



Atlantic Richfield Company  
(a BP affiliated company)

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9:52 am, May 02, 2008

Alameda County  
Environmental Health



P.O. Box 1257  
San Ramon, CA 94583  
Phone: (925) 275-3801  
Fax: (925) 275-3815

25 April 2008

Re: First Quarter 2008 Ground-Water Monitoring and Remediation System Status Report  
Atlantic Richfield Company (a BP affiliated company) Station #2111  
1156 Davis Street  
San Leandro, California  
ACEH Case #RO0000494

"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Submitted by:

A handwritten signature in black ink that reads "Paul Supple".

Paul Supple  
Environmental Business Manager

Prepared for

Mr. Paul Supple  
Environmental Business Manager  
Atlantic Richfield Company  
P.O. Box 1257  
San Ramon, California 94583

Prepared by



1324 Mangrove Avenue, Suite 212  
Chico, California 95926  
(530) 566-1400  
[www.broadbentinc.com](http://www.broadbentinc.com)

25 April 2008

Project No. 06-08-615

**First Quarter 2008 Ground-Water Monitoring  
and  
Remediation System Status Report**  
Atlantic Richfield Company Station #2111  
1156 Davis Street  
San Leandro, California

Broadbent & Associates, Inc.  
1324 Mangrove Ave., Suite 212  
Chico, CA 95926  
Voice (530) 566-1400  
Fax (530) 566-1401



25 April 2008

Project No. 06-08-615

Atlantic Richfield Company  
P.O. Box 1257  
San Ramon, CA 94583  
Submitted via ENFOS

Attn.: Mr. Paul Supple

Re: First Quarter 2008 Ground-Water Monitoring and Remediation System Status Report, Atlantic Richfield Company (a BP affiliated company) Station #2111, 1156 Davis Street, San Leandro, California; ACEH Case #RO0000494

Dear Mr. Supple:

Attached is the *First Quarter 2008 Ground-Water Monitoring and Remediation System Status Report* for Atlantic Richfield Company Station #2111 located at 1156 Davis Street, San Leandro, California (Site). This report presents results of ground-water monitoring conducted at the Site during the First Quarter 2008, and summarizes the performance of the remediation system during the same period.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.

A handwritten signature in black ink that appears to read "Thomas A. Venus".

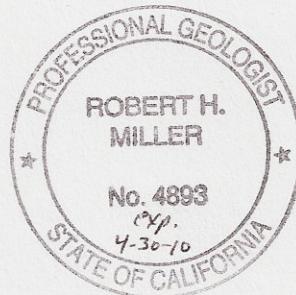
Thomas A. Venus, P.E.  
Senior Engineer

A handwritten signature in black ink that appears to read "Robert H. Miller".

Robert H. Miller, P.G., C.HG.  
Principal Hydrogeologist

Enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)  
Mr. Karl Busche, City of San Leandro Environmental Services Division, 835 East 14<sup>th</sup> Street, San Leandro, California 94577  
Electronic copy uploaded to GeoTracker



## **STATION #2111 QUARTERLY GROUND-WATER MONITORING AND REMEDIATION SYSTEM STATUS REPORT**

Facility: #2111	Address:	1156 Davis Street, San Leandro, California
Environmental Business Manager:	Mr. Paul Supple	
Consulting Co./Contact Persons:	Broadbent & Associates, Inc.(BAI)/Rob Miller & Tom Venus (530) 566-1400	
Consultant Project No.:	06-08-615	
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) ACEH Case #RO0000494	
Facility Permits/Permitting Agency:	City of San Leandro Special Discharge Permit SD-036; Bay Area Air Quality Management District Plant 16189	

### **WORK PERFORMED THIS QUARTER (First Quarter 2008):**

1. Prepared and submitted Fourth Quarter 2007 Ground-Water Monitoring and Remediation System Status Report.
2. Conducted ground-water monitoring/sampling for First Quarter 2008. Work performed on 8 January 2008 by Stratus Environmental, Inc (Stratus).
3. Performed routine operation, maintenance and performance monitoring of the Dual-Phase Extraction (DPE) treatment system. Work performed by Stratus.
4. Submitted monthly discharge reports for January, February and March 2008 to the City of San Leandro. Work performed by Stratus.

### **WORK PROPOSED FOR NEXT QUARTER (Second Quarter 2008):**

1. Prepared and submitted this First Quarter 2008 Ground-Water Monitoring and Remediation System Status Report (contained herein).
2. Conduct quarterly ground-water monitoring/sampling for Second Quarter 2008.
3. Continue operation, maintenance and performance monitoring of the DPE treatment system.
4. Submit monthly discharge reports for April, May and June 2008.

### **QUARTERLY RESULTS SUMMARY:**

Current phase of project:	<b>Ground-Water Monitoring/Sampling/DPE Remediation</b>
Frequency of ground-water monitoring:	<b>Quarterly: MW-1 through MW-8</b>
Frequency of ground-water sampling:	<b>Quarterly: MW-1 through MW-5, MW-7 and MW-8</b> <b>Annually (3Q): MW-6</b>
Is free product (FP) present on-site:	<b>No</b>
FP recovered this quarter:	<b>0 gallons</b>
Cumulative FP recovered:	<b>1.44 gallons (MW-2)</b>
Depth to ground-water (below TOC):	<b>13.08 ft (MW-6) to 15.97 ft (MW-1)</b>
General ground-water flow direction:	<b>West</b>
Approximate hydraulic gradient:	<b>0.008 ft/ft</b>
Current remediation techniques:	<b>DPE treatment system</b>
System startup:	<b>01/29/2007</b>
Extraction wells:	<b>SVE: V-1, V-2, V-3, MW-1, MW-3, MW-7, MW-8</b> <b>GWE: MW-2</b>
Frequency of DPE system field monitoring:	<b>Bi-weekly</b>
Frequency of DPE system sampling:	<b>Monthly</b>

### QUARTERLY RESULTS SUMMARY (Continued):

Gallons of ground water treated and discharged:	This Quarter <b>13,002</b>	Cumulative <b>646,123</b>
Total operating hours:	<b>17</b>	<b>1561</b>
Mass Removal (pounds)		
Gasoline range organics (GRO):	<b>0.047 (GWE)</b>	<b>2.76 (SVE)</b>
Benzene:	<b>0.001 (GWE)</b>	<b>0.047 (GWE)</b>
Methyl-tert butyl ether (MTBE):	<b>0.070 (GWE)</b>	<b>4.705 (GWE)</b>
Ground-water DPE system influent sample results ( $\mu\text{g/L}$ ):	<b>1/7/2008</b>	<b>2/5/2008</b>
GRO:	<b>830</b>	<b>&lt;50</b>
Benzene:	<b>12</b>	<b>&lt;0.50</b>
MTBE:	<b>1,300</b>	<b>98</b>
Ground-water DPE system effluent sample results ( $\mu\text{g/L}$ ):		
GRO:	<b>&lt;50</b>	<b>&lt;50</b>
Benzene:	<b>&lt;0.50</b>	<b>&lt;0.50</b>
MTBE:	<b>&lt;0.50</b>	<b>&lt;0.50</b>
Soil vapor DPE system influent sample results ( $\text{mg/M}^3$ ):		
GRO:	<b>410</b>	<b>&lt;50</b>
Benzene:	<b>2.2</b>	<b>0.17</b>
MTBE:	<b>44</b>	<b>3.1</b>
Soil vapor DPE system effluent sample results ( $\text{mg/M}^3$ ):		
GRO:	<b>&lt;50</b>	<b>&lt;50</b>
Benzene:	<b>&lt;0.50</b>	<b>&lt;0.0016</b>
MTBE:	<b>&lt;0.50</b>	<b>0.098</b>

### DISCUSSION:

First quarter 2008 ground-water monitoring and sampling was conducted at Station #2111 on 8 January 2008 by Stratus personnel. Water levels were gauged in the eight wells associated with the Site. No irregularities were noted during water level gauging. Depth to water measurements ranged from 13.08 ft at MW-6 to 15.97 ft at MW-1. Resulting ground-water surface elevations ranged from 24.64 ft above mean sea level in well MW-7 to 23.30 ft in well MW-5. Water level elevations were between historic minimum and maximum ranges for each well, as summarized in Table 1. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the west at approximately 0.008 ft/ft, generally consistent with historical data (see Table 3). Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. Historic free product thickness and cumulative product recovery from well MW-2 is presented in Table 4. Potentiometric ground-water elevation contours are presented in Drawing 1.

Consistent with the current ground-water sampling schedule, water samples were collected from wells MW-1 through MW-5, MW-7, and MW-8. No irregularities were reported during well sampling this quarter. Samples were submitted under chain-of-custody protocol to Test America Analytical Testing Corporation (Morgan Hill, California), for analysis of Gasoline Range Organics (GRO, C4-12) by the LUFT GCMS Method; for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and tert-Amyl methyl ether (TAME), tert-Butyl alcohol (TBA), Di-isopropyl ether (DIPE),

1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Ethanol, Ethyl tert-butyl ether (ETBE), and Methyl tert-butyl ether (MTBE) by EPA Method 8260B. The laboratory noted that the GRO concentration for samples collected from wells MW-1, MW-2, MW-7, and MW-8 were partly due to individual peak(s) in the quantitation range. No other significant irregularities were encountered during laboratory analysis of the samples. Ground-water sampling field data sheets and the laboratory analytical report, including chain-of-custody documentation, are provided in Appendix A.

Concentrations of GRO were detected above the laboratory reporting limit in four of the seven wells sampled at concentrations up to 5,100 micrograms per liter ( $\mu\text{g}/\text{L}$ ) in well MW-7. Benzene was detected above the laboratory reporting limit in two of the seven wells sampled at concentrations up to 65  $\mu\text{g}/\text{L}$  in well MW-2. Ethylbenzene was detected above the laboratory reporting limit in one of the seven wells sampled at a concentration of 37  $\mu\text{g}/\text{L}$  in well MW-2. Total Xylenes were detected above the laboratory reporting limit in one of the seven wells sampled at a concentration of 28  $\mu\text{g}/\text{L}$  in well MW-2. TAME was detected above the laboratory reporting limit in four of the seven wells sampled at concentrations up to 32  $\mu\text{g}/\text{L}$  in well MW-7. TBA was detected above the laboratory reporting limit in five of the seven wells sampled at concentrations up to 2,600  $\mu\text{g}/\text{L}$  in well MW-2. MTBE was detected above the laboratory reporting limit in each of the seven wells sampled at concentrations up to 6,100  $\mu\text{g}/\text{L}$  in well MW-7. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the seven wells sampled this quarter.

Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well, with the following exceptions: the concentration of TBA in well MW-5 reached a historic minimum value of 220  $\mu\text{g}/\text{L}$ ; the concentration of TAME reached a historic minimum value of 0.80  $\mu\text{g}/\text{L}$  in well MW-8; and the MTBE concentration reached a historic minimum value of 49  $\mu\text{g}/\text{L}$  in well MW-8. Historic laboratory analytical results are summarized in Table 1 and Table 2. The most recent GRO, Benzene, and MTBE concentrations are also presented in Drawing 1. A copy of the laboratory analytical report, including chain-of-custody documentation is provided in Appendix A. Ground-water monitoring data (GEO\_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation pages are provided in Appendix B.

For the First Quarter 2008 period from 17 December 2007 to 17 March 2008, the DPE system reportedly operated approximately 0.8 percent of the time. During this period, a total of 13,002 gallons of ground water was treated and discharged. During the First Quarter 2008, approximately 0.47 pounds of GRO (0.008 gallons), approximately 0.001 pounds of benzene (0.0001 gallons), and approximately 0.070 pounds of MTBE (0.011 gallons) were removed. Ground-water extraction system performance and analytical data is summarized in Tables 5, 6 and 7. Soil vapor extraction system performance and analytical data is summarized in Tables 8, 9 and 10.

The DPE system operated for approximately 17 hours between 17 Decemeber 2007 and 17 March 2008 based on the hour meter reading. Stratus found the system non-operational upon arrival at the Site on 7 January 2008 due to a high water level alarm on the air stripper. The system was restarted momentarily on 7 January 2008 to facilitate sample collection and then shut down pending receipt of the laboratory results. On 15 January 2008, Stratus restarted the system after receiving the analytical results from the samples collected on 7 January 2008. Stratus found the system non-operational upon the next arrival at the site on 5 February 2008 due to a high water level alarm on the air stripper. Additionally, the transfer pump on the DPE system was found to have malfunctioned during this visit. The system was restarted momentarily on 5 February 2008 to facilitate sample collection and then shut down pending receipt of the laboratory results. On 26 February 2008, Stratus replaced the DPE transfer pump and provided oversight for Cornerstone Environmental, the electrical installation contractor. The electrician was onsite to verify and modify the PLC program to enable operation of the submersible pump in well MW-2. The system was restarted prior to departure from the Site on 26 February 2008 after receiving the

analytical results from the samples collected on 5 February 2008. The remediation system was found non-operational upon next arrival at the Site on 5 March 2008 due to a high water level alarm on the air stripper. The system was restarted momentarily to facilitate sample collection and then shut down pending receipt of the laboratory results. The hose for the extraction pump connected to well MW-2 was also replaced during this visit. On 17 March 2008, the remediation was restarted after receiving the analytical results from the samples collected on 5 March 2008. However, due to a float malfunction, the DPE system shutdown immediately. The GWE system was left operational upon departure from the Site on 17 March 2008 and the DPE system will be restarted after replacing the floats. Copies of Stratus' remediation system operation and maintenance data packages for First Quarter 2008 are contained within Appendix C. Copies of Stratus' remediation system monthly discharge reports for First Quarter 2008 are contained within Appendix D.

During preparation of the First Quarter 2008 Ground-Water Monitoring and Remediation System Status Report, it was discovered that incorrect GWE influent concentrations were recorded in Table 5 and Table 6 from Second Quarter 2007 through Fourth Quarter 2007. These tables are used to summarize remediation system concentrations and calculate contaminant removal values and rates. During routine monthly sampling activities, samples entitled DPEWINF and ASWINF are collected from the GWE system. Sample ASWINF represents the cumulative ground-water extracted from both well MW-2 and the DPE wells. Sample DPEWINF represents only ground-water extracted from the DPE wells. Beginning in Second Quarter 2007, sample DPEWINF was inadvertently used as the cumulative GWE influent concentration in Tables 5 and 6. The current tables now reflect the correct GWE influent concentrations and subsequent removal amounts and rates. The effect of these changes did not significantly alter the cumulative contaminant removal values.

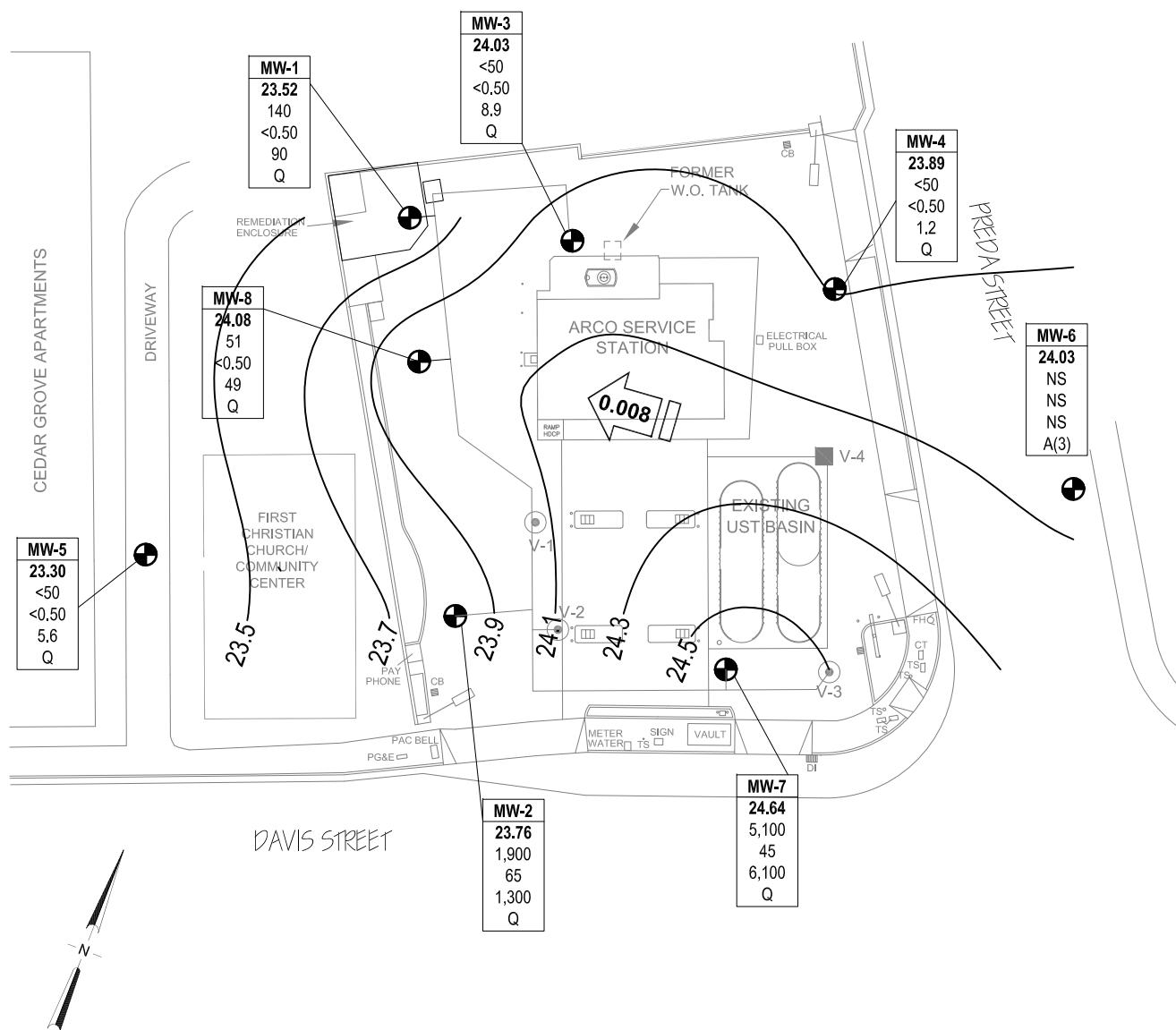
## CLOSURE:

The findings presented in this report are based upon: observations of Stratus field personnel (see Appendices A, C, D), the points investigated, and results of laboratory tests performed by Test America (Morgan Hill, California) and Calscience Environmental Laboratories, Inc. (Garden Grove, California). Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of Atlantic Richfield Company. It is possible that variations in soil or ground-water conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

## ATTACHMENTS:

- Drawing 1. Ground-Water Elevation Contour and Analytical Summary Map – 8 January 2008
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
- Table 2. Summary of Fuel Additives Analytical Data
- Table 3. Historical Ground-Water Flow Direction and Gradient
- Table 4. Approximate Cumulative Floating Product Recovered

- Table 5. Soil Vapor Extraction System and Ground-Water Extraction System Monthly Discharge Analytical Results Summary
- Table 6. Ground-Water Extraction System Performance Data
- Table 7. Ground-Water Extraction System Effluent Data
- Table 8. Operational Uptime Information of the Soil Vapor Extraction System
- Table 9. Soil Vapor Extraction System Flow Rates and Air Sample Analytical Results
- Table 10. Soil Vapor Extraction and Emission Rates
- Figure 1. Cumulative GWE Mass Removal for GRO, Benzene, and MTBE
- Figure 2. GWE Influent Concentrations for GRO, Benzene, and MTBE
- Figure 3. SVE System Influent Concentration vs. Time
- Figure 4. SVE System Cumulative GRO Mass Removed vs. Time
- Appendix A. Stratus Ground-Water Sampling Data Package (Includes Field Data Sheets and Laboratory Analytical Report with Chain-of-Custody Documentation)
- Appendix B. GeoTracker Upload Confirmations
- Appendix C. Stratus Remediation System Operation and Maintenance Data Packages (Includes Field Data Sheets, Laboratory Reports, and Chain-of-Custody Documentation)
- Appendix D. Stratus Remediation System Monthly Discharge Reports (Includes Brief Statements Summarizing Operations and Discharge Summary Tables)



### LEGEND

	MONITORING WELL LOCATION
	VAPOR EXTRACTION WELL LOCATION
	DESTROYED WELL LOCATION
<b>Well</b>	WELL DESIGNATION
<b>ELEV</b>	GROUND-WATER ELEVATION (FT MSL)
<b>GRO</b>	CONCENTRATIONS OF GRO, BENZENE & MTBE IN MICROGRAMS PER LITER ( $\mu\text{g/L}$ )
<b>Benzene</b>	
<b>MTBE</b>	
<b>A/Q</b>	SAMPLING FREQUENCY
	GROUND-WATER FLOW DIRECTION AND GRADIENT (FT/FT)
— 24.5	GROUND-WATER ELEVATION CONTOUR (FT MSL)
Q	SAMPLED QUARTERLY
A(3)	SAMPLED ANNUALLY, THIRD QUARTER
<	NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
NS	NOT SAMPLED
NM	NOT MEASURED
*	WELL NOT USED TO GENERATE CONTOURS

NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES.  
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

0 40 80  
 SCALE (ft)



**BROADBENT & ASSOCIATES, INC.**  
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL  
1324 Mangrove Ave. Suite 212, Chico, California 95926  
Project No.: 06-08-615 Date: 4/3/08

