation with Time at Injection Wells

Former USA Service Station No. 57  
10700 MacArthur Boulevard  
Oakland, California





### Historical DO Variation with Time at Observation and Background Wells

Former USA Service Station No. 57

10700 MacArthur Boulevard

Oakland, California