Station #2111  
1156 Davis Street  
San Leandro, California

Ground-Water Elevation Contours  
and Analytical Summary Map  
8 January 2008

Drawing

1

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-1															
6/26/2000	--		39.60	12.50	26.00	16.46	23.14	--	--	--	--	--	--	--	--
7/20/2000	--		39.60	12.50	26.00	16.89	22.71	360	110	<0.5	<0.5	2.7	2,100	--	--
9/19/2000	--		39.60	12.50	26.00	17.62	21.98	290	76	<0.5	<0.5	2.3	1,500	--	--
12/21/2000	--		39.60	12.50	26.00	17.39	22.21	257	64	2.89	1.31	4.57	1,080/1,060	--	--
3/13/2001	--		39.60	12.50	26.00	15.70	23.90	<500	52.5	<5.0	<5.0	<5.0	1,430/1,370	--	--
9/18/2001	--		39.60	12.50	26.00	18.24	21.36	<500	64	7.3	<5.0	52	810/1,100	--	--
12/28/2001	--		39.60	12.50	26.00	15.95	23.65	<500	<5.0	<5.0	5	22	1,200/1,100	--	--
3/14/2002	--		39.60	12.50	26.00	16.01	23.59	<50	<0.5	<0.5	<0.5	<0.5	34/40	--	--
4/23/2002	--		39.60	12.50	26.00	15.43	24.17	<50	<0.5	<0.5	<0.5	<0.5	30	--	--
7/17/2002	NP		39.60	12.50	26.00	17.50	22.10	<50	1.2	<0.50	<0.50	<0.50	29	6.9	6.9
10/9/2002	--	c	39.60	12.50	26.00	18.27	21.33	240	4.9	<1.0	4.1	7.0	290	6.5	6.5
1/13/2003	--	c	39.60	12.50	26.00	15.37	24.23	760	34	11	17	56	300	6.8	6.8
04/07/03	--		39.60	12.50	26.00	16.61	22.99	<50	<0.50	<0.50	<0.50	<0.50	22	6.8	6.8
7/9/2003	--		39.60	12.50	26.00	17.27	22.33	<2,500	<25	<25	<25	<25	690	6.7	6.7
02/05/2004	NP	m	39.49	12.50	26.00	16.28	23.21	2,800	31	<25	<25	<25	1,100	0.9	6.5
04/05/2004	NP		39.49	12.50	26.00	16.25	23.24	5,800	46	<25	<25	<25	1,700	1.0	--
07/13/2004	NP		39.49	12.50	26.00	17.57	21.92	<1,000	<10	<10	<10	<10	730	0.5	6.6
11/04/2004	NP		39.49	12.50	26.00	17.78	21.71	560	<5.0	<5.0	<5.0	<5.0	380	0.8	6.5
01/20/2005	NP		39.49	12.50	26.00	15.50	23.99	670	<5.0	<5.0	<5.0	<5.0	570	0.6	6.0
04/11/2005	NP		39.49	12.50	26.00	14.82	24.67	<2,500	<25	<25	<25	25	1,100	0.9	6.9
08/01/2005	NP		39.49	12.50	26.00	16.77	22.72	2,200	33	<10	110	<10	1,400	1.27	7.3
10/21/2005	NP		39.49	12.50	26.00	17.71	21.78	<2,500	<25	<25	<25	<25	970	1.17	6.6
01/18/2006	NP	n	39.49	12.50	26.00	14.70	24.79	300	<2.5	<2.5	<2.5	<2.5	330	1.07	6.6
04/14/2006	NP		39.49	12.50	26.00	13.41	26.08	330	<2.5	<2.5	<2.5	<2.5	310	0.79	6.6
7/19/2006	NP	q	39.49	12.50	26.00	15.86	23.63	<250	<2.5	<2.5	<2.5	<2.5	180	1.2	6.7
10/24/2006	P		39.49	12.50	26.00	17.15	22.34	710	4.2	<2.5	19	13	360	--	6.68
1/15/2007	P		39.49	12.50	26.00	16.81	22.68	470	2.8	<2.5	14	8.4	220	1.14	7.12
4/18/2007	NP		39.49	12.50	26.00	16.69	22.80	100	<2.5	<2.5	<2.5	<2.5	150	1.20	6.85
7/17/2007	NP		39.49	12.50	26.00	20.85	18.64	<50	<1.0	<1.0	<1.0	<1.0	94	1.91	6.98
10/11/2007	NP		39.49	12.50	26.00	18.10	21.39	66	<0.50	<0.50	<0.50	<0.50	62	1.60	7.00
<b>1/8/2008</b>	<b>NP</b>	<b>n</b>	<b>39.49</b>	<b>12.50</b>	<b>26.00</b>	<b>15.97</b>	<b>23.52</b>	<b>140</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>90</b>	<b>1.19</b>	<b>5.60</b>

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-1															
MW-2															
6/26/2000	--	a	37.99	12.0	26.00	14.60	23.39	--	--	--	--	--	--	--	--
7/20/2000	--		37.99	12.0	26.00	15.14	22.85	95,000	2,300	18,000	2,500	19,000	13,000	--	--
9/19/2000	--		37.99	12.0	26.00	15.95	22.04	63,000	1,200	6,300	2,000	14,000	19,000	--	--
12/21/2000	--		37.99	12.0	26.00	15.60	22.39	45,900	--	2,130	1,160	9,460	22,400/24,700	--	--
12/21/00	--	b	37.99	12.0	26.00	--	--	5,010	360	189	213	626	54,300/89,200	--	--
3/13/2001	--	b	37.99	12.0	26.00	--	--	<20,000	525	466	408	1,460	91,700/76,000	--	--
3/13/2001	--		37.99	12.0	26.00	13.77	24.22	3,650	98.1	<5.0	<5.0	6.42	3,590/3,260	--	--
9/18/2001	--	a	37.99	12.0	26.00	16.86	21.13	--	--	--	--	--	--	--	--
12/28/2001	--		37.99	12.0	26.00	14.28	23.71	31,000	1,500	3,800	1,300	4,800	9,300/8,800	--	--
3/14/2002	--		37.99	12.0	26.00	14.15	23.84	1,800	25	43	43	270	990/960	--	--
4/23/2002	--		37.99	12.0	26.00	13.60	24.39	9,000	220	110	470	2,500	8,500	--	--
7/17/2002	NP	a, c	37.99	12.0	26.00	15.75	22.24	74,000	280	290	820	10,000	19,000/0.4	6.8	6.8
10/9/02	NP	g	37.99	12.0	26.00	16.69	21.30	--	--	--	--	--	--	--	--
1/13/03	--	g, h	37.99	12.0	26.00	13.59	24.40	--	--	--	--	--	--	--	--
04/07/03	--	g, h	37.99	12.0	26.00	14.70	23.29	--	--	--	--	--	--	--	--
07/09/03	--	g, h	37.99	12.0	26.00	15.48	22.51	--	--	--	--	--	--	--	--
02/05/2004	NP	g,m	37.86	12.0	26.00	14.43	23.43	--	--	--	--	--	--	--	--
04/05/2004	NP		37.86	12.0	26.00	14.35	23.51	2,300	33	<5.0	<5.0	200	750	0.6	--
07/13/2004	NP		37.86	12.0	26.00	15.79	22.07	59,000	380	<50	2,100	7,900	5,800	0.3	6.4
08/31/2004	--		37.86	12.0	26.00	15.89	21.97	--	--	--	--	--	--	--	--
11/04/2004	--	g, h	37.86	12.0	26.00	15.92	21.94	--	--	--	--	--	--	--	--
01/20/2005	NP	o	37.86	12.0	26.00	13.71	24.15	30,000	450	<50	1,300	3,300	7,000	0.7	6.2
04/11/2005	NP		37.86	12.0	26.00	12.70	25.16	11,000	170	<50	580	630	2,700	0.9	6.8
08/01/2005	NP		37.86	12.0	26.00	14.89	22.97	24,000	170	<50	1,100	2,700	2,700	0.64	6.9
10/21/2005	--	a	37.86	12.0	26.00	16.05	21.81	--	--	--	--	--	--	--	--
01/18/2006	NP	a	37.86	12.0	26.00	12.81	25.05	21,000	71	<50	470	1,400	1,600	1.18	6.6
04/14/2006	NP	a	37.86	12.0	26.00	12.24	25.62	7,800	78	<50	94	130	2,100	0.81	6.7
7/19/2006	NP	q	37.86	12.0	26.00	14.00	23.86	4,900	31	<10	98	75	930	1.1	6.5
10/24/2006	--	g	37.86	12.0	26.00	15.38	22.48	--	--	--	--	--	--	--	6.45

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-2 Cont.</b>															
1/15/2007	P		37.86	12.0	26.00	15.00	22.86	5,000	51	<10	49	34	1,400	1.85	7.13
4/18/2007	NP		37.86	12.0	26.00	14.82	23.04	3,000	39	<10	32	22	1,100	1.95	7.10
7/17/2007	NP	n	37.86	12.0	26.00	18.00	19.86	1,100	53	<10	28	<10	1,300	4.84	7.09
10/11/2007	NP		37.86	12.0	26.00	16.38	21.48	1,800	17	<10	<10	11	1,000	1.52	7.05
<b>1/8/2008</b>	<b>NP</b>	<b>n</b>	<b>37.86</b>	<b>12.0</b>	<b>26.00</b>	<b>14.10</b>	<b>23.76</b>	<b>1,900</b>	<b>65</b>	<b>&lt;10</b>	<b>37</b>	<b>28</b>	<b>1,300</b>	<b>1.06</b>	<b>4.22</b>
<b>MW-3</b>															
6/26/2000	--		39.32	12.00	26.00	15.96	23.36	--	--	--	--	--	--	--	--
7/20/2000	--		39.32	12.00	26.00	16.42	22.90	<50	<0.5	<0.5	<0.5	<1.0	130	--	--
9/19/2000	--		39.32	12.00	26.00	17.18	22.14	190	17	<0.5	1.4	2.4	160	--	--
12/21/2000	--		39.32	12.00	26.00	16.97	22.35	187	17.8	<0.5	2.47	2.5	143/125	--	--
3/13/2001	--		39.32	12.00	26.00	15.17	24.15	72.4	2.83	<0.5	<0.5	<0.5	126/122	--	--
9/18/2001	--		39.32	12.00	26.00	17.81	21.51	140	6.4	<0.5	3.5	1.6	110/75	--	--
12/28/2001	--		39.32	12.00	26.00	15.44	23.88	130	5.9	<0.5	0.99	0.55	90/63	--	--
3/14/2002	--		39.32	12.00	26.00	15.50	23.82	<50	<0.5	<0.5	<0.5	<0.5	100/88	--	--
4/23/2002	--		39.32	12.00	26.00	14.96	24.36	<50	<0.5	<0.5	<0.5	<0.5	77	--	--
7/17/2002	NP		39.32	12.00	26.00	17.09	22.23	<50	<0.50	<0.50	<0.50	<0.50	47	7.2	7.2
10/9/2002	NP		39.32	12.00	26.00	17.87	21.45	<50	<0.50	<0.50	<0.50	<0.50	26/29	7.2	7.2
1/13/2003	NP	1	39.32	12.00	26.00	14.78	24.54	<50	<0.50	<0.50	<0.50	<0.50	59	6.8	6.8
04/07/03	NP		39.32	12.00	26.00	16.15	23.17	88	<0.50	<0.50	<0.50	<0.50	75	7.0	7.0
7/9/2003	--		39.32	12.00	26.00	16.79	22.53	100	<0.50	<0.50	<0.50	<0.50	52	6.5	6.5
02/05/2004	NP	m	39.19	12.00	26.00	15.66	23.53	240	<0.50	<0.50	<0.50	<0.50	37	0.5	--
04/05/2004	NP		39.19	12.00	26.00	15.78	23.41	140	<0.50	<0.50	<0.50	<0.50	60	53	1.0
07/13/2004	NP		39.19	12.00	26.00	17.20	21.99	120	<0.50	<0.50	<0.50	<0.50	35	0.8	6.7
11/04/2004	NP		39.19	12.00	26.00	17.32	21.87	160	<0.50	<0.50	<0.50	<0.50	25	0.8	6.5
01/20/2005	NP		39.19	12.00	26.00	15.07	24.12	160	<0.50	<0.50	<0.50	<0.50	27	0.6	6.1
04/11/2005	NP		39.19	12.00	26.00	14.24	24.95	<50	<0.50	<0.50	<0.50	<0.50	21	0.6	6.1
08/01/2005	NP		39.19	12.00	26.00	16.29	22.90	<50	<0.50	<0.50	<0.50	<0.50	23	1.04	7.2
10/21/2005	NP		39.19	12.00	26.00	17.41	21.78	88	<0.50	<0.50	<0.50	<0.50	19	1.9	6.6
01/18/2006	NP		39.19	12.00	26.00	13.80	25.39	73	<0.50	<0.50	<0.50	<0.50	13	1.13	6.6
04/14/2006	NP		39.19	12.00	26.00	12.55	26.64	<50	<0.50	<0.50	<0.50	<0.50	6.7	0.71	6.6

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Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-3 Cont.</b>															
7/19/2006	NP	q	39.19	12.00	26.00	15.04	24.15	<50	<0.50	<0.50	<0.50	<0.50	11	2.0	6.6
10/24/2006	P		39.19	12.00	26.00	16.45	22.74	<50	<0.50	<0.50	<0.50	<0.50	33	--	6.77
1/15/2007	P		39.19	12.00	26.00	16.00	23.19	<50	<0.50	<0.50	0.61	<0.50	29	1.11	7.03
4/18/2007	NP		39.19	12.00	26.00	15.87	23.32	<50	<0.50	<0.50	<0.50	<0.50	9.5	1.67	7.07
7/17/2007	NP		39.19	12.00	26.00	19.40	19.79	<50	<0.50	<0.50	<0.50	<0.50	19	4.25	7.27
10/11/2007	NP		39.19	12.00	26.00	17.43	21.76	<50	<0.50	<0.50	<0.50	<0.50	5.3	1.62	7.10
<b>1/8/2008</b>	<b>NP</b>		<b>39.19</b>	<b>12.00</b>	<b>26.00</b>	<b>15.16</b>	<b>24.03</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>8.9</b>	<b>2.02</b>	<b>6.94</b>
<b>MW-4</b>															
6/26/2000	--		38.10	10.0	24.00	14.59	23.51	--	--	--	--	--	--	--	--
7/20/2000	--		38.10	10.0	24.00	15.04	23.06	97	7.9	<0.5	<0.5	1.1	51	--	--
9/19/2000	--		38.10	10.0	24.00	15.83	22.27	110	7	<0.5	<0.5	<1.0	60	--	--
12/21/2000	--		38.10	10.0	24.00	15.59	22.51	120	5.6	<0.5	1.72	<0.5	46.3/48.6	--	--
3/13/2001	--		38.10	10.0	24.00	13.73	24.37	76	0.796	<0.5	<0.5	<0.5	53.7/50	--	--
9/18/2001	--		38.10	10.0	24.00	16.50	21.60	<50	<0.5	<0.5	<0.5	<0.5	25/26	--	--
12/28/2001	--		38.10	10.0	24.00	14.03	24.07	<50	<0.5	<0.5	<0.5	<0.5	15/11	--	--
3/14/2002	--		38.10	10.0	24.00	14.10	24.00	<50	<0.5	<0.5	<0.5	<0.5	31/28	--	--
4/23/2002	--		38.10	10.0	24.00	13.57	24.53	<50	2.8	<0.5	<0.5	<0.5	42	--	--
7/17/2002	NP		38.10	10.0	24.00	15.76	22.34	<50	<0.50	<0.50	<0.50	<0.50	16	7.1	7.1
10/9/2002	NP		38.10	10.0	24.00	16.59	21.51	<50	2.2	<0.50	<0.50	<0.50	20/23	7.1	7.1
1/13/2003	NP	d	38.10	10.0	24.00	13.43	24.67	52	<0.50	1.6	<0.50	<0.50	22	6.6	6.6
04/07/03	NP		38.10	10.0	24.00	14.74	23.36	65	<0.50	<0.50	<0.50	<0.50	24	6.6	6.6
7/9/2003	--		38.10	10.0	24.00	15.44	22.66	120	<0.50	<0.50	<0.50	<0.50	34	6.6	6.6
02/05/2004	NP	m	37.99	10.0	24.00	14.39	23.60	120	<0.50	<0.50	<0.50	<0.50	22	0.5	6.6
04/05/2004	NP		37.99	10.0	24.00	14.37	23.62	110	<0.50	<0.50	<0.50	<0.50	27	1.1	6.5
07/13/2004	NP		37.99	10.0	24.00	15.96	22.03	77	<0.50	<0.50	<0.50	<0.50	27	0.6	6.6
11/04/2004	NP		37.99	10.0	24.00	16.02	21.97	<50	<0.50	<0.50	<0.50	<0.50	19	1.2	6.7
01/20/2005	NP		37.99	10.0	24.00	13.72	24.27	65	<0.50	<0.50	<0.50	<0.50	18	0.6	6.1
04/11/2005	NP		37.99	10.0	24.00	12.80	25.19	51	<0.50	<0.50	<0.50	<0.50	14	0.7	6.2
08/01/2005	NP		37.99	10.0	24.00	14.88	23.11	<50	<0.50	<0.50	<0.50	<0.50	18	1.46	7.3
10/21/2005	NP		37.99	10.0	24.00	15.01	22.98	<50	<0.50	<0.50	<0.50	<0.50	15	1.24	7.6

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-4 Cont.</b>															
01/18/2006	NP		37.99	10.0	24.00	12.92	25.07	<50	<0.50	<0.50	<0.50	<0.50	8.9	0.77	6.5
04/14/2006	NP		37.99	10.0	24.00	11.41	26.58	<50	<0.50	<0.50	<0.50	<0.50	4.2	0.84	6.6
7/19/2006	NP		37.99	10.0	24.00	13.86	24.13	<50	<0.50	<0.50	<0.50	<0.50	3.4	1.0	6.7
10/24/2006	P		37.99	10.0	24.00	15.35	22.64	<50	<0.50	<0.50	2.0	<0.50	3.5	--	6.90
1/15/2007	P		37.99	10.0	24.00	14.96	23.03	<50	<0.50	<0.50	0.96	<0.50	3.8	--	7.04
4/18/2007	NP		37.99	10.0	24.00	14.80	23.19	<50	<0.50	<0.50	<0.50	<0.50	5.6	5.33	6.93
7/17/2007	NP		37.99	10.0	24.00	16.10	21.89	<50	<0.50	<0.50	<0.50	<0.50	6.6	3.73	6.87
10/11/2007	NP		37.99	10.0	24.00	16.45	21.54	<50	<0.50	<0.50	<0.50	<0.50	0.81	2.68	7.07
<b>1/8/2008</b>	<b>NP</b>		<b>37.99</b>	<b>10.0</b>	<b>24.00</b>	<b>14.10</b>	<b>23.89</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>1.2</b>	<b>3.50</b>	<b>6.74</b>
<b>MW-5</b>															
6/26/2000	--		37.21	9.50	23.50	14.27	22.94	--	--	--	--	--	--	--	--
7/20/2000	--		37.21	9.50	23.50	14.69	22.52	55	<0.5	<0.5	<0.5	<1.0	14,000	--	--
9/19/2000	--		37.21	9.50	23.50	15.36	21.85	54	<0.5	<0.5	<0.5	<1.0	13,000	--	--
12/21/2000	--		37.21	9.50	23.50	15.15	22.06	72.9	2.51	<0.5	<0.5	0.961	19,200/21,200	--	--
3/13/2001	--		37.21	9.50	23.50	13.50	23.71	<500	<5	<5	<5	<5	15,900/20,000	--	--
9/18/2001	--		37.21	9.50	23.50	15.94	21.27	<10,000	<100	<100	<100	<1,000	22,000/20,000	--	--
12/28/2001	--		37.21	9.50	23.50	13.45	23.76	<10,000	<100	<100	<100	<100	10,000/10,000	--	--
3/14/2002	--		37.21	9.50	23.50	13.82	23.39	<5,000	<50	<50	<50	<50	7,100/7,700	--	--
4/23/2002	--		37.21	9.50	23.50	13.25	23.96	<5,000	<50	<50	<50	<50	8,900	--	--
7/17/2002	NP	d	37.21	9.50	23.50	15.27	21.94	7,900	<50	<50	<50	<50	13,000	7.5	7.5
10/9/2002	NP	e	37.21	9.50	23.50	16.02	21.19	2,400	<20	<20	<20	<20	7,300/7,500	6.7	6.7
1/13/2003	NP	e, k, j	37.21	9.50	23.50	13.20	24.01	6,400	<50	<50	<50	<50	8,900	6.8	6.8
04/07/03	NP		37.21	9.50	23.50	14.42	22.79	<10,000	<100	<100	<100	<100	3,700	6.8	6.8
7/9/2003	--		37.21	9.50	23.50	15.01	22.20	11,000	<50	<50	<50	<50	6,500	6.9	6.9
02/05/2004	NP	m	37.12	9.50	23.50	14.10	23.02	8,100	<50	<50	<50	<50	7,900	1.5	--
04/05/2004	NP		37.12	9.50	23.50	14.14	22.98	4,000	<25	<25	<25	<25	2,000	1.0	6.6
07/13/2004	NP		37.12	9.50	23.50	15.37	21.75	<5,000	<50	<50	<50	<50	4,000	0.8	6.7
11/04/2004	NP		37.12	9.50	23.50	15.53	21.59	7,400	<50	<50	<50	<50	6,300	3.5	6.7
01/20/2005	NP	n	37.12	9.50	23.50	13.51	23.61	6,500	<50	<50	<50	<50	6,900	0.7	6.5
04/11/2005	NP		37.12	9.50	23.50	12.75	24.37	<5,000	<50	<50	<50	<50	2,600	0.5	7.0

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-5 Cont.</b>															
08/01/2005	NP		37.12	9.50	23.50	14.59	22.53	110	<1.0	<1.0	<1.0	<1.0	130	1.36	7.5
10/21/2005	NP		37.12	9.50	23.50	15.57	21.55	<250	<2.5	<2.5	<2.5	<2.5	86	1.53	6.8
01/18/2006	NP		37.12	9.50	23.50	12.60	24.52	<250	<2.5	<2.5	<2.5	<2.5	100	1.2	6.7
04/14/2006	NP		37.12	9.50	23.50	11.74	25.38	310	<2.5	<2.5	<2.5	<2.5	240	0.93	6.6
7/19/2006	NP		37.12	9.50	23.50	13.78	23.34	<50	<2.5	<2.5	<2.5	<2.5	84	1.2	6.6
10/24/2006	P		37.12	9.50	23.50	14.95	22.17	61	<0.50	<0.50	<0.50	<0.50	17	--	6.69
1/15/2007	P		37.12	9.50	23.50	14.63	22.49	73	<0.50	<0.50	<0.50	<0.50	36	2.8	6.73
4/18/2007	NP	n, EBZ present in method blank	37.12	9.50	23.50	14.50	22.62	93	<2.5	<2.5	<2.5	<2.5	16	1.66	6.84
7/17/2007	NP	n	37.12	9.50	23.50	15.55	21.57	53	<2.5	<2.5	<2.5	<2.5	6.6	5.02	7.02
10/11/2007	NP		37.12	9.50	23.50	15.83	21.29	<50	<0.50	<0.50	<0.50	<0.50	4.8	2.92	7.23
<b>1/8/2008</b>	<b>NP</b>		<b>37.12</b>	<b>9.50</b>	<b>23.50</b>	<b>13.82</b>	<b>23.30</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>5.6</b>	<b>1.80</b>	<b>6.91</b>
<b>MW-6</b>															
6/26/2000	--		37.11	10.00	25.00	13.46	23.65	--	--	--	--	--	--	--	--
7/20/2000	--		37.11	10.00	25.00	13.94	23.17	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
9/19/2000	--		37.11	10.00	25.00	14.41	22.70	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
12/21/2000	--		37.11	10.00	25.00	14.53	22.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/13/2001	--		37.11	10.00	25.00	12.67	24.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/18/2001	--		37.11	10.00	25.00	15.42	21.69	<50	<0.5	<0.5	<0.5	<0.5	<2.5/<2.0	--	--
12/28/2001	--		37.11	10.00	25.00	12.96	24.15	<50	<0.5	<0.5	<0.5	<0.5	12/<0.5	--	--
3/14/2002	--		37.11	10.00	25.00	12.98	24.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/23/2002	--		37.11	10.00	25.00	12.44	24.67	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--
7/17/2002	NP		37.11	10.00	25.00	14.65	22.46	<50	<0.50	<0.50	<0.50	<0.50	<2.5	7.3	7.3
10/9/2002	NP		37.11	10.00	25.00	15.51	21.60	<50	<0.50	<0.50	<0.50	<0.50	<2.5	7.1	7.1
1/13/2003	NP		37.11	10.00	25.00	12.27	24.84	<50	<0.50	<0.50	<0.50	<0.50	<2.5	6.8	6.8
04/07/03	NP		37.11	10.00	25.00	13.61	23.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	6.6
7/9/2003	--		37.11	10.00	25.00	14.34	22.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	7	7.0
02/05/2004	--	m	37.11	10.00	25.00	13.38	23.73	--	--	--	--	--	--	--	--
04/05/2004	--		37.11	10.00	25.00	13.31	23.80	--	--	--	--	--	--	--	--
07/13/2004	NP		37.11	10.00	25.00	14.65	22.46	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	6.8
11/04/2004	--		37.11	10.00	25.00	14.95	22.16	--	--	--	--	--	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-6 Cont.</b>															
01/20/2005	--		37.11	10.00	25.00	12.57	24.54	--	--	--	--	--	--	--	--
04/11/2005	--		37.11	10.00	25.00	12.05	25.06	--	--	--	--	--	--	--	--
08/01/2005	NP		37.11	10.00	25.00	13.79	23.32	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	7.6
10/21/2005	--		37.11	10.00	25.00	14.60	22.51	--	--	--	--	--	--	--	--
01/18/2006	--		37.11	10.00	25.00	11.80	25.31	--	--	--	--	--	--	--	--
04/14/2006	--		37.11	10.00	25.00	10.92	26.19	--	--	--	--	--	--	--	--
7/19/2006	NP		37.11	10.00	25.00	12.92	24.19	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	6.9
10/24/2006	--		37.11	10.00	25.00	14.23	22.88	--	--	--	--	--	--	--	--
1/15/2007	--		37.11	10.00	25.00	13.80	23.31	--	--	--	--	--	--	--	--
4/18/2007	--		37.11	10.00	25.00	13.67	23.44	--	--	--	--	--	--	--	--
7/17/2007	NP		37.11	10.00	25.00	14.08	23.03	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.40	7.02
10/11/2007	--		37.11	10.00	25.00	15.28	21.83	--	--	--	--	--	--	--	--
1/8/2008	--		37.11	10.00	25.00	13.08	24.03	--	--	--	--	--	--	--	--
<b>MW-7</b>															
6/26/2000	--		38.68	12.0	27.00	14.34	24.34	--	--	--	--	--	--	--	--
7/20/2000	--		38.68	12.0	27.00	15.26	23.42	14,000	5.4	<0.5	2.8	5.9	71,000	--	--
9/19/2000	--		38.68	12.0	27.00	15.70	22.98	8,400	420	38	470	220	5,600	--	--
12/21/2000	--		38.68	12.0	27.00	16.02	22.66	--	--	--	--	--	--	--	--
3/13/2001	--		38.68	12.0	27.00	14.18	24.50	<2,000	154	63	46.3	127	75,000/160,000	--	--
9/18/2001	--		38.68	12.0	27.00	17.02	21.66	<100,000	1,900	<1,000	<1,000	2,800	90,000/370,000	--	--
12/28/2001	--		38.68	12.0	27.00	14.81	23.87	<20,000	<200	<200	<200	<200	84,000/72,000	--	--
3/14/2002	--		38.68	12.0	27.00	14.60	24.08	<50,000	<500	<500	<500	<500	85,000/85,000	--	--
4/23/2002	--		38.68	12.0	27.00	13.94	24.74	<20,000	530	200	220	800	67,000	--	--
7/17/2002	NP	d	38.68	12.0	27.00	16.27	22.41	26,000	720	<250	<250	860	120,000	6.9	6.9
10/9/2002	NP	d	38.68	12.0	27.00	17.16	21.52	110,000	1,500	4,400	820	5,400	97,000/120,000	6.8	6.8
1/13/2003	NP	f	38.68	12.0	27.00	13.82	24.86	<50,000	<500	<500	<500	<500	2,200	33,000	6.6
04/07/03	NP		38.68	12.0	27.00	14.52	24.16	<2,500	30	<25	<25	<25	710	7.0	7.0
7/9/2003	--		38.68	12.0	27.00	15.97	22.71	66,000	<500	<500	<500	<500	36,000	6.7	6.7
02/05/2004	NP	m	38.54	12.0	27.00	14.75	23.79	55,000	300	<250	<250	<250	34,000	1.0	6.7
04/05/2004	NP		38.54	12.0	27.00	14.63	23.91	62,000	520	<250	<250	380	37,000	1.0	6.7

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-7 Cont.</b>															
07/13/2004	NP		38.54	12.0	27.00	16.31	22.23	<100,000	<1,000	<1,000	<1,000	<1,000	56,000	0.7	6.7
11/04/2004	--		38.54	12.0	27.00	16.46	22.08	70,000	<500	<500	<500	<500	71,000	2.0	6.6
01/20/2005	NP	n	38.54	12.0	27.00	14.05	24.49	34,000	<250	<250	<250	<250	36,000	0.6	6.3
04/11/2005	NP		38.54	12.0	27.00	12.55	25.99	<2,500	46	<25	<25	<25	1,200	0.7	6.8
08/01/2005	NP		38.54	12.0	27.00	15.11	23.43	<25,000	<250	<250	<250	<250	4,800	1.78	7.3
10/21/2005	NP	p	38.54	12.0	27.00	15.65	22.89	14,000	350	<100	<100	110	12,000	1.41	6.6
01/18/2006	NP		38.54	12.0	27.00	12.60	25.94	16,000	310	<100	<100	110	13,000	0.87	6.7
04/14/2006	NP		38.54	12.0	27.00	12.09	26.45	<10,000	<100	<100	<100	<100	4,700	0.88	6.9
7/19/2006	NP	q	38.54	12.0	27.00	13.58	24.96	1,300	23	<10	18	26	1,600	1.1	6.8
10/24/2006	P		38.54	12.0	27.00	15.13	23.41	6,800	100	<5.0	16	15	14,000	--	6.93
1/15/2007	P	n	38.54	12.0	27.00	14.43	24.11	2,500	<100	<100	<100	<100	3,900	2.12	7.44
4/18/2007	NP	n	38.54	12.0	27.00	14.30	24.24	3,000	50	<50	<50	<50	2,700	4.47	7.22
7/17/2007	NP	n	38.54	12.0	27.00	23.75	14.79	560	<25	<25	<25	<25	890	4.23	7.41
10/11/2007	NP	t (GRO)	38.54	12.0	27.00	16.18	22.36	210	<2.5	<2.5	<2.5	<2.5	370	2.99	7.33
<b>1/8/2008</b>	<b>NP</b>	<b>n</b>	<b>38.54</b>	<b>12.0</b>	<b>27.00</b>	<b>13.90</b>	<b>24.64</b>	<b>5,100</b>	<b>45</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>6,100</b>	<b>2.50</b>	<b>7.23</b>
<b>MW-8</b>															
02/05/2004	P	m	38.91	--	--	15.61	23.30	3,600	<25	<25	<25	<25	1,900	6.9	6.8
04/05/2004	P		38.91	--	--	15.64	23.27	1,900	<10	<10	<10	<10	1,200	3.2	6.7
07/13/2004	P		38.91	--	--	17.22	21.69	<1,000	<10	<10	<10	<10	760	1.6	6.7
11/04/2004	P		38.91	--	--	17.19	21.72	960	<5.0	<5.0	<5.0	<5.0	820	1.8	6.7
01/20/2005	P		38.91	--	--	15.25	23.66	<2,500	<25	<25	<25	<25	1,400	1.5	6.4
04/11/2005	P		38.91	--	--	14.17	24.74	700	<5.0	<5.0	<5.0	<5.0	610	1.1	7.1
08/01/2005	P		38.91	--	--	16.10	22.81	<1,000	<10	<10	<10	<10	900	2.58	7.7
10/21/2005	P	n	38.91	--	--	17.18	21.73	530	<5.0	<5.0	<5.0	<5.0	490	1.4	6.7
01/18/2006	P		38.91	--	--	13.60	25.31	<500	<5.0	<5.0	<5.0	<5.0	500	2.28	6.6
04/14/2006	P		38.91	--	--	12.36	26.55	<500	<5.0	<5.0	<5.0	<5.0	300	1.97	6.6
7/19/2006	P		38.91	--	--	14.75	24.16	4,500	<25	<25	<25	<25	4,200	1.2	6.6
10/24/2006	--	s	--	--	--	--	--	--	--	--	--	--	--	--	--
1/15/2007	P		38.91	--	--	15.67	23.24	<50	<0.50	<0.50	<0.50	<0.50	67	1.35	6.68
4/18/2007	P	n	38.91	--	--	15.53	23.38	100	0.51	<0.50	<0.50	<0.50	130	1.49	6.86

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	P/NP	Comments	TOC (feet msl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-8 Cont.</b>															
7/17/2007	NP	n	38.91	--	--	16.76	22.15	63	<0.50	<0.50	<0.50	<0.50	96	1.85	6.97
10/11/2007	P		38.91	--	--	16.99	21.92	100	0.52	<0.50	<0.50	<0.50	130	1.67	7.18
<b>1/8/2008</b>	<b>P</b>	<b>n</b>	<b>38.91</b>	--	--	<b>14.83</b>	<b>24.08</b>	<b>51</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>49</b>	<b>1.30</b>	<b>6.88</b>

**ABBREVIATIONS:**

-- = Not analyzed/applicable/measured/available  
< = Not detected at or above specified laboratory reporting limit  
DO = Dissolved oxygen  
DTW = Depth to water in ft bgs  
ft bgs = feet below ground surface  
ft MSL = feet above mean sea level  
GRO = Gasoline range organics  
GWE = Groundwater elevation in ft MSL  
mg/L = Milligrams per liter  
MTBE = Methyl tert-butyl ether  
NP = Well not purged prior to sampling  
P = Well purged prior to sampling  
TOC = Top of casing elevation in ft MSL  
TPH-g = Total petroleum hydrocarbons as gasoline  
µg/L = Micrograms per liter

**FOOTNOTES:**

a = Product sheen noted.  
b = Well was sampled after batch extraction event.  
c = Chromatogram Pattern: Gasoline C6-C10 for GRO/TPH-g.  
d = Hydrocarbon pattern was present in the requested fuel quantitation range but did not resemble the pattern of the requested fuel for GRO/TPH-g.  
e = Discrete peak @C6-C7 for GRO/TPH-g.  
f = This sample was analyzed beyond the EPA recommended holding time for TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE. The results may still be useful for their intended purpose.  
g = Well not sampled due to the detection of free product (FP).  
h = GWE adjusted for FP: (thickness of FP x 0.8) + measured GWE.  
j = The closing calibration for benzene and total xylenes was outside acceptance limits by 1%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggested that calibration linearity was not a factor.  
k = The closing calibration was outside acceptance limits by 6%. This should be considered in evaluating the result. The average % difference for all analytes met the 15% requirement and the QC suggested that calibration linearity was not a factor.  
l = Toluene and MTBE were not confirmed using a secondary column in accordance to client contract.  
m = TOC elevations re-surveyed to NAVD '88 on February 23, 2004.  
n = Hydrocarbon result for GRO partly due to indiv. peak(s) in quantitative range.  
o = Light to moderate sheen.  
p = Result for MTBE partly due to individual peak(s) in quant. range.  
q = Gauged with tubing in well.  
r = Calib. verif. is within method limits but outside contract limits.  
s = Well inaccessible.  
t = Initial analysis within holding time but required dilution.

**NOTES:**

Beginning with the second quarter 2003 sampling event (04/07/03), TPH-g, BTEX, and MTBE analyzed by EPA method 8260B. Prior to 04/07/03, TPH-g was analyzed by EPA method 8015 modified and MTBE was analyzed by EPA methods 8020/ 8260B.

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

Values for DO and pH were obtained through field measurements.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

Table 2. Summary of Fuel Additives Analytical Data

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-1</b>									
4/7/2003	<100	<20	1,100	<0.50	<0.50	<0.50	--	--	
7/9/2003	<5,000	<1,000	690	<25	<25	<25	--	--	
02/05/2004	<5,000	<1,000	1,100	<25	<25	32	<25	<25	
04/05/2004	<5,000	<1,000	1,700	<25	<25	38	<25	<25	a
07/13/2004	<2,000	780	730	<10	<10	19	<10	<10	a
11/04/2004	<1,000	<200	380	<5.0	<5.0	12	<5.0	<5.0	
01/20/2005	<1,000	<200	570	<5.0	<5.0	17	<5.0	<5.0	a
04/11/2005	<5,000	<1,000	1,100	<25	<25	34	<25	<25	
08/01/2005	<2,000	<400	1,400	<10	<10	40	<10	<10	
10/21/2005	<5,000	<1,000	970	<25	<25	<25	<25	<25	
01/18/2006	<1,500	<100	330	<2.5	<2.5	9.7	<2.5	<2.5	
04/14/2006	<1,500	<100	310	<2.5	<2.5	9.3	<2.5	<2.5	
7/19/2006	<1,500	<100	180	<2.5	<2.5	3.2	<2.5	<2.5	
10/24/2006	<1,500	<100	360	<2.5	<2.5	10	<2.5	<2.5	
1/15/2007	<1,500	<100	220	<2.5	<2.5	6.8	<2.5	<2.5	
4/18/2007	<1,500	<100	150	<2.5	<2.5	<2.5	<2.5	<2.5	
7/17/2007	<600	<40	94	<1.0	<1.0	2.3	<1.0	<1.0	
10/11/2007	<300	<20	62	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>1/8/2008</b>	<b>&lt;300</b>	<b>74</b>	<b>90</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>2.5</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>a</b>
<b>MW-2</b>									
04/05/2004	<1,000	<200	750	<5.0	<5.0	<5.0	<5.0	<5.0	
07/13/2004	<10,000	12,000	5,800	<50	<50	<50	<50	<50	a
08/31/2004	--	--	--	--	--	--	--	--	a
01/20/2005	<10,000	<2,000	7,000	<50	<50	<50	<50	<50	a
04/11/2005	<10,000	<2,000	2,700	<50	<50	<50	<50	<50	
08/01/2005	<10,000	<2,000	2,700	<50	<50	<50	<50	<50	
01/18/2006	<30,000	<2,000	1,600	<50	<50	<50	<50	<50	
04/14/2006	<30,000	<2,000	2,100	<50	<50	<50	<50	<50	
7/19/2006	<6,000	<400	930	<10	<10	<10	<10	<10	
1/15/2007	<6,000	1,900	1,400	<10	<10	<10	<10	<10	
4/18/2007	<6,000	1,200	1,100	<10	<10	<10	<10	<10	

Table 2. Summary of Fuel Additives Analytical Data

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-2 Cont.</b>									
7/17/2007	<6,000	1,000	1,300	<10	<10	<10	<10	<10	
10/11/2007	<6,000	1,300	1,000	<10	<10	<10	<10	<10	
<b>1/8/2008</b>	<b>&lt;6,000</b>	<b>2,600</b>	<b>1,300</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	a
<b>MW-3</b>									
4/7/2003	<100	<20	75	<0.50	<0.50	6.5	--	--	
7/9/2003	<100	<20	52	<0.50	<0.50	4.2	--	--	
02/05/2004	<100	<20	37	<0.50	<0.50	3.1	<0.50	<0.50	
04/05/2004	<100	<20	53	<0.50	<0.50	3.7	<0.50	<0.50	a
07/13/2004	<100	44	35	<0.50	<0.50	3.2	<0.50	<0.50	
11/04/2004	<100	<20	25	<0.50	<0.50	2.2	<0.50	<0.50	
01/20/2005	<100	<20	27	<0.50	<0.50	2.6	<0.50	<0.50	
04/11/2005	<100	<20	21	<0.50	<0.50	2.0	<0.50	<0.50	
08/01/2005	<100	<20	23	<0.50	<0.50	1.9	<0.50	<0.50	
10/21/2005	<100	<20	19	<0.50	<0.50	2.0	<0.50	<0.50	
01/18/2006	<300	<20	13	<0.50	<0.50	1.3	<0.50	<0.50	
04/14/2006	<300	<20	6.7	<0.50	<0.50	0.61	<0.50	<0.50	
7/19/2006	<300	<20	11	<0.50	<0.50	0.72	<0.50	<0.50	r
10/24/2006	<300	<20	33	<0.50	<0.50	2.8	<0.50	<0.50	
1/15/2007	<300	<20	29	<0.50	<0.50	2.9	<0.50	<0.50	
4/18/2007	<300	<20	9.5	<0.50	<0.50	0.90	<0.50	<0.50	
7/17/2007	<300	<20	19	<0.50	<0.50	1.5	<0.50	<0.50	
10/11/2007	<300	<20	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>1/8/2008</b>	<b>&lt;300</b>	<b>&lt;20</b>	<b>8.9</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.84</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	a
<b>MW-4</b>									
4/7/2003	<100	<20	24	<0.50	<0.50	7.3	--	--	
7/9/2003	<100	<20	34	<0.50	<0.50	9.8	--	--	
02/05/2004	<100	<20	22	<0.50	<0.50	6.2	<0.50	<0.50	
04/05/2004	<100	<20	27	<0.50	<0.50	7.2	<0.50	<0.50	a
07/13/2004	<100	26	27	<0.50	<0.50	7.4	<0.50	<0.50	a
11/04/2004	<100	<20	19	<0.50	<0.50	5.1	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-4 Cont.</b>									
01/20/2005	<100	<20	18	<0.50	<0.50	5.2	<0.50	<0.50	
04/11/2005	<100	<20	14	<0.50	<0.50	4.0	<0.50	<0.50	
08/01/2005	<100	<20	18	<0.50	<0.50	3.9	<0.50	<0.50	
10/21/2005	<100	<20	15	<0.50	<0.50	4.6	<0.50	<0.50	
01/18/2006	<300	<20	8.9	<0.50	<0.50	2.5	<0.50	<0.50	
04/14/2006	<300	<20	4.2	<0.50	<0.50	1.3	<0.50	<0.50	
7/19/2006	<300	<20	3.4	<0.50	<0.50	0.69	<0.50	<0.50	r
10/24/2006	<300	<20	3.5	<0.50	<0.50	0.91	<0.50	<0.50	
1/15/2007	<300	<20	3.8	<0.50	<0.50	0.98	<0.50	<0.50	
4/18/2007	<300	<20	5.6	<0.50	<0.50	1.1	<0.50	<0.50	
7/17/2007	<300	<20	6.6	<0.50	<0.50	1.7	<0.50	<0.50	
10/11/2007	<300	<20	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>1/8/2008</b>	<b>&lt;300</b>	<b>&lt;20</b>	<b>1.2</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	a
<b>MW-5</b>									
4/7/2003	<20,000	<4,000	3,700	<100	<100	<100	--	--	
7/9/2003	<10,000	<2,000	6,500	<50	<50	<50	--	--	
02/05/2004	<10,000	<2,000	7,900	<50	<50	<50	<50	<50	a
04/05/2004	<5,000	<1,000	2,000	<25	<25	<25	<25	<25	a
07/13/2004	<10,000	3,200	4,000	<50	<50	<50	<50	<50	a
11/04/2004	<10,000	<2,000	6,300	<50	<50	<50	<50	<50	
01/20/2005	<10,000	<2,000	6,900	<50	<50	<50	<50	<50	a
04/11/2005	<10,000	3,600	2,600	<50	<50	<50	<50	<50	
08/01/2005	<200	1,600	130	<1.0	<1.0	<1.0	<1.0	<1.0	
10/21/2005	<500	1,400	86	<2.5	<2.5	<2.5	<2.5	<2.5	
01/18/2006	<1,500	2,200	100	<2.5	<2.5	<2.5	<2.5	<2.5	
04/14/2006	<1,500	2,100	240	<2.5	<2.5	<2.5	<2.5	<2.5	
7/19/2006	<1,500	2,800	84	<2.5	<2.5	<2.5	<2.5	<2.5	r
10/24/2006	<300	1,200	17	<0.50	<0.50	<0.50	<0.50	<0.50	a
1/15/2007	<300	990	36	<0.50	<0.50	<0.50	<0.50	<0.50	
4/18/2007	<1,500	2,000	16	<2.5	<2.5	<2.5	<2.5	<2.5	
7/17/2007	<1,500	1,100	6.6	<2.5	<2.5	<2.5	<2.5	<2.5	

Table 2. Summary of Fuel Additives Analytical Data

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-5 Cont.</b>									
10/11/2007	<300	750	4.8	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	220	5.6	<0.50	<0.50	<0.50	<0.50	<0.50	a
<b>MW-6</b>									
4/7/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
7/9/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
07/13/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
08/01/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/19/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	r
7/17/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW-7</b>									
4/7/2003	<5,000	<1,000	710	<25	<25	<25	--	--	
7/9/2003	<100,000	<20,000	36,000	<500	<500	<500	--	--	
02/05/2004	<50,000	<10,000	34,000	<250	<250	<250	<250	<250	
04/05/2004	<50,000	<10,000	37,000	<250	<250	<250	<250	<250	
07/13/2004	<200,000	<40,000	56,000	<1,000	<1,000	1,300	<1,000	<1,000	
11/04/2004	<100,000	<20,000	71,000	<500	<500	<500	<500	<500	
01/20/2005	<50,000	<10,000	36,000	<250	<250	<250	<250	<250	a
04/11/2005	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
08/01/2005	<50,000	<10,000	4,800	<250	<250	<250	<250	<250	
10/21/2005	<20,000	24,000	12,000	<100	<100	<100	<100	<100	
01/18/2006	<60,000	15,000	13,000	<100	<100	<100	<100	<100	
04/14/2006	<60,000	<4,000	4,700	<100	<100	<100	<100	<100	
7/19/2006	<6,000	720	1,600	<10	<10	<10	<10	<10	
10/24/2006	<3,000	10,000	14,000	<5.0	<5.0	31	<5.0	<5.0	a
1/15/2007	<60,000	9,300	3,900	<100	<100	<100	<100	<100	
4/18/2007	<30,000	<2,000	2,700	<50	<50	<50	<50	<50	
7/17/2007	<15,000	<1,000	890	<25	<25	<25	<25	<25	
10/11/2007	<1,500	150	370	<2.5	<2.5	<2.5	<2.5	<2.5	
1/8/2008	<15,000	1,400	6,100	<25	<25	32	<25	<25	
<b>MW-8</b>									

Table 2. Summary of Fuel Additives Analytical Data

Station #2111, 1156 Davis St, San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-8 Cont.</b>									
02/05/2004	<5,000	<1,000	1,900	<25	<25	<25	<25	<25	
04/05/2004	<2,000	<400	1,200	<10	<10	12	<10	<10	a
07/13/2004	<2,000	770	760	<10	<10	<10	<10	<10	a
11/04/2004	<1,000	<200	820	<5.0	<5.0	9.6	<5.0	<5.0	
01/20/2005	<5,000	<1,000	1,400	<25	<25	<25	<25	<25	a
04/11/2005	<1,000	<200	610	<5.0	<5.0	8.1	<5.0	<5.0	
08/01/2005	<2,000	<400	900	<10	<10	<10	<10	<10	
10/21/2005	<1,000	<200	490	<5.0	<5.0	<5.0	<5.0	<5.0	
01/18/2006	<3,000	<200	500	<5.0	<5.0	5.2	<5.0	<5.0	
04/14/2006	<3,000	<200	300	<5.0	<5.0	<5.0	<5.0	<5.0	
7/19/2006	<15,000	<1,000	4,200	<25	<25	45	<25	<25	
1/15/2007	<300	52	67	<0.50	<0.50	0.88	<0.50	<0.50	
4/18/2007	<300	120	130	<0.50	<0.50	1.9	<0.50	<0.50	
7/17/2007	<300	110	96	<0.50	<0.50	1.2	<0.50	<0.50	
10/11/2007	<300	350	130	<0.50	<0.50	1.7	<0.50	<0.50	
1/8/2008	<300	<b>59</b>	<b>49</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.80</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	

**ABBREVIATIONS:**

-- = Not analyzed/applicable/measured/available  
< = Not detected at or above specified laboratory reporting limit  
1,2-DCA = 1,2-Dichloroethane  
DIPE = Di-isopropyl ether  
EDB = 1,2-Dibromoethane  
ETBE = Ethyl tert-butyl ether  
MTBE = Methyl tert-butyl ether  
TAME = tert-Amyl methyl ether  
TBA = tert-Butyl alcohol  
µg/L = Micrograms per Liter

**FOOTNOTES:**

a = The continuing calibration verification for ethanol was outside of client contractual acceptance limits. However, it was within method acceptance limits. The data should still be considered useful for its intended purpose.

**NOTES:**

All volatile organic compounds analyzed using EPA Method 8260B.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 3. Historical Ground-Water Flow Direction and Gradient**  
**Station #2111, 1156 Davis St, San Leandro, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
7/20/2000	West-Northwest	0.006
9/19/2000	West-Northwest	0.004
12/21/2000	West-Northwest	0.004
3/13/2001	West-Northwest	0.005
5/30/2001	West-Northwest	0.004
9/18/2001	West-Northwest	0.003
12/28/2001	West-Northwest	0.003
3/14/2002	West	0.004
4/23/2002	West	0.006
7/17/2002	West	0.003
10/9/2002	West	0.002
1/13/2003	Southwest	0.0043
4/7/2003	West-Northwest	0.009 to 0.011
7/9/2003	West-Northwest	0.004
10/1/2003	West	0.002
2/5/2004	West	0.004
4/5/2004	West-Southwest	0.004
7/13/2004	West-Southwest	0.003
11/4/2004	West	0.003
1/20/2005	West	0.009
4/11/2005	North to West	0.009 to 0.01
8/1/2005	West to Northwest	0.006 to 0.004
10/21/2005	West	0.008
1/18/2006	North and West	0.01
4/14/2006	South	0.008
7/19/2006	Northwest to Southwest	0.004 to 0.008
10/24/2006	West	0.003
1/15/2007	Southwest	0.004
4/18/2007	West	0.009
7/17/2007	Southeast	0.05
10/11/2007	West	0.01
<b>1/8/2008</b>	<b>West</b>	<b>0.008</b>

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 4. Approximate Cumulative Floating Product Recovered**  
**Station #2111, 1156 Davis Street, San Leandro, CA**

Well Designation	Product Recovery Field Date	Floating Product Thickness (feet)	Floating Product Recovered (gallons)
MW-2	06/28/99	0.45	0.30
MW-2	06/30/99	0.015	0.01
MW-2	07/07/99	0.06	0.04
MW-2	07/23/99	0.008	0.01
MW-2	08/25/99	0.02	0.01
MW-2	09/21/99	0.01	0.01
MW-2	11/10/99	ND	0.00
MW-2	02/09/00	ND	0.00
MW-2	04/23/02	ND	0.00
MW-2	07/17/02	Sheen	0.00
MW-2	10/9/2002 (1)	NA	0.00
MW-2	01/13/03	0.26	0.13
MW-2	02/14/03	ND	0.00
MW-2	03/24/03	ND	0.00
MW-2	04/07/03	0.05	0.00
MW-2	05/23/03	ND	0.00
MW-2	06/24/03	0.03	0.01
MW-2	07/09/03	0.07	0.03
MW-2	07/31/03	0.05	0.03
MW-2	09/04/03	0.02	0.01
MW-2	10/01/03	0.07	0.02
MW-2	11/12/03	0.59	0.36
MW-2	12/11/03	0.05	0.07
MW-2	02/05/04	0.13	0.02
MW-2	02/16/04	0.02	0.01
MW-2	03/11/04	ND	0.00
MW-2	03/30/04	ND	0.00
MW-2	04/05/04	ND	0.00
MW-2	07/13/04	ND	0.00
MW-2	08/31/04	ND	0.00
MW-2	09/07/04	ND	0.00
MW-2	11/04/04	0.22	0.14
MW-2	11/29/04	0.02	0.05
MW-2	12/15/04	0.24	0.16
MW-2	01/20/05	ND	0.00
MW-2	02/04/05	Sheen	0.00
MW-2	03/23/05	Sheen	0.00
MW-2	04/11/05	ND	0.00
MW-2	05/12/05	ND	0.00
MW-2	06/20/05	ND	0.00
MW-2	08/01/05	ND	0.00
MW-2	08/24/05	ND	0.00
MW-2	09/16/05	ND	0.00
MW-2	10/21/05	Sheen	0.00
MW-2	01/18/06	Sheen	0.00
MW-2	04/14/06	Sheen	0.00
MW-2	07/19/06	ND	0.00
MW-2	10/24/06 (1)	NA	0.00
MW-2	01/15/07	ND	0.00
MW-2	04/18/07	ND	0.00
MW-2	07/17/07	ND	0.00
MW-2	10/11/07	ND	0.00
MW-2	<b>01/08/08</b>	<b>ND</b>	<b>0.00</b>
<b>Approximate Cumulative Floating Product Recovered (gallons):</b>			<b>1.44</b>

FOOTNOTES:

(1) Free product encountered, but unable to gauge.

ND Non-detect

NA Not applicable

Table 5

**Soil Vapor Extraction System and Ground-Water Extraction System**  
**Monthly Discharge Analytical Results Summary**

ARCO Service Station No. 2111  
 1156 Davis Street, San Leandro, California

Date Sampled	Sampling Port	Matrix	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	TAME	TBA	MtBE
1/29/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	77	<0.5	<0.5	<0.5	<0.5	---	---	9.4
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	0.19	<0.10	0.10	<0.20	---	---	5.1
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	GWE-Influent	Water (µg/L)	2,000	35	<12	23	14	<12	1,800	1,300
	GWE A/S-Effluent	Water (µg/L)	92	<0.50	<0.50	<0.50	<0.50	<0.50	1,900	150
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
2/5/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	400	10 <sup>2</sup>	<0.50	4.7	2.9 <sup>2</sup>	---	---	21
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	GWE-Influent	Water (µg/L)	1,400 <sup>1</sup>	25	<5.0	15	7.9	7.5	1,700	1,600
	GWE A/S-Effluent	Water (µg/L)	320 <sup>1</sup>	<0.50	<0.50	<0.50	<0.50	0.65	1,600	170
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
3/5/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	100	2.3 <sup>2</sup>	<0.50	1.2	1.6	---	---	26
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	11	0.10	<0.10	0.13	<0.20	---	---	10
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	0.17	<0.10	0.28	<0.20	---	---	<0.50
	GWE-Influent	Water (µg/L)	1,500 <sup>1</sup>	20	<5.0	16	15	5.6	1,600	1,600
	GWE A/S-Effluent	Water (µg/L)	220 <sup>1</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	1,600	200
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
4/2/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	190	4.3 <sup>2</sup>	<0.50	1.1	2.5	---	---	30
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	5.2
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	850	<5.0	<5.0	<5.0	8.5	5.7	870	1,100
	GWE A/S-Effluent	Water (µg/L)	94 <sup>1</sup>	<5.0	<5.0	<5.0	<5.0	<5.0	710	120
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
5/1/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	160	<0.50	<0.50	<0.50	0.97	---	---	18
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	11
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	760	<5.0	<5.0	<5.0	<5.0	5.0	680	880
	GWE A/S-Effluent	Water (µg/L)	76 <sup>1</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	640	66
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
6/4/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	330	0.56	0.89	1.8	2.6	---	---	14
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	0.67	<0.50	1.3	---	---	3.7
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	430	<5.0	<5.0	8.5	6.7	<5.0	340	560
	GWE A/S-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	290	17
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
7/2/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	180	<0.50	<0.50	<0.50	<1.0	---	---	11
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	0.87
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	320	<5.0	<5.0	<5.0	<5.0	<5.0	<200	430
	GWE A/S-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	84	35
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
8/1/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	660	<1.0	<1.0	1.2	2.2	---	---	11
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	11	0.25	<0.10	0.21	0.22	---	---	11
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.10	<0.10	<0.10	<0.20	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	440	9.4	<5.0	<5.0	<5.0	<5.0	590	450
	GWE A/S-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	28	6.8
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50
9/5/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	1,200	0.79	<0.50	1.5	3.8	---	---	14
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	5.1
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50
	GWE-Influent <sup>4</sup>	Water (µg/L)	410	9.5	<5.0	6.3	9.9	<5.0	960	570
	GWE A/S-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	830	37
	GWE-Effluent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50

**Table 5**  
**Soil Vapor Extraction System and Ground-Water Extraction System**  
**Monthly Discharge Analytical Results Summary**

ARCO Service Station No. 2111  
 1156 Davis Street, San Leandro, California

Date Sampled	Sampling Port	Matrix	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	TAME	TBA	MtBE	
10/1/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	1,300	1.2	<0.50	2.6	5.2	---	---	14	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.50	<0.50	<0.50	<0.50	---	---	2.6	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.50	<0.50	<0.50	<0.50	---	---	2.2	
	GWE-Influent <sup>a</sup>	Water (µg/L)	<b>500</b>	<b>6.9</b>	<5.0	<b>9.1</b>	<b>20</b>	<5.0	<b>940</b>	<b>540</b>	
		Water (µg/L)	60	<0.50	<0.50	<0.50	<0.50	<0.50	970	71	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
11/6/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	1,000	2.0	<0.50	4.0	5.3	---	---	23	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	13	<0.50	<0.50	<0.50	<0.50	---	---	15	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	
	GWE-Influent <sup>b</sup>	Water (µg/L)	<b>1,100</b>	<b>20</b>	<5.0	<b>20</b>	<b>24</b>	<b>6.9</b>	<b>1,300</b>	<b>920</b>	
		Water (µg/L)	120	<0.50	<0.50	<0.50	<0.50	<0.50	1,100	93	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
12/5/2007	SVE-Influent	Air (mg/m <sup>3</sup> )	830	<0.50	<0.50	1.0	1.2	---	---	2.5	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<10	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	
	GWE-Influent <sup>a</sup>	Water (µg/L)	<b>80</b>	<b>0.69</b>	<0.50	<b>1.0</b>	<b>1.1</b>	<0.50	<b>21</b>	<b>74</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	0.61	<20	2.7	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
1/7/2008	SVE-Influent	Air (mg/m <sup>3</sup> )	<b>410</b>	<b>2.2</b>	<b>1.5</b>	<b>2.9</b>	<b>3.9</b>	---	---	<b>44</b>	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	<b>14</b>	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	
	GWE-Influent	Water (µg/L)	<b>830<sup>c</sup></b>	<b>12</b>	<b>3.2</b>	<b>7.8</b>	<b>8.5</b>	<b>6.8</b>	<b>1,900</b>	<b>1,300</b>	
		Water (µg/L)	<b>83</b>	<0.50	<0.50	<0.50	<0.50	<b>0.60</b>	<b>590</b>	<b>110</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
2/5/2008	SVE-Influent	Air (mg/m <sup>3</sup> )	<50	<b>0.17</b>	<b>0.017</b>	<b>0.12</b>	<b>0.046</b>	---	---	<b>3.1</b>	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<b>0.32</b>	<b>0.024</b>	<b>0.20</b>	<b>0.10</b>	---	---	<b>5.1</b>	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.0016	<b>0.0032</b>	<0.0022	<0.0043	---	---	<b>0.098</b>	
	GWE-Influent	Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<b>18</b>	<b>98</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<b>3.7</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	
3/5/2008	SVE-Influent	Air (mg/m <sup>3</sup> )	<b>62</b>	<b>0.81</b>	<b>0.033</b>	<b>0.33</b>	<b>0.10</b>	---	---	<b>26</b>	
	SVE A/S-Effluent	Air (mg/m <sup>3</sup> )	<50	<b>0.0024</b>	<b>0.024</b>	<b>0.0025</b>	<b>0.0055</b>	---	---	<b>0.27</b>	
	SVE-Effluent	Air (mg/m <sup>3</sup> )	<50	<0.0016	<b>0.026</b>	<0.0022	<0.0043	---	---	<b>0.13</b>	
	GWE-Influent	Water (µg/L)	<b>860</b>	<b>40</b>	<0.50	<b>39</b>	<b>12</b>	<b>5.0</b>	<b>1,800</b>	<b>880</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<b>1,500</b>	<b>19</b>	
		Water (µg/L)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	
<p>Notes:</p> <p>SVE = Soil Vapor Extraction          GWE = Groundwater Extraction          mg/m<sup>3</sup> = milligrams per meter cubed          mg/L = milligrams per liter          GRO = gasoline range organics          MtBE = methyl tertiary butyl ether          TBA = tert-Butyl alcohol          -- = Not sampled.</p>											
<p><sup>1</sup> = Hydrocarbon result partly due to individual peak(s) in quantitation range  <sup>2</sup> = Primary and confirm results varied by &gt; 40% RPL  <sup>3</sup> = Sample taken from VOA vial with air bubble &gt; 6 millimeters in diameter  <sup>4</sup> = Incorrect GWE influent concentrations were recorded in previously submitted reports</p>											

**Table 6**  
Ground-Water Extraction System Performance Data

ARCO Service Station No.2111  
1156 Davis Street, San Leandro, California

Sample ID	Date Sampled	Notes	Totalizer Value (gallons)	Monthly Volume (gallons)	Average Discharge Rate (gpm)	<u>GRO</u>				<u>Benzene</u>				<u>MTBE</u>			
						Influent Concentration ( $\mu\text{g/L}$ )	Removal Rate (lbs/day)	Net Removed (pounds)	Removed To Date (pounds)	Influent Concentration ( $\mu\text{g/L}$ )	Removal Rate (lbs/day)	Net Removed (pounds)	Removed To Date (pounds)	Influent Concentration ( $\mu\text{g/L}$ )	Removal Rate (lbs/day)	Net Removed (pounds)	Removed To Date (pounds)
INFL	01/29/07		3,000	NA	NA	2,000	0.00	0.000	0.000	35	0.0E+00	0.000	0.000	1,300	0.0E+00	0.000	0.000
INFL	02/05/07		33,400	30,400	3.02	1,400	0.06	0.431	0.431	25.0	1.1E-03	0.008	0.008	1,600.00	5.3E-02	0.368	0.368
INFL	03/05/07		130,565	97,165	2.41	1,500	0.04	1.175	1.606	20.0	6.5E-04	0.018	0.026	1,600.00	4.6E-02	1.297	1.664
INFL	04/02/07	a	170,596	40,031	0.99	850	0.01	0.392	1.998	<5.0	1.3E-04	0.004	0.030	1,100	1.6E-02	0.451	2.115
INFL	05/01/07	a	225,297	54,701	1.31	760	0.01	0.367	2.366	<5.0	2.0E-05	0.001	0.030	880	1.6E-02	0.452	2.567
INFL	06/04/07	a	429,450	204,153	4.17	430	0.03	1.013	3.379	<5.0	1.3E-04	0.004	0.034	560	3.6E-02	1.226	3.792
INFL	07/02/07	a	480,377	50,927	1.26	320	0.01	0.159	3.538	<5.0	3.8E-05	0.001	0.035	430	7.5E-03	0.210	4.003
INFL	08/01/07	a	580,301	99,924	2.31	440	0.01	0.317	3.855	9.4	1.7E-04	0.005	0.040	450	1.2E-02	0.367	4.369
INFL	09/05/07	a	589,944	9,643	0.19	410	0.00	0.034	3.889	9.5	2.2E-05	0.001	0.041	570	1.2E-03	0.041	4.410
INFL	10/01/07	a	592,403	2,459	0.07	500	0.00	0.009	3.898	6.9	6.5E-06	0.000	0.041	540	4.4E-04	0.011	4.422
INFL	11/06/07	a	615,161	22,758	0.44	1,100	0.00	0.152	4.050	20.0	7.1E-05	0.003	0.044	920	3.8E-03	0.139	4.560
INFL	12/05/07	a	633,121	17,960	0.43	80	0.00	0.088	4.138	0.69	5.3E-05	0.002	0.045	74	2.6E-03	0.074	4.635
INFL	01/07/08		635,200	2,079	0.04	830	0.00	0.008	4.146	12.0	3.3E-06	0.000	0.046	1,300	3.6E-04	0.012	4.647
INFL	02/05/08		642,841	7,641	0.18	<50	0.00	0.027	4.173	<50	1.3E-05	0.000	0.046	98	1.5E-03	0.045	4.691
INFL	03/05/08		646,123	3,282	0.08	860	0.00	0.012	4.185	40.0	1.9E-05	0.001	0.047	880	4.6E-04	0.013	4.705
<b>REPORTING PERIOD: FIRST QUARTER 2008</b>																	
PERIOD WATER DISCHARGED (gal):						13,002	as of 3/5/2008										
AVERAGE DISCHARGE RATE (gpm):						0.16											
PERIOD POUNDS REMOVED:							0.047									0.070	
PERIOD GALLONS REMOVED:							0.008									0.011	
TOTAL POUNDS REMOVED:							4.185									4.705	
TOTAL GALLONS REMOVED:						646,123	0.686									0.761	
ESTIMATED PERCENT CARBON LOADING:						14.9%											
<b>Explanations:</b>															<b>Notes:</b>		
µg/L = Micrograms per liter															a = Influent concentrations were recorded incorrectly in previously submitted reports		
gpm = Gallons per minute																	
lbs/day = Pounds per day																	
GRO = Gasoline range organics																	
MtBE = Methyl tertiary butyl ether																	
Density of gasoline = 6.1 pounds per gallon																	
Density of benzene = 7.34 pounds per gallon																	
Density of MtBE = 6.18 pounds per gallon																	
NA = Not applicable																	
<b>Assumptions:</b>																	
1) Primary carbon loading = 2,000 pounds of carbon (includes primary carbon unit only)																	
2) Percent carbon loading calculation assumes a loading isotherm of 3% by weight																	

**Table 7**  
**Ground-Water Extraction System Effluent Data**

ARCO Service Station No. 2111  
1156 Davis Street, San Leandro, California

Sample ID	Date Sampled	Notes	Totalizer Value (gallons)	Monthly Volume (gallons)	Average Discharge Rate (gpm)	Effluent Concentrations							
						GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	TBA (µg/L)	MtBE (µg/L)	
EFFL	01/29/07		3,000	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	02/05/07		33,400	30,400	3.02	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	03/05/07		130,565	97,165	2.41	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	04/02/07		170,596	40,031	0.99	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	05/01/07		225,297	54,701	1.31	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	06/04/07		429,450	204,153	4.17	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	07/02/07		480,377	50,927	1.26	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	08/01/07		580,301	99,924	2.31	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	09/05/07		589,944	9,643	0.19	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	10/01/07		592,403	2,459	0.07	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	11/06/07		615,161	22,758	0.44	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
EFFL	12/05/07		633,121	17,960	0.43	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
<b>EFFL</b>	<b>01/07/08</b>		<b>635,200</b>	<b>2,079</b>	<b>0.04</b>	<50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	
<b>EFFL</b>	<b>02/05/08</b>		<b>642,841</b>	<b>7,641</b>	<b>0.18</b>	<50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	
<b>EFFL</b>	<b>03/05/08</b>		<b>646,123</b>	<b>3,282</b>	<b>0.08</b>	<50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	
<b>REPORTING PERIOD: FIRST QUARTER 2008</b>													
<b>PERIOD WATER DISCHARGED (gal):</b>						<b>13,002</b>	<b>as of 03/05/2008</b>						
<b>AVERAGE DISCHARGE RATE (gpm)</b>						<b>0.16</b>							
<b>Explanations:</b>													
µg/L	=	Micrograms per liter											
mg/L	=	Milligrams per liter											
gpm	=	Gallons per minute											
GRO	=	Gasoline Range Organics											
MtBE	=	Methyl tertiary butyl ether											
NA	=	Data not available											

**Table 8**  
**OPERATIONAL UPTIME INFORMATION OF THE**  
**SOIL VAPOR EXTRACTION SYSTEM**

ARCO Service Station No. 2111  
 1156 Davis Street, San Leandro, California

Date	Hr. Meter Reading	No. of Days Between Sampling Dates			Cumulative Days		Percent Uptime
		Total Days	Uptime	Days Down	Total Days	Uptime	
01/29/07	13.6	NA	NA	NA	NA	NA	NA
02/05/07	178.7	7	6.9	0.1	7	6.90	98%
03/05/07	437.6	28	10.8	17.2	35	17.7	39%
04/02/07	490.7	28	2.2	25.8	63	19.9	8%
05/01/07	594.2	29	4.3	24.7	92	24.2	15%
06/04/07	981.7	34	16.1	17.9	126	40.4	47%
07/02/07	1128.4	28	6.1	21.9	154	46.5	22%
08/01/07	1430.1	30	12.6	17.4	184	59.0	42%
09/05/07	1460.4	35	1.3	33.7	219	60.3	4%
10/01/07	1466.1	26	0.2	25.8	245	60.5	1%
11/06/07	1500.0	36	1.4	34.6	281	62.0	4%
12/05/07	1544.0	29	1.8	27.2	310	63.8	6%
<b>01/07/08</b>	<b>1546.0</b>	<b>33</b>	<b>0.1</b>	<b>32.9</b>	<b>343</b>	<b>63.9</b>	<b>0%</b>
<b>02/05/08</b>	<b>1556.0</b>	<b>29</b>	<b>0.4</b>	<b>28.6</b>	<b>372</b>	<b>64.3</b>	<b>1%</b>
<b>03/05/08</b>	<b>1561.0</b>	<b>29</b>	<b>0.2</b>	<b>28.8</b>	<b>401</b>	<b>64.5</b>	<b>1%</b>
NA = Not applicable							

**Table 9**  
**SOIL VAPOR EXTRACTION SYSTEM FLOW RATES AND AIR SAMPLE ANALYTICAL RESULTS**

ARCO Service Station No. 2111  
 1156 Davis Street, San Leandro, California

Date	Flow Rate (cfm)	Vacuum (in Hg)	Sampling Port	Analytes (mg/m <sup>3</sup> )					
				GRO	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE
01/29/07	198	21.0	Influent	77	<0.5	<0.5	<0.5	<1.0	9.4
			A/S-Effluent	<10	0.19	<0.10	0.10	<0.20	5.1
			Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
02/05/07	200	19.0	Influent	400	10	<0.5	4.7	2.9	21
			A/S-Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
			Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
03/05/07	180	24.0	Influent	100	2.3	<0.50	1.2	1.6	26
			A/S-Effluent	11	0.10	<0.10	0.13	<0.20	10
			Effluent	<10	0.17	<0.10	0.28	<0.20	<0.50
04/02/07	180	NR	Influent	190	4.3	<0.50	1.1	2.5	30
			A/S-Effluent	<10	<0.10	<0.10	<0.10	<0.20	5.2
			Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
05/01/07	180	NR	Influent	160	<0.50	<0.50	<0.50	0.97	18
			A/S-Effluent	<50	<0.50	<0.50	<0.50	<0.50	11
			Effluent	<50	<0.50	<0.50	<0.50	<0.50	<0.50
06/04/07	190	NR	Influent	330	0.56	0.89	1.8	2.6	14
			A/S-Effluent	<50	<0.50	0.67	<0.50	1.3	3.7
			Effluent	<50	<0.50	<0.50	<0.50	<0.50	<0.50
07/02/07	200	NR	Influent	180	<0.50	<0.50	<0.50	<1.0	11
			A/S-Effluent	<10	<0.10	<0.10	<0.10	<0.20	0.87
			Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
08/01/07	200	NR	Influent	660	<1.0	<1.0	1.2	2.2	11
			A/S-Effluent	11	0.25	<0.10	0.21	0.22	11
			Effluent	<10	<0.10	<0.10	<0.10	<0.20	<0.50
09/05/07	190	NR	Influent	1,200	0.79	<0.50	1.5	3.8	14
			A/S-Effluent	<50	<0.50	<0.50	<0.50	<0.50	5.1
			Effluent	<50	<0.50	<0.50	<0.50	<0.50	<0.50
10/01/07	190	NR	Influent	1,300	1.2	<0.50	2.6	5.2	14
			A/S-Effluent	<10	<0.50	<0.50	<0.50	<0.50	2.6
			Effluent	<10	<0.50	<0.50	<0.50	<0.50	2.2
11/06/07	190	NR	Influent	1,000	2.0	<0.50	4.0	5.3	23
			A/S-Effluent	13	<0.50	<0.50	<0.50	<0.50	15
			Effluent	<10	<0.50	<0.50	<0.50	<0.50	<0.50
12/05/07	190	NR	Influent	830	<0.50	<0.50	1.0	1.2	2.5
			A/S-Effluent	<10	<0.50	<0.50	<0.50	<0.50	<0.50
			Effluent	<10	<0.50	<0.50	<0.50	<0.50	<0.50
<b>01/07/08</b>	200	NR	Influent	<b>410</b>	<b>2.2</b>	<b>1.5</b>	<b>2.9</b>	<b>3.9</b>	<b>44</b>
			A/S-Effluent	<50	<0.50	<0.50	<0.50	<0.50	<b>14</b>
			Effluent	<50	<0.50	<0.50	<0.50	<0.50	<0.50
<b>02/05/08</b>	190	NR	Influent	<50	<b>0.17</b>	<b>0.017</b>	<b>0.12</b>	<b>0.046</b>	<b>3.1</b>
			A/S-Effluent	<50	<b>0.32</b>	<b>0.024</b>	<b>0.20</b>	<b>0.10</b>	<b>5.1</b>
			Effluent	<50	<0.0016	<b>0.0032</b>	<0.0022	<0.0043	<b>0.098</b>
<b>03/05/08</b>	190	NR	Influent	<b>62</b>	<b>0.81</b>	<b>0.033</b>	<b>0.33</b>	<b>0.10</b>	<b>26</b>
			A/S-Effluent	<50	<b>0.0024</b>	<b>0.024</b>	<b>0.0025</b>	<b>0.0055</b>	<b>0.27</b>
			Effluent	<50	<0.0016	<b>0.026</b>	<0.0022	<0.0043	<b>0.13</b>

Notes:

mg/m<sup>3</sup> = milligrams per cubic meter  
 in Hg = inches of mercury  
 cfm = cubic feet per second  
 GRO = gasoline range organics  
 MtBE = methyl tertiary butyl ether

NR = not recorded

**Table 10****SOIL VAPOR EXTRACTION AND EMISSION RATES**

ARCO Service Station No. 2111  
1156 Davis Street, San Leandro, California

Date	Extraction Rate from Wells (lbs/day)		Emissions Rate to Atmosphere (lbs/day)		Destruction Removal Efficiency, %		Cumulative GRO Removal (lbs)	
	GRO	Benzene	GRO	Benzene	GRO	Benzene	Period	Total
1/29/2007	1.35	0.00	0.09	0.00	93.5%	80.0%	1.35	1.35
2/5/2007	7.10	0.18	0.09	0.00	98.8%	99.5%	29.18	30.53
3/5/2007	1.60	0.04	0.08	0.00	95.0%	92.6%	47.00	77.53
4/2/2007	3.04	0.07	0.08	0.00	97.4%	98.8%	5.10	82.63
5/1/2007*	2.56	0.00	0.40	0.00	84.4%	0.0%	12.03	94.66
6/4/2007*	5.28	0.01	0.42	0.00	92.0%	55.4%	63.06	157.72
7/2/2007	3.20	0.00	0.09	0.00	97.2%	80.0%	25.84	183.56
8/1/2007	11.72	0.01	0.09	0.00	99.2%	90.0%	94.00	277.56
9/5/2007*	20.25	0.01	0.42	0.00	97.9%	68.4%	20.78	298.34
10/1/2007	21.94	0.02	0.08	0.00	99.6%	79.2%	4.22	302.56
11/6/2007	16.87	0.03	0.08	0.00	99.5%	87.5%	27.17	329.72
12/5/2007*	14.01	0.00	0.08	0.00	99.4%	0.0%	27.79	357.51
<b>1/7/2008</b>	<b>7.28</b>	<b>0.04</b>	<b>0.44</b>	<b>0.00</b>	<b>93.9%</b>	<b>88.6%</b>	<b>1.06</b>	<b>358.58</b>
<b>2/5/2008**</b>	<b>0.42</b>	<b>0.00</b>	<b>0.42</b>	<b>0.00</b>	<b>0.0%</b>	<b>99.5%</b>	<b>1.54</b>	<b>360.12</b>
<b>3/5/2008**</b>	<b>1.05</b>	<b>0.01</b>	<b>0.42</b>	<b>0.00</b>	<b>59.7%</b>	<b>99.9%</b>	<b>0.15</b>	<b>360.27</b>

Air Permit Limits

DRE shall be at least 95%

Daily emmission rates will not exceed two lbs. VOC in any one day

Sample Calculations

$$\begin{aligned} \text{Ext. Rate from = } & \frac{70 \text{ cuft}}{\text{min}} \times \frac{3100 \text{ mg}}{\text{cu meter}} \times \frac{0.028 \text{ cumeter}}{\text{cuft}} \times \frac{\text{lb}}{454,000 \text{ mg}} \times \frac{1,440 \text{ min}}{\text{day}} \\ \text{Wells (lbs/day)} & = 19.27 \text{ lbs/day} \end{aligned}$$

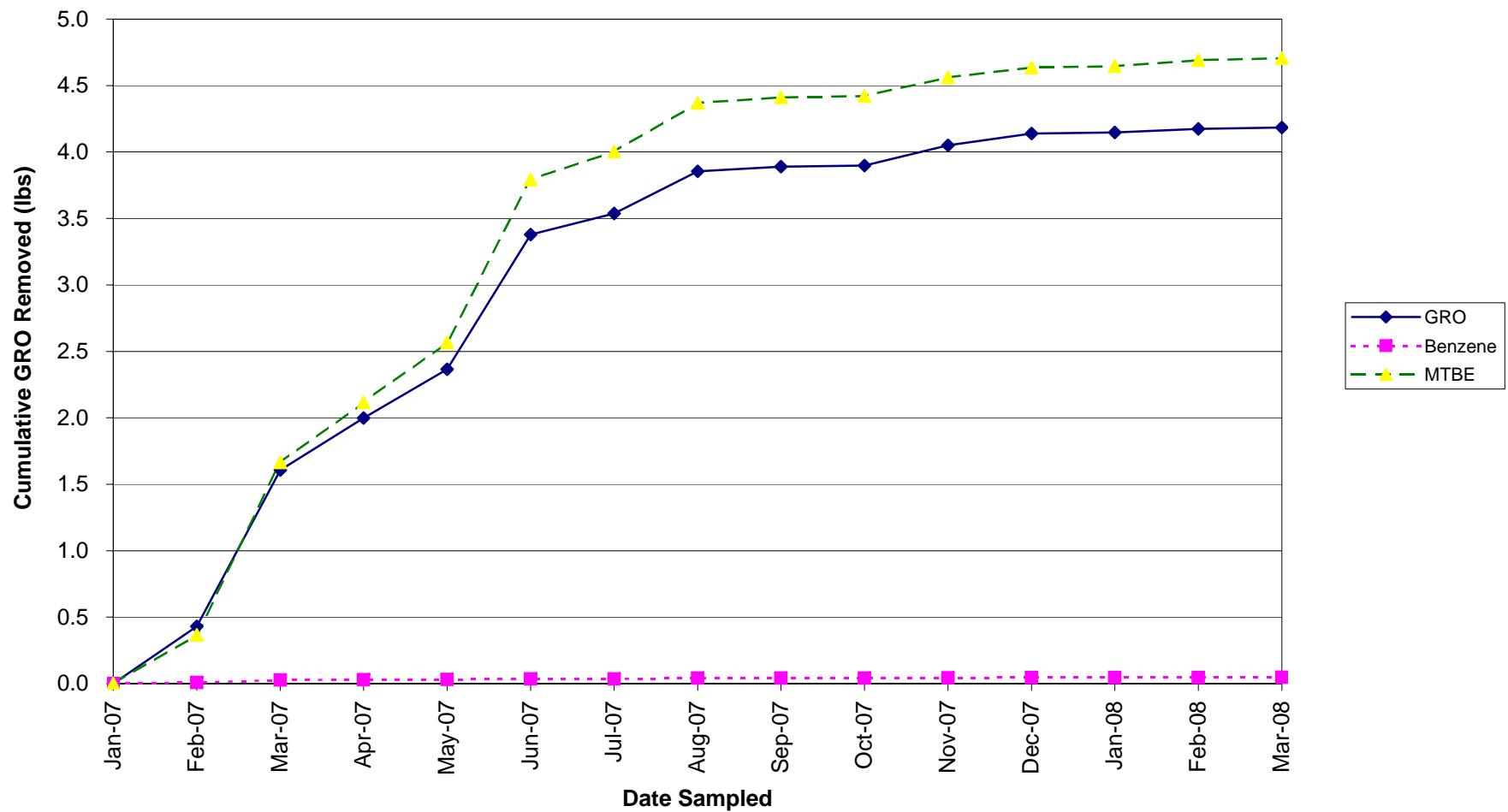
$$\begin{aligned} \text{Dest. Removal = } & \frac{19.27 - (<0.12)}{19.27} \times 100 = 99.35\% \\ \text{Efficiency, \%} & \end{aligned}$$

Notes

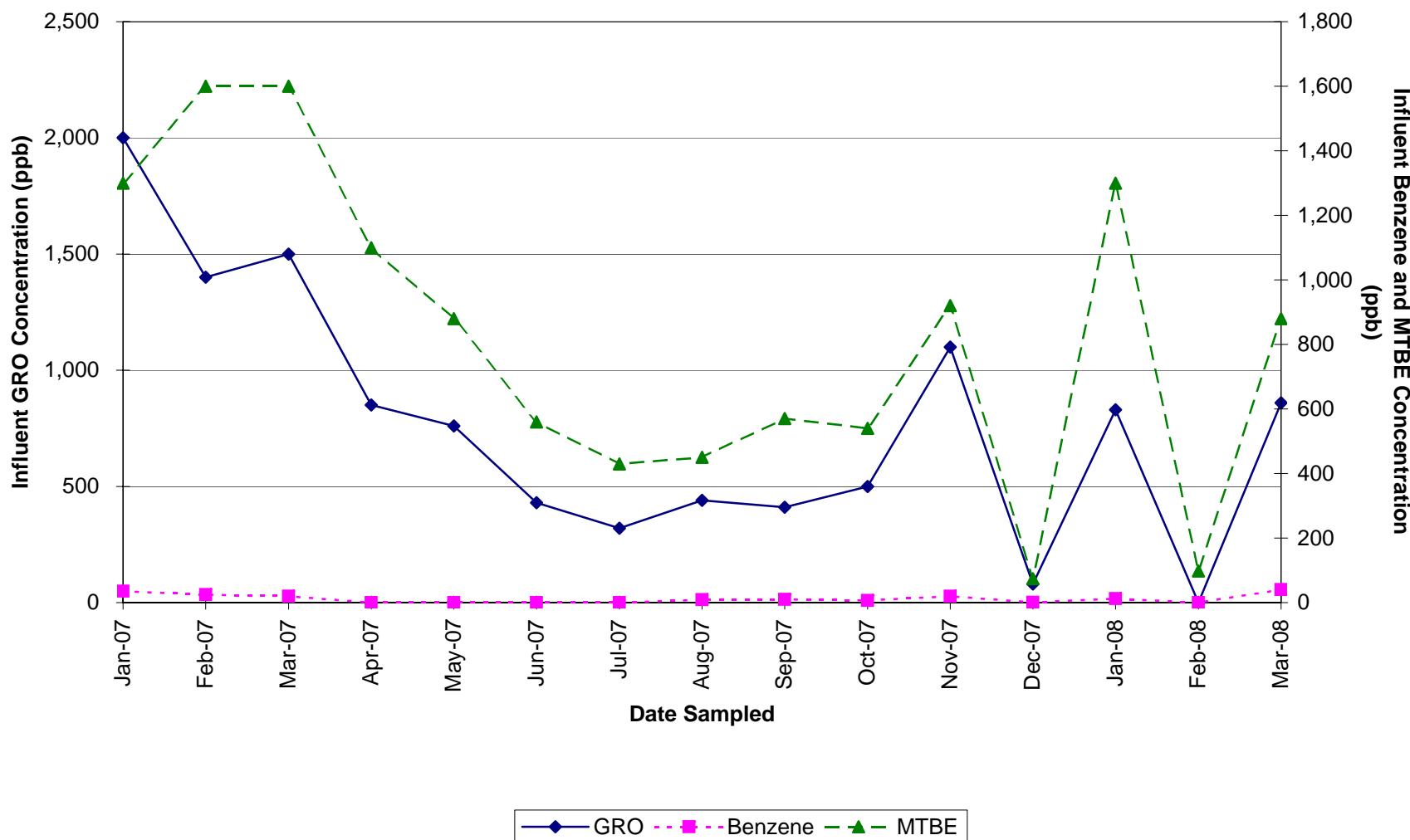
\* = Benzene results negligible, DRE not a true representation

\*\* = GRO results negligible, DRE not a true representation

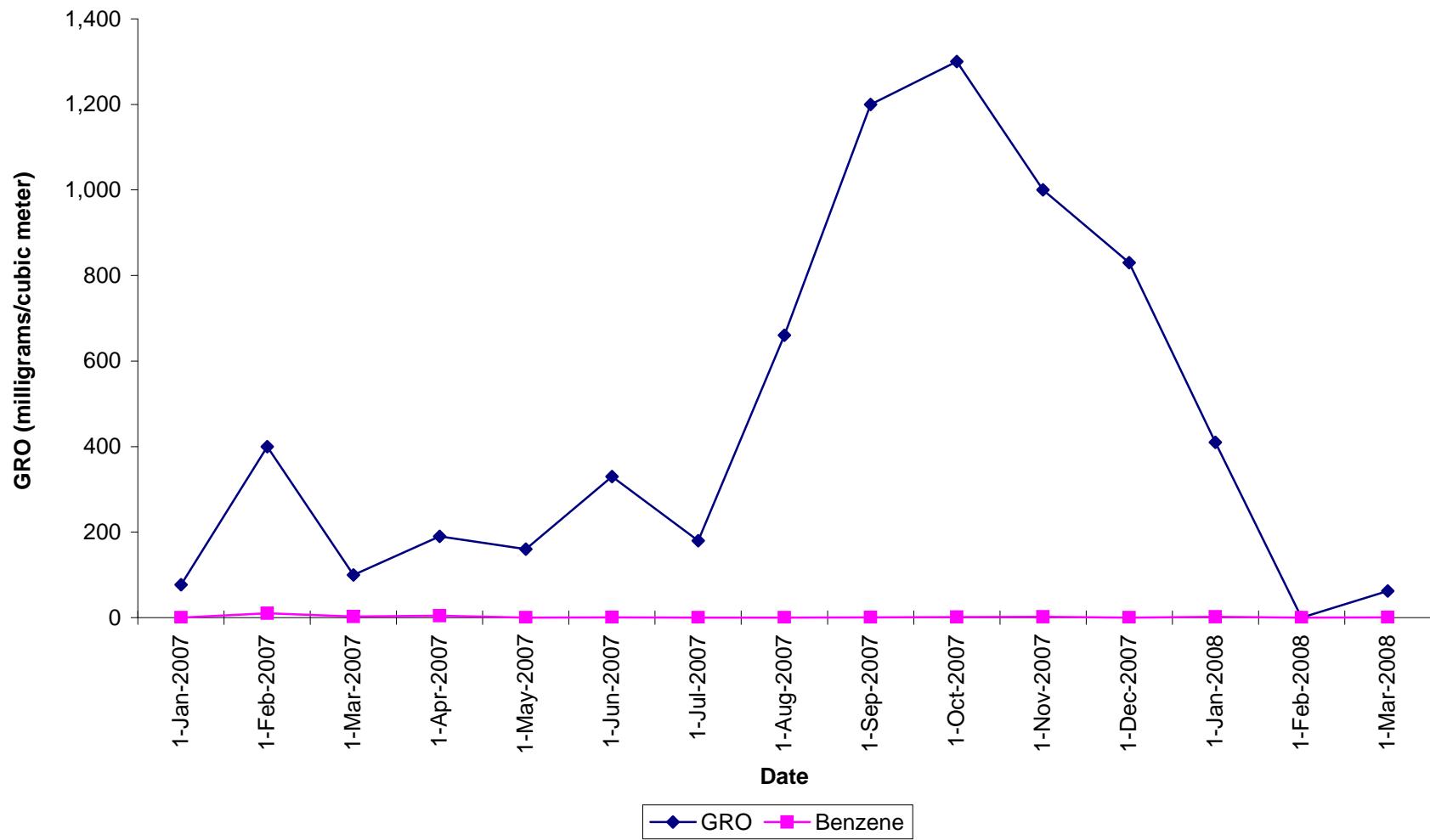
**Figure 1**  
**Cumulative GWE Mass Removal for GRO, Benzene, and MTBE**  
Station #2111, 1156 Davis Street, San Leandro, California



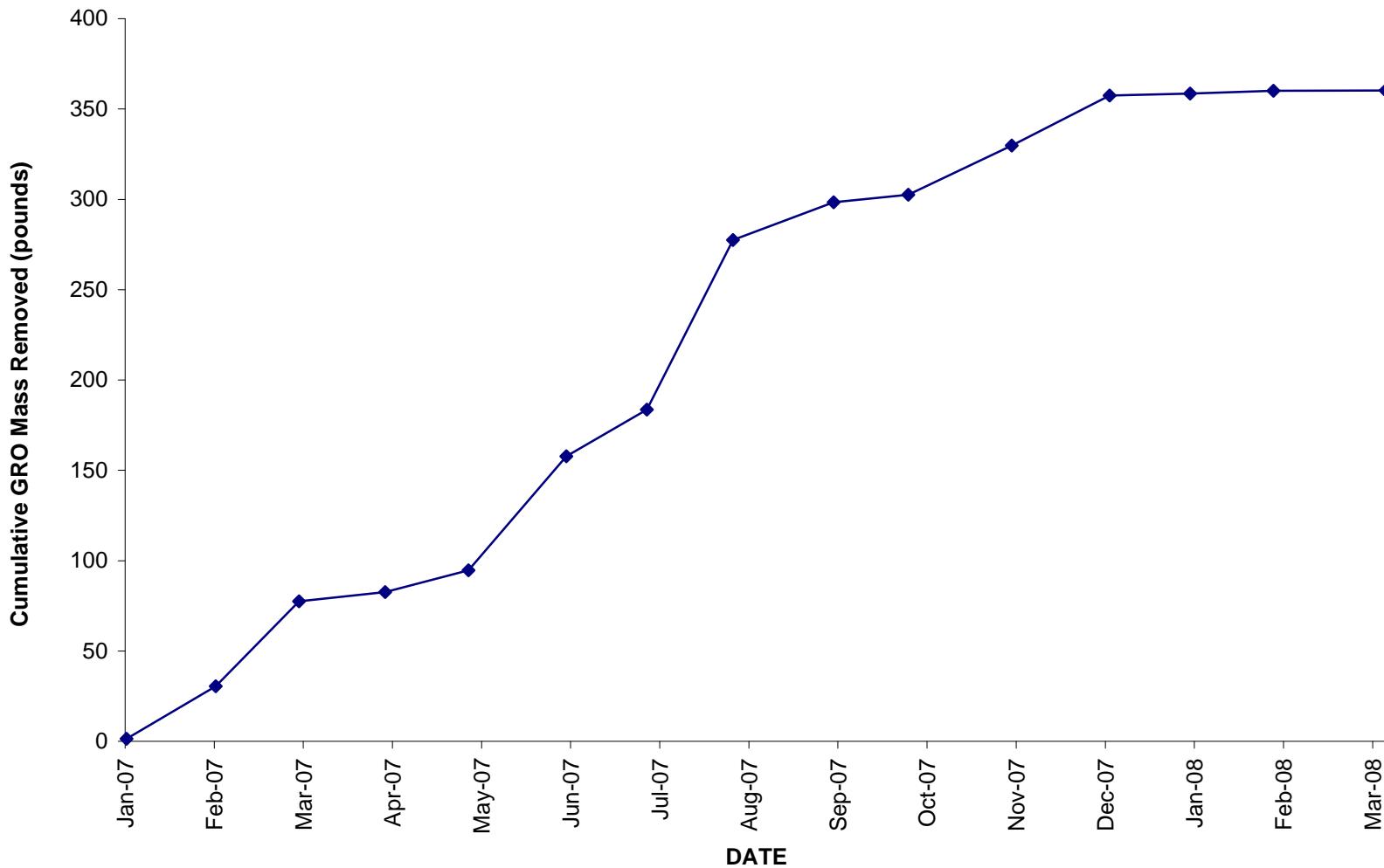
**Figure 2**  
**GWE Influent Concentrations for GRO, Benzene, and MTBE**  
Station #2111, 1156 Davis Street, San Leandro, California



**Figure 3**  
**SVE System Influent Concentration vs. Time**  
Station #2111, 1156 Davis Street, San Leandro, California



**Figure 4**  
**SVE System Cumulative GRO Mass Removed vs. Time**  
Station #2111, 1156 Davis Street, San Leandro, California



## **APPENDIX A**

**STRATUS GROUND-WATER SAMPLING DATA PACKAGE  
(INCLUDES FIELD DATA SHEETS AND LABORATORY ANALYTICAL REPORT  
WITH CHAIN-OF-CUSTODY DOCUMENTATION)**



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

January 31, 2008

Mr. Rob Miller  
Broadbent & Associates, Inc.  
2000 Kirman Avenue  
Reno, NV 89502

Re: Groundwater Sampling Data Package, BP Service Station No. 2111, located at  
1156 Davis Street., San Leandro, California

### **General Information**

*Data Submittal Prepared / Reviewed by:* Sandy Hayes / Jay Johnson

*Phone Number:* (530) 676-6000

*On-Site Supplier Representatives:* Josh Slater

*Date:* January 8, 2008

*Arrival:* 03:30                   *Departure:* 08:30

*Weather Conditions:* Clear

*Unusual Field Conditions:* None

*Scope of Work Performed:* Quarterly monitoring and sampling

*Variations from Work Scope:* None

This submittal presents the tabulation of data collected in association with routine groundwater monitoring. The attachments include field data sheets, chain of custody documentation and certified analytical results. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations. Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

**STRATUS ENVIRONMENTAL, INC.**

Jay R. Johnson, P.G.  
Project Manager



**Attachments:**

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results

CC: Mr. Paul Supple, BP/ARCO



Global ID:  
Site Address 1156 DAVIS ST  
City SAN LEANDRO, CA  
Sampled By: J. SLATER

ORIGINAL

Site Number ARCO 2111  
Project No E2111  
Project PM J. JOHNSON  
Date 1-8-08

*Signature* \_\_\_\_\_ *Date* \_\_\_\_\_

\* = C JOA'S

## Multiplier Values

$2'' = 0.5$     $3'' = 1.0$     $4'' = 2.0$     $6'' = 4.4$

## pH calibration

-WATER DUMPED ON SITE

Make Oakton

## Model



ENVIRONMENTAL INC.

City SAN LEANDRO, CA  
Site Sampled by J. SLATERProject No. E2111  
Project PM J. JOHNSON  
Date Sampled 1-8-08

ORIGINAL

Well ID	SAMPLE ONLY	MW-1	0735	Well ID	SAMPLE ONLY	MW-2	0601		
purge start time	BAILER	NO ODOOR		purge start time	SAMPLED	C Port			
time	Temp C	pH	cond	gallons	time	Temp C	pH	cond	gallons
18.1	5.60	683	Ø		14.0	4.22	680	Ø	
time									
time									
time									
purge stop time	ORP	195		purge stop time	ORP	137			
Well ID	SAMPLE ONLY	MW-3	0710	Well ID	SAMPLE ONLY	MW-4	0601		
purge start time	BAILER	NO ODOOR		purge start time	BAILER	NO ODOOR			
time	Temp C	pH	cond	gallons	time	Temp C	pH	cond	gallons
18.0	6.94	630	Ø		18.0	6.74	717	Ø	
time									
time									
time									
purge stop time	ORP	207		purge stop time	ORP	202			
Well ID	SAMPLE ONLY	MW-5	0425	Well ID	SAMPLE ONLY	MW-7	0638		
purge start time	BAILER	NO ODOOR		purge start time	BAILER	NO ODOOR			
time	Temp C	pH	cond	gallons	time	Temp C	pH	cond	gallons
17.0	6.91	506	Ø		18.0	7.23	650	Ø	
time									
time									
time									
purge stop time	ORP	184		purge stop time	ORP	194			
Well ID	SAMPLE ONLY	MW-8	0535	Well ID					
purge start time	BAILER	NO ODOOR		purge start time					
time	Temp C	pH	cond	gallons	time	Temp C	pH	cond	gallons
17.3	6.91	608	Ø						
time	17.9	6.77	631	6	time				
time	17.0	6.88	612	12	time				
time					time				
purge stop time	ORP	190		purge stop time					

## Wellhead Observation Form

Account:

Sampled by:

Date:

# Chain of Custody Record

ORIGINAL

Project Name: ARCO 2111

BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > Alameda > 2111

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 5/1/08

On-site Time: <u>0330</u>	Temp: <u>40° S</u>
Off-site Time: <u>0830</u>	Temp: <u>50° S</u>
Sky Conditions: <u>CLEAR</u>	
Meteorological Events: <u>-</u>	
Wind Speed: <u>-</u>	Direction: <u>-</u>

Lab Name: TestAmerica	BP/AR Facility No.: <u>2111</u>	Consultant/Contractor: Stratus Environmental, Inc.
Address: 885 Jarvis Drive	BP/AR Facility Address: 1156 Davis Street, San Leandro	Address: 3330 Cameron Park Drive, Suite 550
Morgan Hill, CA 95037	Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Lisa Race	California Global ID No.: <u>T0600101764</u>	Consultant/Contractor Project No.: E2111-03
Tele/Fax: 408-782-8156 408-782-6308 (fax)	Enfos Project No.:	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple	Provision or OOC (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150	Phase/WBS: 04-Monitoring	Report Type & QC Level: Level 1 with EDF
San Ramon, CA	Sub Phase/Task: 03-Analytical	E-mail EDD To: shayes@stratusinc.net
Tele/Fax: 925-275-3506	Cost Element: 01-Contractor labor	Invoice to: Atlantic Richfield Co.

Lab Bottle Order No:

Matrix

Item No.	Sample Description	Time	Date	Soil/Solid Water/Liquid Air	Laboratory No.	No. of Containers	Preservative				Requested Analysis				Sample Point Lat/Long and Comments	
							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GPC	BTEX	S Oxy	EDB	
1	MW-1	0735	4/8	X		3			X			X	X	X	X	
2	MW-2	0801				3										
3	MW-3	0710				3										
4	MW-4	0601				3										
5	MW-5	0425				6										
6	MW-7	0638				3										
7	MW-8	0535		▼		3			▼			▼	▼	▼	▼	
8																
9	TB-2111-010808	0418	▼			2										HOLD
10																

Sampler's Name: J. STATER

Sampler's Company: STRATUS ENVIRONMENTAL

Shipment Date: 1-8-08

Shipment Method: STRATUS

Shipment Tracking No:

Special Instructions:	Relinquished By / Affiliation														Date	Time	Accepted By / Affiliation		Date	Time
	<u>J. Stater / STRATUS</u>														<u>Chouca</u>		<u>jkfors</u>			

Custody Seals In Place: Yes  No  Temp Blank  Yes / No  Cooler Temp on Receipt: °F/C  Trip Blank  Yes / No  MS/MSD Sample Submitted: Yes / No

29 January, 2008

Jay Johnson  
Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park, CA 95682

RE: ARCO #2111, San Leandro, CA  
Work Order: MRA0414

Enclosed are the results of analyses for samples received by the laboratory on 01/08/08 19:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 2682

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MRA0414-01	Water	01/08/08 07:35	01/08/08 19:50
MW-2	MRA0414-02	Water	01/08/08 08:01	01/08/08 19:50
MW-3	MRA0414-03	Water	01/08/08 07:10	01/08/08 19:50
MW-4	MRA0414-04	Water	01/08/08 06:01	01/08/08 19:50
MW-5	MRA0414-05	Water	01/08/08 04:25	01/08/08 19:50
MW-7	MRA0414-06	Water	01/08/08 06:38	01/08/08 19:50
MW-8	MRA0414-07	Water	01/08/08 05:35	01/08/08 19:50
TB--2111-010808	MRA0414-08	Water	01/08/08 16:18	01/08/08 19:50

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with no custody seals.

Stratus Environmental Inc. [Arco]  
 3330 Cameron Park Dr., Suite 550  
 Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
 Project Number: N/P  
 Project Manager: Jay Johnson

MRA0414  
 Reported:  
 01/29/08 10:05

### Volatiles Organic Compounds by 8260B/LUFT GC/MS

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (MRA0414-01) Water Sampled: 01/08/08 07:35 Received: 01/08/08 19:50</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>140</b>	50	ug/l	1	8A11007	01/11/08	01/11/08	EPA 8260B/LUFT GC/MS	PV
tert-Amyl methyl ether	2.5	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	74	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	300	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>90</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>102 %</i>		<i>75-130</i>		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>103 %</i>		<i>60-150</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>109 %</i>		<i>75-120</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>112 %</i>		<i>55-130</i>		"	"	"	"	
<b>MW-2 (MRA0414-02) Water Sampled: 01/08/08 08:01 Received: 01/08/08 19:50</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>1900</b>	1000	ug/l	20	8A11007	01/11/08	01/11/08	EPA 8260B/LUFT GC/MS	PV
tert-Amyl methyl ether	ND	10	"	"	"	"	"	"	
Benzene	65	10	"	"	"	"	"	"	
tert-Butyl alcohol	2600	400	"	"	"	"	"	"	
Di-isopropyl ether	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethanol	ND	6000	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
Ethylbenzene	37	10	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1300</b>	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Xylenes (total)	28	10	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>		<i>75-130</i>		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>105 %</i>		<i>60-150</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>112 %</i>		<i>75-120</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>110 %</i>		<i>55-130</i>		"	"	"	"	

Stratus Environmental Inc. [Arco]  
 3330 Cameron Park Dr., Suite 550  
 Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
 Project Number: N/P  
 Project Manager: Jay Johnson

MRA0414  
 Reported:  
 01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (MRA0414-03) Water Sampled: 01/08/08 07:10 Received: 01/08/08 19:50</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8A11007	01/11/08	01/11/08	EPA 8260B/LUFT GC/MS	
<b>tert-Amyl methyl ether</b>	<b>0.84</b>	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	300	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>8.9</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	105 %	75-130	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	106 %	60-150	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	107 %	75-120	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	106 %	55-130	"	"	"	"	"	"	
<b>MW-4 (MRA0414-04) Water Sampled: 01/08/08 06:01 Received: 01/08/08 19:50</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8A11007	01/11/08	01/11/08	EPA 8260B/LUFT GC/MS	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	300	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1.2</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	104 %	75-130	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	108 %	60-150	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	105 %	75-120	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %	55-130	"	"	"	"	"	"	

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5 (MRA0414-05) Water Sampled: 01/08/08 04:25 Received: 01/08/08 19:50</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8A11007	01/11/08	01/11/08	EPA 8260B/LUFT GC/MS	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
<b>tert-Butyl alcohol</b>	<b>220</b>	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	300	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>5.6</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>101 %</i>	<i>75-130</i>		"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>102 %</i>	<i>60-150</i>		"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>108 %</i>	<i>75-120</i>		"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>105 %</i>	<i>55-130</i>		"	"	"	"	"	
<b>MW-7 (MRA0414-06) Water Sampled: 01/08/08 06:38 Received: 01/08/08 19:50</b>									
Gasoline Range Organics (C4-C12)	<b>5100</b>	2500	ug/l	50	8A15009	01/15/08	01/15/08	EPA 8260B/LUFT GC/MS	PV
tert-Amyl methyl ether	32	25	"	"	"	"	"	"	
Benzene	45	25	"	"	"	"	"	"	
<b>tert-Butyl alcohol</b>	<b>1400</b>	1000	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
Ethanol	ND	15000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>6100</b>	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>	<i>75-130</i>		"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>104 %</i>	<i>60-150</i>		"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>112 %</i>	<i>75-120</i>		"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97 %</i>	<i>55-130</i>		"	"	"	"	"	

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3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-8 (MRA0414-07) Water Sampled: 01/08/08 05:35 Received: 01/08/08 19:50</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>51</b>	50	ug/l	1	8A15009	01/15/08	01/15/08	EPA 8260B/LUFT GC/MS	PV
<b>tert-Amyl methyl ether</b>	<b>0.80</b>	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
<b>tert-Butyl alcohol</b>	<b>59</b>	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
Ethanol	ND	300	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>49</b>	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	104 %	75-130	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	104 %	60-150	"	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	107 %	75-120	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	99 %	55-130	"	"	"	"	"	"	"

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MRA0414  
Reported:  
01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A11007 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Blank (8A11007-BLK1)</b>	Prepared & Analyzed: 01/11/08					
Gasoline Range Organics (C4-C12)	ND	50	ug/l			
tert-Amyl methyl ether	ND	0.50	"			
Benzene	ND	0.50	"			
tert-Butyl alcohol	ND	20	"			
Di-isopropyl ether	ND	0.50	"			
1,2-Dibromoethane (EDB)	ND	0.50	"			
1,2-Dichloroethane	ND	0.50	"			
Ethanol	ND	300	"			
Ethyl tert-butyl ether	ND	0.50	"			
Ethylbenzene	ND	0.50	"			
Methyl tert-butyl ether	ND	0.50	"			
Toluene	ND	0.50	"			
Xylenes (total)	ND	0.50	"			
<i>Surrogate: Dibromofluoromethane</i>	2.58	"	2.50		103	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.65	"	2.50		106	60-150
<i>Surrogate: Toluene-d8</i>	2.75	"	2.50		110	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.59	"	2.50		104	55-130

<b>Laboratory Control Sample (8A11007-BS1)</b>	Prepared & Analyzed: 01/11/08					
tert-Amyl methyl ether	10.9	0.50	ug/l	10.0	109	75-125
Benzene	9.04	0.50	"	10.0	90	75-120
tert-Butyl alcohol	192	20	"	200	96	80-120
Di-isopropyl ether	9.19	0.50	"	10.0	92	70-130
1,2-Dibromoethane (EDB)	10.8	0.50	"	10.0	108	75-130
1,2-Dichloroethane	9.87	0.50	"	10.0	99	65-130
Ethanol	158	300	"	200	79	50-150
Ethyl tert-butyl ether	10.4	0.50	"	10.0	104	75-130
Ethylbenzene	10.6	0.50	"	10.0	106	80-125
Methyl tert-butyl ether	10.5	0.50	"	10.0	105	80-130
Toluene	10.4	0.50	"	10.0	104	80-120
Xylenes (total)	32.8	0.50	"	30.0	109	80-125
<i>Surrogate: Dibromofluoromethane</i>	2.58	"	2.50		103	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.56	"	2.50		102	60-150
<i>Surrogate: Toluene-d8</i>	2.71	"	2.50		108	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.70	"	2.50		108	55-130

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MRA0414  
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01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A11007 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Laboratory Control Sample (8A11007-BS2)</b>						Prepared & Analyzed: 01/11/08				
Gasoline Range Organics (C4-C12)	462	50	ug/l	500		92	55-130			
<i>Surrogate: Dibromofluoromethane</i>	2.60		"	2.50		104	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.49		"	2.50		100	60-150			
<i>Surrogate: Toluene-d8</i>	2.71		"	2.50		108	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.77		"	2.50		111	55-130			
<b>Laboratory Control Sample Dup (8A11007-BSD2)</b>						Prepared & Analyzed: 01/11/08				
Gasoline Range Organics (C4-C12)	449	50	ug/l	500		90	55-130	3	20	
<i>Surrogate: Dibromofluoromethane</i>	2.52		"	2.50		101	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.49		"	2.50		100	60-150			
<i>Surrogate: Toluene-d8</i>	2.73		"	2.50		109	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.72		"	2.50		109	55-130			
<b>Matrix Spike (8A11007-MS1)</b>						Prepared & Analyzed: 01/11/08				
Gasoline Range Organics (C4-C12)	624	50	ug/l	550	34.8	107	25-150			
tert-Amyl methyl ether	11.1	0.50	"	10.0	ND	111	75-140			
Benzene	10.2	0.50	"	10.0	ND	102	80-120			
tert-Butyl alcohol	417	20	"	200	222	97	80-125			
Di-isopropyl ether	9.54	0.50	"	10.0	ND	95	75-135			
1,2-Dibromoethane (EDB)	11.3	0.50	"	10.0	ND	113	80-135			
1,2-Dichloroethane	10.4	0.50	"	10.0	ND	104	65-145			
Ethanol	135	300	"	200	ND	67	50-150			
Ethyl tert-butyl ether	10.8	0.50	"	10.0	ND	108	80-135			
Ethylbenzene	10.7	0.50	"	10.0	ND	107	75-130			
Methyl tert-butyl ether	16.5	0.50	"	10.0	5.60	109	75-145			
Toluene	11.0	0.50	"	10.0	ND	110	80-125			
Xylenes (total)	33.0	0.50	"	30.0	ND	110	75-125			
<i>Surrogate: Dibromofluoromethane</i>	2.68		"	2.50		107	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.54		"	2.50		102	60-150			
<i>Surrogate: Toluene-d8</i>	2.74		"	2.50		110	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.65		"	2.50		106	55-130			

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MRA0414  
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01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A11007 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Matrix Spike Dup (8A11007-MSD1)	Source: MRA0414-05	Prepared & Analyzed: 01/11/08							
Gasoline Range Organics (C4-C12)	604	50	ug/l	550	34.8	104	25-150	3	20
tert-Amyl methyl ether	11.1	0.50	"	10.0	ND	111	75-140	0.7	25
Benzene	9.87	0.50	"	10.0	ND	99	80-120	3	20
tert-Butyl alcohol	411	20	"	200	222	95	80-125	1	25
Di-isopropyl ether	9.59	0.50	"	10.0	ND	96	75-135	0.5	25
1,2-Dibromoethane (EDB)	11.2	0.50	"	10.0	ND	112	80-135	1	30
1,2-Dichloroethane	10.4	0.50	"	10.0	ND	104	65-145	0.2	25
Ethanol	124	300	"	200	ND	62	50-150	9	25
Ethyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	80-135	0.5	25
Ethylbenzene	10.4	0.50	"	10.0	ND	104	75-130	3	20
Methyl tert-butyl ether	16.6	0.50	"	10.0	5.60	110	75-145	0.2	25
Toluene	10.4	0.50	"	10.0	ND	104	80-125	6	25
Xylenes (total)	30.8	0.50	"	30.0	ND	102	75-125	7	20
<i>Surrogate: Dibromofluoromethane</i>	2.61		"	2.50		104	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.54		"	2.50		102	60-150		
<i>Surrogate: Toluene-d8</i>	2.78		"	2.50		111	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50		107	55-130		

**Batch 8A15009 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Blank (8A15009-BLK1)	Prepared & Analyzed: 01/15/08							
Gasoline Range Organics (C4-C12)	ND	50	ug/l					
tert-Amyl methyl ether	ND	0.50	"					
Benzene	ND	0.50	"					
tert-Butyl alcohol	ND	20	"					
Di-isopropyl ether	ND	0.50	"					
1,2-Dibromoethane (EDB)	ND	0.50	"					
1,2-Dichloroethane	ND	0.50	"					
Ethanol	ND	300	"					
Ethyl tert-butyl ether	ND	0.50	"					
Ethylbenzene	ND	0.50	"					
Methyl tert-butyl ether	ND	0.50	"					
Toluene	ND	0.50	"					
Xylenes (total)	ND	0.50	"					
<i>Surrogate: Dibromofluoromethane</i>	2.54		"	2.50		102	75-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.47		"	2.50		99	60-150	

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Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A15009 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Blank (8A15009-BLK1)</b>							Prepared & Analyzed: 01/15/08			
<i>Surrogate: Toluene-d8</i>		2.70	ug/l	2.50	108	75-120				
<i>Surrogate: 4-Bromofluorobenzene</i>		2.43	"	2.50	97	55-130				
<b>Laboratory Control Sample (8A15009-BS1)</b>							Prepared & Analyzed: 01/15/08			
tert-Amyl methyl ether	11.0	0.50	ug/l	10.0	110	75-125				
Benzene	10.1	0.50	"	10.0	101	75-120				
tert-Butyl alcohol	188	20	"	200	94	80-120				
Di-isopropyl ether	9.57	0.50	"	10.0	96	70-130				
1,2-Dibromoethane (EDB)	11.2	0.50	"	10.0	112	75-130				
1,2-Dichloroethane	10.2	0.50	"	10.0	102	65-130				
Ethanol	154	300	"	200	77	50-150				
Ethyl tert-butyl ether	10.6	0.50	"	10.0	106	75-130				
Ethylbenzene	10.3	0.50	"	10.0	103	80-125				
Methyl tert-butyl ether	11.0	0.50	"	10.0	110	80-130				
Toluene	10.8	0.50	"	10.0	108	80-120				
Xylenes (total)	31.7	0.50	"	30.0	106	80-125				
<i>Surrogate: Dibromofluoromethane</i>							Prepared & Analyzed: 01/15/08			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		2.61	"	2.50	104	75-130				
<i>Surrogate: Toluene-d8</i>		2.51	"	2.50	100	60-150				
<i>Surrogate: 4-Bromofluorobenzene</i>		2.71	"	2.50	108	75-120				
<b>Laboratory Control Sample (8A15009-BS2)</b>							Prepared & Analyzed: 01/15/08			
Gasoline Range Organics (C4-C12)	529	50	ug/l	500	106	55-130				
<i>Surrogate: Dibromofluoromethane</i>		2.64	"	2.50	106	75-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>		2.57	"	2.50	103	60-150				
<i>Surrogate: Toluene-d8</i>		2.69	"	2.50	108	75-120				
<i>Surrogate: 4-Bromofluorobenzene</i>		2.73	"	2.50	109	55-130				

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Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch 8A15009 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

<b>Laboratory Control Sample Dup (8A15009-BSD2)</b>		Prepared & Analyzed: 01/15/08								
Gasoline Range Organics (C4-C12)	516	50	ug/l	500	103	55-130	2	20		
<i>Surrogate: Dibromofluoromethane</i>	2.50		"	2.50	100	75-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.49		"	2.50	100	60-150				
<i>Surrogate: Toluene-d8</i>	2.77		"	2.50	111	75-120				
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50	107	55-130				
<b>Matrix Spike (8A15009-MS1)</b>		Source: MRA0563-05 Prepared & Analyzed: 01/15/08								
Gasoline Range Organics (C4-C12)	681	50	ug/l	550	47.6	115	25-150			
tert-Amyl methyl ether	10.8	0.50	"	10.0	ND	108	75-140			
Benzene	10.3	0.50	"	10.0	ND	103	80-120			
tert-Butyl alcohol	192	20	"	200	5.17	93	80-125			
Di-isopropyl ether	9.54	0.50	"	10.0	ND	95	75-135			
1,2-Dibromoethane (EDB)	11.0	0.50	"	10.0	ND	110	80-135			
1,2-Dichloroethane	10.2	0.50	"	10.0	ND	102	65-145			
Ethanol	163	300	"	200	ND	81	50-150			
Ethyl tert-butyl ether	10.5	0.50	"	10.0	ND	105	80-135			
Ethylbenzene	9.57	0.50	"	10.0	ND	96	75-130			
Methyl tert-butyl ether	10.6	0.50	"	10.0	0.140	104	75-145			
Toluene	11.0	0.50	"	10.0	ND	110	80-125			
Xylenes (total)	30.1	0.50	"	30.0	ND	100	75-125			
<i>Surrogate: Dibromofluoromethane</i>	2.57		"	2.50	103	75-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.50		"	2.50	100	60-150				
<i>Surrogate: Toluene-d8</i>	2.73		"	2.50	109	75-120				
<i>Surrogate: 4-Bromofluorobenzene</i>	2.45		"	2.50	98	55-130				
<b>Matrix Spike Dup (8A15009-MSD1)</b>		Source: MRA0563-05 Prepared & Analyzed: 01/15/08								
Gasoline Range Organics (C4-C12)	726	50	ug/l	550	47.6	123	25-150	6	20	
tert-Amyl methyl ether	11.4	0.50	"	10.0	ND	114	75-140	6	25	
Benzene	10.7	0.50	"	10.0	ND	107	80-120	4	20	
tert-Butyl alcohol	204	20	"	200	5.17	100	80-125	6	25	
Di-isopropyl ether	10.2	0.50	"	10.0	ND	102	75-135	6	25	
1,2-Dibromoethane (EDB)	11.9	0.50	"	10.0	ND	119	80-135	8	30	
1,2-Dichloroethane	11.0	0.50	"	10.0	ND	110	65-145	8	25	
Ethanol	167	300	"	200	ND	83	50-150	3	25	
Ethyl tert-butyl ether	11.4	0.50	"	10.0	ND	114	80-135	9	25	
Ethylbenzene	10.0	0.50	"	10.0	ND	100	75-130	5	20	

TestAmerica Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A15009 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Matrix Spike Dup (8A15009-MSD1)	Source: MRA0563-05		Prepared & Analyzed: 01/15/08						
Methyl tert-butyl ether	11.8	0.50	ug/l	10.0	0.140	116	75-145	11	25
Toluene	11.4	0.50	"	10.0	ND	114	80-125	4	25
Xylenes (total)	30.6	0.50	"	30.0	ND	102	75-125	1	20
<i>Surrogate: Dibromofluoromethane</i>	2.71		"	2.50		108	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.58		"	2.50		103	60-150		
<i>Surrogate: Toluene-d8</i>	2.77		"	2.50		111	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.43		"	2.50		97	55-130		

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: N/P  
Project Manager: Jay Johnson

MRA0414  
Reported:  
01/29/08 10:05

### Notes and Definitions

PV	Hydrocarbon result partly due to individ. peak(s) in quant. range
IC	Calib. verif. is within method limits but outside contract limits
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



A BP affiliated company

## Chain of Custody Record

Project Name: ARCO 2111

BP BU/AR Region/Envos Segment: BP > Americas > West > Retail > Alameda > 2111

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 5/1/08

On-site Time: 0330	Temp: 46° F
Off-site Time: 0830	Temp: 50° F
Sky Conditions: CLEAR	
Meteorological Events:	
Wind Speed:	
Direction:	

Lab Name: TestAmerica
Address: 885 Jarvis Drive
Morgan Hill, CA 95037
Lab PM: Lisa Race
Tele/Fax: 408-782-8156 408-782-6308 (fax)
BP/AR PM Contact: Paul Supple
Address: 2010 Crow Canyon Place, Suite 150
San Ramon, CA
Tele/Fax: 925-275-3506

BP/AR Facility No.: 2111
BP/AR Facility Address: 1156 Davis Street, San Leandro
Site Lat/Long:
California Global ID No.: T0600101764
Envos Project No.:
Provision or OOC (circle one) Provision
Phase/WBS: 04-Monitoring
Sub Phase/Task: 03-Analytical
Cost Element: 01-Contractor labor

Consultant/Contractor: Stratus Environmental, Inc.
Address: 3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682
Consultant/Contractor Project No.: E2J11-03
Consultant/Contractor PM: Jay Johnson
Tele/Fax: (530) 676-6000 / (530) 676-6005
Report Type & QC Level: Level 1 with EDF
E-mail EDD To: shayes@stratusinc.net
Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Time Zulu	Date	Matrix			Laboratory No. <b>MRA0414</b>	No. of Containers	Preservative				Requested Analysis						Sample Point Lat/Long and Comments  *Oxy= MTBE,TAME,ETBE,DIPE,TBA	
				Solid	Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GeO	BTEX	5' oxy	8260	1,2 DCA	ERKANE	
1	MW-1	0735	4/8	X			01	3			X			X	X	X	X	X		
2	MW-2	0801					02	3												
3	MW-3	0710					03	3												
4	MW-4	0601					04	3												
5	MW-5	0425					05	6												
6	MW-7	0638					06	3												
7	MW-8	0535			V		07	3			V			V	V	V	V	V	V	
8																				
9	TB-2111-010808	0418						2												HOLD
10																				

Sampler's Name: <u>J. Slater</u>	Relinquished By / Affiliation: <u>J. Slater / Envos</u>	Date: 1-8-08	Time: 1005	Accepted By / Affiliation: <u>Abigail</u>	Date: 1/8/08	Time: 1005
Sampler's Company: <u>Stratus Environmental</u>						
Shipment Date: 1-8-08						
Shipment Method: <u>STRATUS</u>	<u>Ed Martinez</u>	1-8-08	1000	<u>Abigail</u>	1/8/08	1000
Shipment Tracking No:		1-8-08	1000	<u>Abigail</u>	1/8/08	1000

Custody Seals In Place: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temp Blank Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Cooler Temp on Receipt: 4.1° F/C	Trip Blank Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	MS/MSD Sample Submitted: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
BP COC Rev. 5 10/11/2006				

# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: APLO 2111  
 REC. BY (PRINT) P.V.  
 WORKORDER: MRA 0414

DATE REC'D AT LAB: 11/8/08  
 TIME REC'D AT LAB: 19:50  
 DATE LOGGED IN: 11/10/08

For Regulatory Purposes?  
 DRINKING WATER  
 WASTE WATER  
 OTHER

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent <input checked="" type="checkbox"/> Intact / <input type="checkbox"/> Broken*								
2. Chain-of-Custody <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent*								
3. Traffic Reports or Packing List: <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent								
4. Airbill: <input type="checkbox"/> Airbill / Sticker <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent								
5. Airbill #: _____								
6. Sample Labels: <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent								
7. Sample IDs: <input checked="" type="checkbox"/> Listed / <input type="checkbox"/> Not Listed on Chain-of-Custody								
8. Sample Condition: <input checked="" type="checkbox"/> Intact / <input type="checkbox"/> Broken* / <input checked="" type="checkbox"/> Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*								
10. Sample received within hold time? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*								
11. Adequate sample volume received? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*								
12. Proper preservatives used? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*								
13. Trip Blank / Temp Blank Received? (circle which, if yes) <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*								
14. Read Temp: <u>5 - 6°</u> Correction Factor: <u>-1.0</u> Corrected Temp: <u>4.6°</u> Is corrected temp. 0-6°C? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No**								
**Exception (If any): Metals / Perchlorate DFF on Ice or Problem COC								

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

**APPENDIX B**

**GEOTRACKER UPLOAD CONFIRMATIONS**

# 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!

**Submittal Title:** 1Q08 GEO\_WELL 2111  
**Facility Global ID:** T0600101764  
**Facility Name:** ARCO #2111  
**Submittal Date/Time:** 4/9/2008 1:51:33 PM  
**Confirmation Number:** **5894198358**

[Back to Main Menu](#)

Logged in as BROADBENT-C  
(CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).

# Electronic Submittal Information

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

Your EDF file has been successfully uploaded!

**Confirmation Number:** 6211782634

**Date/Time of Submittal:** 4/9/2008 2:09:54 PM

**Facility Global ID:** T0600101764

**Facility Name:** ARCO #2111

**Submittal Title:** 1Q08 GW Monitoring

**Submittal Type:** GW Monitoring Report

**Click [here](#) to view the detections report for this upload.**

<b>ARCO #2111</b> 1156 DAVIS SAN LEANDRO, CA 94577	<b>Regional Board - Case #:</b> <b>01-1903</b> SAN FRANCISCO BAY RWQCB (REGION 2)
	<b>Local Agency (lead agency) - Case #:</b> <b>RO0000494</b> ALAMEDA COUNTY LOP - (PK)

<b>CONF #</b>	<b>TITLE</b>	<b>QUARTER</b>
6211782634	1Q08 GW Monitoring	Q1 2008
<b>SUBMITTED BY</b>	<b>SUBMIT DATE</b>	<b>STATUS</b>
Broadbent & Associates, Inc.	4/9/2008	PENDING REVIEW

## **SAMPLE DETECTIONS REPORT**

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	7
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	4
SAMPLE MATRIX TYPES	WATER

## **METHOD QA/QC REPORT**

METHODS USED	8260FAB
TESTED FOR REQUIRED ANALYTES?	Y
LAB NOTE DATA QUALIFIERS	Y

## **QA/QC FOR 8021/8260 SERIES SAMPLES**

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

## **WATER SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

**SOIL SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

**FIELD QC SAMPLES**

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPDL</u>
QCTB SAMPLES	N	0
QCCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as BROADBENT-C (CONTRACTOR)

CONTACT SITE [ADMINISTRATOR](#).

## **APPENDIX C**

**STRATUS REMEDIATION SYSTEM OPERATION AND MAINTENANCE DATA  
PACKAGES (INCLUDES FIELD DATA SHEETS, LABORATORY REPORTS, AND  
CHAIN-OF-CUSTODY DOCUMENTATION)**



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

February 12, 2008

Mr. Rob Miller  
Broadbent & Associates, Inc.  
2000 Kirman Avenue  
Reno, NV 89502

Re: Remediation System Operation and Maintenance Data Package, ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California.

### **General Information**

*Data Submittal Prepared / Reviewed by:* Sandy Hayes and Kiran Nagaraju / Jay Johnson

*Phone Number:* (530) 676-6007 / (530) 676-6000

*On-Site Supplier Representatives:* Chris Hill

*Number of Site Visits:* 2 (January 7 and 15, 2008)

*System Overview:* Dual Phase Extraction System, Air Stripper, and Groundwater Extraction and Treatment System (GETS).

*Operational Status:* Continuous operation

*Scope of Work Performed:* Conduct routine system operation and maintenance, and record field measurements. Influent, mid-fluent, and effluent air and water samples were collected on January 7, 2008.

*Variations from Scope of Work:* The remediation systems were found non-functioning on January 7, 2008, due to high-water level alarm on the air stripper. The remediation systems were re-started momentarily on January 7, 2008 and shutdown after sampling, pending receipt of analytical results. Upon receipt of analytical results and compliance verification, the remediation systems were re-started on January 15, 2008.

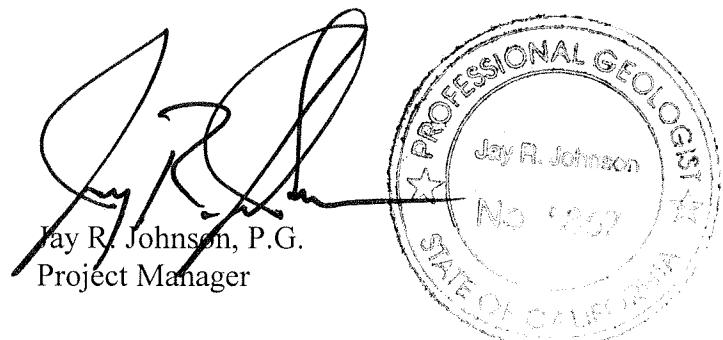
The attachments include field data sheets, chain of custody documentation, and the certified analytical results. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations. Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

**STRATUS ENVIRONMENTAL, INC.**



Kiran Nagaraju  
Project Engineer



**Attachments:**

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results

CC: Paul Supple, BP/ARCO

ARCO FACILITY NO. 2111  
1156 Davis Street  
San Leandro, California  
Dual Phase Extraction and Air Stripper System

*Hand* ORIGINAL

Date: 1-7-08  
Onsite Time: 0500  
Offsite Time: 0815  
Equipment Manufacturer/Model# \_\_\_\_\_

Technician: \_\_\_\_\_  
Weather Conditions: \_\_\_\_\_  
Ambient Temperature: \_\_\_\_\_

CHILL  
Rain  
45

System Information					
System Status Upon Arrival:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>			
System Status Upon Departure:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>	<i>after for LAB</i>		
Electric Meter Reading:	<u>N/m</u>				
Hour Meter Reading:	<u>1546</u>				
Totalizer Reading Prior to Air Stripper:	<u>24820</u>		PID Calibration Date:	<u>1-7-08</u>	
Totalizer Reading After Air Stripper:	<u>653000</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		<u>20</u>			
Air Velocity, FPM		<u>2467</u>			
Pipe Diameter, inches	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	
Air Flow Rate, cfm			<u>200</u>		
Applied Vacuum, "wc	<u>20" Hg</u>	<u>.20</u>	NA	NA	
Temperature, deg F		<u>112</u>	<u>85</u>		
PID Readings, ppmv	<u>291</u>	<u>.5</u>	<u>86</u>	<u>82</u>	PID for GAC-1: <u>2</u>

Other Readings/Measurements					
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs	
V-1	<u>25</u>	<u>10</u>			
V-2	<u>25</u>	<u>16</u>			
V-3	<u>25</u>	<u>17</u>			
MW-1	<u>100</u>	<u>15</u>			
MW-3	<u>100</u>	<u>16</u>			
MW-7	<u>100</u>	<u>17</u>			
MW-8	<u>100</u>	<u>15</u>			

Signature: Chris Dow

Date: 1-7-08

**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California  
**Dual Phase Extraction and Air Stripper System**

 ORIGINAL

Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF	1708 0645	02111AGAC1	1708 0632
02111ASAEFF	) 0650	02111AEFF	\ 0630
02111ASYSINF	0640		
Analyses Required: GRO, BTEX, and MTBE			

## Operation & Maintenance Notes

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:

John D.

Date: 1-7-08

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Groundwater Treatment System

 ORIGINAL

Date: 1-7-08  
 Onsite Time: 0500  
 Offsite Time: 0815

Technician: CIVIL  
 Weather Conditions: Rain  
 Ambient Temperature 45

System Status Upon Arrival:  Operational  Non-operational High Tank  
 System Status At Departure:  Operational  Non-operational  
 Transfer Pump:  Operational  Non-operational

Transfer Pump Hour Meter Reading: NA

Effluent Flow Totalizer Reading: 635200

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 9

**Effluent Water Characteristics**

(Quarterly by Field Instrument)

pH: 7.91

Temperature: 81.7

Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth	
MW-2		<u>4090</u>			

Sampling Information			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF	<u>1708 0606</u>	02111MW2WINF	<u>1708 0612</u>
02111ASWINF	<u>0558</u>		
02111ASWEFF	<u>0554</u>		
02111WGAC1	<u>0550</u>		
02111WEFF	<u>0547</u>		
TBZ1111708	<u>0630</u>		

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF & EFF	EPA Method 8260B

Notes:

Signature: Chubb Date: 1-7-08

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Dual Phase Extraction and Air Stripper System

 ORIGINAL

Date: 1-15-08  
 Onsite Time: 0700  
 Offsite Time: 0900  
 Equipment Manufacturer/Model# \_\_\_\_\_

Technician: CHILL  
 Weather Conditions: Fog  
 Ambient Temperature: 40

System Information					
System Status Upon Arrival:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>	<i>Restart L413 off</i>		
System Status Upon Departure:	Operational <input checked="" type="checkbox"/>	Non-Operational <input type="checkbox"/>			
Electric Meter Reading:	<u>395 99</u>				
Hour Meter Reading:	<u>1546</u>				
Totalizer Reading Prior to Air Stripper:	<u>25688</u>		PID Calibration Date:	<u>1-14-08</u>	
Totalizer Reading After Air Stripper:	<u>653830</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		21			
Air Velocity, FPM					
Pipe Diameter, inches	3	4	4	3	
Air Flow Rate, cfm			180		
Applied Vacuum, "wc	24 Hg	35 Hg	NA	NA	
Temperature, deg F					
PID Readings, ppmv	No Readings				PID for GAC-1:

Other Readings/Measurements						
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs		
V-1						
V-2						
V-3						
MW-1						
MW-3						
MW-7						

Signature: Chill

Date: 1/15/08

**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California  
**Dual Phase Extraction and Air Stripper System**



Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF		02111AGAC1	
02111ASAEFF		02111AEFF	
02111ASYSINF			
Analyses Required: GRO, BTEX, and MTBE			

## Operation & Maintenance Notes

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASA1NF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASA1NF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASA1NF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:

John P. M.

Date: 1/15/08

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Groundwater Treatment System

*OR* ORIGINAL

Date: 1-15-08  
 Onsite Time: 0700  
 Offsite Time: 0900

Technician: CHILL  
 Weather Conditions: Fog  
 Ambient Temperature 40

System Status Upon Arrival:  Operational  Non-operational *Restart After Load*

System Status At Departure:  Operational  Non-operational

Transfer Pump:  Operational  Non-operational

Transfer Pump Hour Meter Reading: NA

Effluent Flow Totalizer Reading: 636041

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 10

Effluent Water Characteristics  
 (Quarterly by Field Instrument)

pH: \_\_\_\_\_

Temperature: \_\_\_\_\_

Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth	
MW-2		<u>4385</u>			

Sampling Information			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF		02111MW2WINF	
02111ASWINF			
02111ASWEFF			
02111WGAC1			
02111WEFF			

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF & EFF	EPA Method 8260B

Notes: *Clear Air stripper Tower*

Signature:

*Chill*

Date: 11508



A BP affiliated company  
bp

Lab Name: TestAmerica  
Address: 885 Jarvis Drive  
Morgan Hill, CA 95037  
Lab PM: Lisa Race  
Tele/Fax: 408-782-8156/408-782-6308  
BP/AR PM Contact: Paul Supple  
Address: 2010 Crow Canyon Place, Suite 150  
San Ramon, CA  
Tele/Fax: 925-275-3506/925-275-3815

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis	Turnaround Time	Sample Point Lat/Long and Comments
				Soil/Solid	Water/Liquid	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol			
1	02111DPEAINF	0645	1-7-8	x				2						x x x	24-hours	
2	02111ASAEFF	0650		x				2						x x x	Standard	
3	02111ASYSINF	0640		x				2						x x x		
4	02111AGAC1	0632		x				2						x x x		
5	02111AEFF	0630		x				2						x x x		
6																
7																
8																
9																
10																

Sampler's Name: Chris Hill

Sampler's Company: Stratus Environmental, Inc.

Shipment Date: 1-7-08

Shipment Method: UPS

Shipment Tracking No:

Please cc results to bpedf@broadbentinc.com

Special Instructions:

Relinquished By / Affiliation

Chris Hill Stratus

Date

Time

Accepted By / Affiliation

Chase

Date

Time

1/7/08 09:00

Project Name:	ARCO Facility No. 2111
BP BU/AR Region/Envos Segment:	BP > Americas > West > Retail > Alameda
State or Lead Regulatory Agency:	California Regional Water Quality Control Board
Requested Due Date (mm/dd/yy):	24 hours for Effluent & STD for others

ORIGINAL

RUSH

Page 1 of 1

On-site Time:	0500	Temp: 45
Off-site Time:	0615	Temp: 47
Sky Conditions:		
Meteorological Events:		
Wind Speed: Direction:		

Consultant/Contractor:	Stratus Environmental, Inc.
Address:	3330 Cameron Park Drive, Suite 550
	Cameron Park, CA 95682
Consultant/Contractor Project No.:	E2111-03
Consultant/Contractor PM:	Jay Johnson
Tele/Fax:	(530) 676-6000 / (530) 676-6005
Report Type & QC Level:	Level 1 with EDF
E-mail EDD To:	shayes@stratusinc.net
Invoice to:	Atlantic Richfield Co.



A BP affiliated company

## Chain of Custody Record



Project Name: ARCO Facility No. 2111

BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > Alameda

State or Lead Regulatory Agency: California Regional Water Quality Control Board

Requested Due Date (mm/dd/yy): 24 hours for Effluent  
& STD for others

Page 1 of 1

On-site Time:	0500	Temp:	45
Off-site Time:	17:15	Temp:	45
Sky Conditions:			
Meteorological Events:			
Wind Speed:		Direction:	

Lab Name: TestAmerica	BP/AR Facility No.: 2111	Consultant/Contractor: Stratus Environmental, Inc.
Address: 885 Jarvis Drive	BP/AR Facility Address: 1156 Davis St., San Leandro	Address: 3330 Cameron Park Drive, Suite 550
Morgan Hill, CA 95037	Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Lisa Race	California Global ID No.: T0600101764	Consultant/Contractor Project No.: E2111-03
Tele/Fax: 408-782-8156/408-782-6308	Enfos Project No.: G0C28-0023	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple	Provision or OOC (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150	Phase/WBS: 03-O&M	Report Type & QC Level: Level 1 with EDF
San Ramon, CA	Sub Phase/Task: 03-Analytical	E-mail EDD To: shayes@stratusinc.net
Tele/Fax: 925-275-3506/925-275-3815	Cost Element: Subcontractor Cost	Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative				Turnaround Time	Sample Point Lat/Long and Comments	
							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol		
1	02111DPWINF	0606	1300	x		3			x			x	5-oxygenates requested are MTBE, DIPE, ETBE, TAME, and TBA.
2	02111ASWINF	0558		x		3			x			x	
3	02111ASWEFF	0554		x		3			x			x	
4	02111WGAC1	0550		x		3			x			x	
5	02111WEFF	0547		x		3			x			x	
6	02111MW2WINF	0612	138	x		3			x			x	
7													
8													
9													
10	132111208	0630	138			2						1614	

Sampler's Name:	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Time
Sampler's Company: Stratus Environmental, Inc.	Chris Hill	1706	0945	Chris Hill	1708 0945
Shipment Date: 1-7-08					
Shipment Method: FedEx					
Shipment Tracking No:					

Special Instructions: Please cc results to bpeds@broadbentinc.com

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

22 January, 2008

Jay Johnson  
Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park, CA 95682

RE: ARCO #2111, San Leandro, CA  
Work Order: MRA0310

Enclosed are the results of analyses for samples received by the laboratory on 01/07/08 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 2682

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
02111DPEWINF	MRA0310-01	Water	01/07/08 06:06	01/07/08 17:30
02111ASWINF	MRA0310-02	Water	01/07/08 05:58	01/07/08 17:30
02111ASWEFF	MRA0310-03	Water	01/07/08 05:54	01/07/08 17:30
02111WGAC1	MRA0310-04	Water	01/07/08 05:50	01/07/08 17:30
02111WEFF	MRA0310-05	Water	01/07/08 05:47	01/07/08 17:30
02111MW2WINF	MRA0310-06	Water	01/07/08 06:12	01/07/08 17:30
TB21111208	MRA0310-07	Water	01/07/08 06:30	01/07/08 17:30

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with no custody seals.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**

**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111DPEWINF (MRA0310-01) Water    Sampled: 01/07/08 06:06    Received: 01/07/08 17:30</b>									
Gasoline Range Organics (C4-C12)	1200	50	ug/l	1	8A09017	01/09/08	01/09/08	EPA 8260B/LUFT GC/MS	PV
tert-Amyl methyl ether	11	0.50	"	"	"	"	"	"	"
Benzene	15	0.50	"	"	"	"	"	"	"
tert-Butyl alcohol	2800	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	19	0.50	"	"	"	"	"	"	"
Toluene	13	0.50	"	"	"	"	"	"	"
Xylenes (total)	29	0.50	"	"	"	"	"	"	"
Surrogate: Dibromofluoromethane	98 %	75-130	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	111 %	60-150	"	"	"	"	"	"	"
Surrogate: Toluene-d8	102 %	75-120	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	108 %	55-130	"	"	"	"	"	"	"
<b>02111DPEWINF (MRA0310-01RE1) Water    Sampled: 01/07/08 06:06    Received: 01/07/08 17:30</b>									
Methyl tert-butyl ether	2100	25	ug/l	50	8A10021	01/10/08	01/11/08	EPA 8260B/LUFT GC/MS	
Surrogate: Dibromofluoromethane	100 %	75-130	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	104 %	60-150	"	"	"	"	"	"	"
Surrogate: Toluene-d8	104 %	75-120	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	94 %	55-130	"	"	"	"	"	"	"
<b>02111ASWINF (MRA0310-02) Water    Sampled: 01/07/08 05:58    Received: 01/07/08 17:30</b>									
Gasoline Range Organics (C4-C12)	830	50	ug/l	1	8A09017	01/09/08	01/09/08	EPA 8260B/LUFT GC/MS	PV
tert-Amyl methyl ether	6.8	0.50	"	"	"	"	"	"	"
Benzene	12	0.50	"	"	"	"	"	"	"
tert-Butyl alcohol	1900	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	7.8	0.50	"	"	"	"	"	"	"
Toluene	3.2	0.50	"	"	"	"	"	"	"
Xylenes (total)	8.5	0.50	"	"	"	"	"	"	"
Surrogate: Dibromofluoromethane	98 %	75-130	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4	112 %	60-150	"	"	"	"	"	"	"
Surrogate: Toluene-d8	102 %	75-120	"	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	55-130	"	"	"	"	"	"	"

TestAmerica Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**

**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111ASWIN (MRA0310-02RE1) Water    Sampled: 01/07/08 05:58    Received: 01/07/08 17:30</b>									
<b>Methyl tert-butyl ether</b>	<b>1300</b>	10	ug/l	20	8A10021	01/10/08	01/11/08	EPA 8260B/LUFT GC/MS	
<i>Surrogate: Dibromofluoromethane</i>	101 %	75-130	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	60-150	"	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	104 %	75-120	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	100 %	55-130	"	"	"	"	"	"	"
<b>02111ASWEFF (MRA0310-03) Water    Sampled: 01/07/08 05:54    Received: 01/07/08 17:30</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>83</b>	50	ug/l	1	8A10011	01/10/08	01/10/08	EPA 8260B/LUFT GC/MS	
<b>tert-Amyl methyl ether</b>	<b>0.60</b>	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
<b>tert-Butyl alcohol</b>	<b>590</b>	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>110</b>	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	96 %	75-130	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	87 %	60-150	"	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	102 %	75-120	"	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	99 %	55-130	"	"	"	"	"	"	"
<b>02111WGAC1 (MRA0310-04) Water    Sampled: 01/07/08 05:50    Received: 01/07/08 17:30</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>ND</b>	50	ug/l	1	8A21014	01/21/08	01/21/08	EPA 8260B/LUFT GC/MS	
<b>tert-Amyl methyl ether</b>	ND	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
<b>tert-Butyl alcohol</b>	ND	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	104 %	75-130	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	106 %	60-150	"	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	105 %	75-120	"	"	"	"	"	"	"

TestAmerica Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**

**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**02111WGAC1 (MRA0310-04) Water** Sampled: 01/07/08 05:50 Received: 01/07/08 17:30

Surrogate: 4-Bromofluorobenzene 96 % 55-130 8A21014 01/21/08 01/21/08 EPA 8260B/LUFT GC/MS

**02111WEFF (MRA0310-05) Water** Sampled: 01/07/08 05:47 Received: 01/07/08 17:30

Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8A09008	01/09/08	01/09/08	EPA 8260B/LUFT GC/MS	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	"
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"

Surrogate: Dibromofluoromethane 96 % 75-130 "

Surrogate: 1,2-Dichloroethane-d4 109 % 60-150 "

Surrogate: Toluene-d8 95 % 75-120 "

Surrogate: 4-Bromofluorobenzene 92 % 55-130 "

**02111MW2WINF (MRA0310-06) Water** Sampled: 01/07/08 06:12 Received: 01/07/08 17:30

Gasoline Range Organics (C4-C12)	5700	500	ug/l	10	8A10011	01/10/08	01/10/08	EPA 8260B/LUFT GC/MS	
tert-Amyl methyl ether	13	5.0	"	"	"	"	"	"	"
Benzene	110	5.0	"	"	"	"	"	"	"
tert-Butyl alcohol	4100	200	"	"	"	"	"	"	"
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	"
Ethylbenzene	120	5.0	"	"	"	"	"	"	"
Methyl tert-butyl ether	1800	5.0	"	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"	"
Xylenes (total)	88	5.0	"	"	"	"	"	"	"

Surrogate: Dibromofluoromethane 98 % 75-130 "

Surrogate: 1,2-Dichloroethane-d4 87 % 60-150 "

Surrogate: Toluene-d8 104 % 75-120 "

Surrogate: 4-Bromofluorobenzene 102 % 55-130 "

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A09008 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Blank (8A09008-BLK1)</b>	Prepared & Analyzed: 01/09/08								
Gasoline Range Organics (C4-C12)	ND	50	ug/l						
tert-Amyl methyl ether	ND	0.50	"						
Benzene	ND	0.50	"						
tert-Butyl alcohol	ND	20	"						
Di-isopropyl ether	ND	0.50	"						
Ethyl tert-butyl ether	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Methyl tert-butyl ether	ND	0.50	"						
Toluene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
<i>Surrogate: Dibromofluoromethane</i>	2.37		"	2.50		95	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.71		"	2.50		108	60-150		
<i>Surrogate: Toluene-d8</i>	2.39		"	2.50		96	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.25		"	2.50		90	55-130		

<b>Laboratory Control Sample (8A09008-BS1)</b>	Prepared & Analyzed: 01/09/08								
tert-Amyl methyl ether	11.9	0.50	ug/l	10.0		119	75-125		
Benzene	10.1	0.50	"	10.0		101	75-120		
tert-Butyl alcohol	201	20	"	200		101	80-120		
Di-isopropyl ether	11.1	0.50	"	10.0		111	70-130		
Ethyl tert-butyl ether	10.8	0.50	"	10.0		108	75-130		
Ethylbenzene	11.0	0.50	"	10.0		110	80-125		
Methyl tert-butyl ether	10.7	0.50	"	10.0		107	80-130		
Toluene	10.3	0.50	"	10.0		103	80-120		
Xylenes (total)	34.2	0.50	"	30.0		114	80-125		
<i>Surrogate: Dibromofluoromethane</i>	2.52		"	2.50		101	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.56		"	2.50		102	60-150		
<i>Surrogate: Toluene-d8</i>	2.55		"	2.50		102	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.66		"	2.50		106	55-130		

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A09008 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Laboratory Control Sample (8A09008-BS2)						Prepared & Analyzed: 01/09/08				
Gasoline Range Organics (C4-C12)	513	50	ug/l	500		103	55-130			
<i>Surrogate: Dibromofluoromethane</i>	2.37		"	2.50		95	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.65		"	2.50		106	60-150			
<i>Surrogate: Toluene-d8</i>	2.63		"	2.50		105	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.64		"	2.50		106	55-130			
Laboratory Control Sample Dup (8A09008-BSD2)						Prepared & Analyzed: 01/09/08				
Gasoline Range Organics (C4-C12)	505	50	ug/l	500		101	55-130	2	20	
<i>Surrogate: Dibromofluoromethane</i>	2.41		"	2.50		96	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.61		"	2.50		104	60-150			
<i>Surrogate: Toluene-d8</i>	2.61		"	2.50		104	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.65		"	2.50		106	55-130			
Matrix Spike (8A09008-MS1)						Prepared & Analyzed: 01/09/08				
Gasoline Range Organics (C4-C12)	654	50	ug/l	550	ND	119	25-150			BZ
tert-Amyl methyl ether	11.1	0.50	"	10.0	ND	111	75-140			
Benzene	10.2	0.50	"	10.0	ND	102	80-120			
tert-Butyl alcohol	200	20	"	200	ND	100	80-125			
Di-isopropyl ether	11.1	0.50	"	10.0	ND	111	75-135			
Ethyl tert-butyl ether	10.8	0.50	"	10.0	ND	108	80-135			
Ethylbenzene	11.4	0.50	"	10.0	ND	114	75-130			
Methyl tert-butyl ether	10.6	0.50	"	10.0	ND	106	75-145			
Toluene	10.3	0.50	"	10.0	ND	103	80-125			
Xylenes (total)	35.6	0.50	"	30.0	ND	119	75-125			
<i>Surrogate: Dibromofluoromethane</i>	2.49		"	2.50		100	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.56		"	2.50		102	60-150			
<i>Surrogate: Toluene-d8</i>	2.48		"	2.50		99	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.71		"	2.50		108	55-130			

Stratus Environmental Inc. [Arco]  
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### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A09008 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Matrix Spike Dup (8A09008-MSD1)	Source: MRA0285-04	Prepared & Analyzed: 01/09/08							BZ	
Gasoline Range Organics (C4-C12)	531	50	ug/l	550	ND	97	25-150	21	20	BA
tert-Amyl methyl ether	11.2	0.50	"	10.0	ND	112	75-140	0.2	25	
Benzene	10.3	0.50	"	10.0	ND	103	80-120	1	20	
tert-Butyl alcohol	201	20	"	200	ND	100	80-125	0.3	25	
Di-isopropyl ether	11.1	0.50	"	10.0	ND	111	75-135	0.3	25	
Ethyl tert-butyl ether	10.9	0.50	"	10.0	ND	109	80-135	0.8	25	
Ethylbenzene	10.9	0.50	"	10.0	ND	109	75-130	5	20	
Methyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	75-145	1	25	
Toluene	10.4	0.50	"	10.0	ND	104	80-125	0.7	25	
Xylenes (total)	33.9	0.50	"	30.0	ND	113	75-125	5	20	
<i>Surrogate: Dibromoformomethane</i>	2.45		"	2.50		98	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.57		"	2.50		103	60-150			
<i>Surrogate: Toluene-d8</i>	2.49		"	2.50		100	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.55		"	2.50		102	55-130			

#### Batch 8A09017 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Blank (8A09017-BLK1)	Prepared & Analyzed: 01/09/08								
Gasoline Range Organics (C4-C12)	ND	50	ug/l						
tert-Amyl methyl ether	ND	0.50	"						
Benzene	ND	0.50	"						
tert-Butyl alcohol	ND	20	"						
Di-isopropyl ether	ND	0.50	"						
Ethyl tert-butyl ether	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Methyl tert-butyl ether	ND	0.50	"						
Toluene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
<i>Surrogate: Dibromoformomethane</i>	2.35		"	2.50		94	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.66		"	2.50		106	60-150		
<i>Surrogate: Toluene-d8</i>	2.36		"	2.50		94	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.28		"	2.50		91	55-130		

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**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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**Batch 8A09017 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Laboratory Control Sample (8A09017-BS1)							Prepared & Analyzed: 01/09/08			
tert-Amyl methyl ether	10.3	0.50	ug/l	10.0		103	75-125			
Benzene	9.47	0.50	"	10.0		95	75-120			
tert-Butyl alcohol	179	20	"	200		90	80-120			
Di-isopropyl ether	10.3	0.50	"	10.0		103	70-130			
Ethyl tert-butyl ether	10.0	0.50	"	10.0		100	75-130			
Ethylbenzene	10.8	0.50	"	10.0		108	80-125			
Methyl tert-butyl ether	9.83	0.50	"	10.0		98	80-130			
Toluene	9.53	0.50	"	10.0		95	80-120			
Xylenes (total)	33.3	0.50	"	30.0		111	80-125			
<i>Surrogate: Dibromofluoromethane</i>	2.47		"	2.50		99	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.59		"	2.50		104	60-150			
<i>Surrogate: Toluene-d8</i>	2.50		"	2.50		100	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.74		"	2.50		110	55-130			

Laboratory Control Sample (8A09017-BS2)							Prepared & Analyzed: 01/09/08			
Gasoline Range Organics (C4-C12)	439	50	ug/l	500		88	55-130			
<i>Surrogate: Dibromofluoromethane</i>	2.41		"	2.50		96	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.63		"	2.50		105	60-150			
<i>Surrogate: Toluene-d8</i>	2.61		"	2.50		104	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50		107	55-130			

Laboratory Control Sample Dup (8A09017-BSD2)							Prepared & Analyzed: 01/09/08			
Gasoline Range Organics (C4-C12)	450	50	ug/l	500		90	55-130	2	20	
<i>Surrogate: Dibromofluoromethane</i>	2.37		"	2.50		95	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.61		"	2.50		104	60-150			
<i>Surrogate: Toluene-d8</i>	2.56		"	2.50		102	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50		107	55-130			

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**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A09017 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Matrix Spike (8A09017-MS1)	Source: MRA0310-01	Prepared & Analyzed: 01/09/08							
Gasoline Range Organics (C4-C12)	1730	50	ug/l	550	1220	93	25-150		
tert-Amyl methyl ether	23.2	0.50	"	10.0	11.2	120	75-140		
Benzene	24.5	0.50	"	10.0	15.2	93	80-120		
tert-Butyl alcohol	3010	20	"	200	2780	117	80-125		BB
Di-isopropyl ether	11.5	0.50	"	10.0	ND	115	75-135		
Ethyl tert-butyl ether	11.3	0.50	"	10.0	ND	113	80-135		
Ethylbenzene	28.8	0.50	"	10.0	18.7	101	75-130		
Methyl tert-butyl ether	939	0.50	"	10.0	917	217	75-145		BB, EY
Toluene	23.0	0.50	"	10.0	13.4	96	80-125		
Xylenes (total)	62.2	0.50	"	30.0	29.2	110	75-125		
<i>Surrogate: Dibromofluoromethane</i>	2.56		"	2.50		102	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.63		"	2.50		105	60-150		
<i>Surrogate: Toluene-d8</i>	2.50		"	2.50		100	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.73		"	2.50		109	55-130		
Matrix Spike Dup (8A09017-MSD1)	Source: MRA0310-01	Prepared & Analyzed: 01/09/08							
Gasoline Range Organics (C4-C12)	1950	50	ug/l	550	1220	133	25-150	12	20
tert-Amyl methyl ether	25.6	0.50	"	10.0	11.2	144	75-140	10	25
Benzene	26.1	0.50	"	10.0	15.2	109	80-120	6	20
tert-Butyl alcohol	3230	20	"	200	2780	224	80-125	7	25
Di-isopropyl ether	12.4	0.50	"	10.0	ND	124	75-135	8	25
Ethyl tert-butyl ether	12.3	0.50	"	10.0	ND	123	80-135	9	25
Ethylbenzene	29.3	0.50	"	10.0	18.7	106	75-130	2	20
Methyl tert-butyl ether	997	0.50	"	10.0	917	796	75-145	6	25
Toluene	24.6	0.50	"	10.0	13.4	112	80-125	7	25
Xylenes (total)	63.0	0.50	"	30.0	29.2	113	75-125	1	20
<i>Surrogate: Dibromofluoromethane</i>	2.54		"	2.50		102	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.68		"	2.50		107	60-150		
<i>Surrogate: Toluene-d8</i>	2.55		"	2.50		102	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50		107	55-130		

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**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A10011 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Blank (8A10011-BLK1)</b>	Prepared & Analyzed: 01/10/08					
Gasoline Range Organics (C4-C12)	ND	50	ug/l			
tert-Amyl methyl ether	ND	0.50	"			
Benzene	ND	0.50	"			
tert-Butyl alcohol	ND	20	"			
Di-isopropyl ether	ND	0.50	"			
Ethyl tert-butyl ether	ND	0.50	"			
Ethylbenzene	ND	0.50	"			
Methyl tert-butyl ether	ND	0.50	"			
Toluene	ND	0.50	"			
Xylenes (total)	ND	0.50	"			
<i>Surrogate: Dibromofluoromethane</i>	2.38		"	2.50	95	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.18		"	2.50	87	60-150
<i>Surrogate: Toluene-d8</i>	2.48		"	2.50	99	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.29		"	2.50	92	55-130

<b>Laboratory Control Sample (8A10011-BS1)</b>	Prepared & Analyzed: 01/10/08					
tert-Amyl methyl ether	11.2	0.50	ug/l	10.0	112	75-125
Benzene	10.8	0.50	"	10.0	108	75-120
tert-Butyl alcohol	199	20	"	200	100	80-120
Di-isopropyl ether	10.3	0.50	"	10.0	103	70-130
Ethyl tert-butyl ether	10.3	0.50	"	10.0	103	75-130
Ethylbenzene	10.6	0.50	"	10.0	106	80-125
Methyl tert-butyl ether	10.5	0.50	"	10.0	105	80-130
Toluene	11.2	0.50	"	10.0	112	80-120
Xylenes (total)	34.6	0.50	"	30.0	116	80-125
<i>Surrogate: Dibromofluoromethane</i>	2.43		"	2.50	97	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.17		"	2.50	87	60-150
<i>Surrogate: Toluene-d8</i>	2.63		"	2.50	105	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.53		"	2.50	101	55-130

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### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A10011 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

<b>Laboratory Control Sample (8A10011-BS2)</b>						Prepared & Analyzed: 01/10/08				
Gasoline Range Organics (C4-C12)	411	50	ug/l	500		82	55-130			
<i>Surrogate: Dibromofluoromethane</i>	2.29		"	2.50		92	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.26		"	2.50		90	60-150			
<i>Surrogate: Toluene-d8</i>	2.63		"	2.50		105	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.55		"	2.50		102	55-130			
<b>Laboratory Control Sample Dup (8A10011-BSD2)</b>						Prepared & Analyzed: 01/10/08				
Gasoline Range Organics (C4-C12)	403	50	ug/l	500		81	55-130	2	20	
<i>Surrogate: Dibromofluoromethane</i>	2.30		"	2.50		92	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.01		"	2.50		80	60-150			
<i>Surrogate: Toluene-d8</i>	2.62		"	2.50		105	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.48		"	2.50		99	55-130			
<b>Matrix Spike (8A10011-MS1)</b>						Prepared & Analyzed: 01/10/08				
Gasoline Range Organics (C4-C12)	586	50	ug/l	550	ND	106	25-150			
tert-Amyl methyl ether	11.8	0.50	"	10.0	ND	118	75-140			
Benzene	11.2	0.50	"	10.0	ND	112	80-120			
tert-Butyl alcohol	205	20	"	200	4.52	100	80-125			
Di-isopropyl ether	10.8	0.50	"	10.0	ND	108	75-135			
Ethyl tert-butyl ether	11.0	0.50	"	10.0	ND	110	80-135			
Ethylbenzene	10.9	0.50	"	10.0	ND	109	75-130			
Methyl tert-butyl ether	12.9	0.50	"	10.0	2.07	108	75-145			
Toluene	11.4	0.50	"	10.0	ND	114	80-125			
Xylenes (total)	35.2	0.50	"	30.0	ND	117	75-125			
<i>Surrogate: Dibromofluoromethane</i>	2.33		"	2.50		93	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.04		"	2.50		82	60-150			
<i>Surrogate: Toluene-d8</i>	2.61		"	2.50		104	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.58		"	2.50		103	55-130			

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### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A10011 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Matrix Spike Dup (8A10011-MSD1)	Source: MRA0311-05	Prepared & Analyzed: 01/10/08							
Gasoline Range Organics (C4-C12)	525	50	ug/l	550	ND	95	25-150	11	20
tert-Amyl methyl ether	11.6	0.50	"	10.0	ND	116	75-140	1	25
Benzene	11.2	0.50	"	10.0	ND	112	80-120	0.4	20
tert-Butyl alcohol	199	20	"	200	4.52	97	80-125	3	25
Di-isopropyl ether	10.5	0.50	"	10.0	ND	105	75-135	3	25
Ethyl tert-butyl ether	10.7	0.50	"	10.0	ND	107	80-135	2	25
Ethylbenzene	10.7	0.50	"	10.0	ND	107	75-130	2	20
Methyl tert-butyl ether	12.7	0.50	"	10.0	2.07	107	75-145	1	25
Toluene	11.4	0.50	"	10.0	ND	114	80-125	0.3	25
Xylenes (total)	34.8	0.50	"	30.0	ND	116	75-125	1	20
<i>Surrogate: Dibromoformethane</i>	2.38		"	2.50		95	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.07		"	2.50		83	60-150		
<i>Surrogate: Toluene-d8</i>	2.62		"	2.50		105	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.55		"	2.50		102	55-130		

#### Batch 8A10021 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Blank (8A10021-BLK1)	Prepared & Analyzed: 01/10/08								
Gasoline Range Organics (C4-C12)	ND	50	ug/l						
tert-Amyl methyl ether	ND	0.50	"						
Benzene	ND	0.50	"						
tert-Butyl alcohol	ND	20	"						
Di-isopropyl ether	ND	0.50	"						
Ethyl tert-butyl ether	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Methyl tert-butyl ether	ND	0.50	"						
Toluene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
<i>Surrogate: Dibromoformethane</i>	2.56		"	2.50		102	75-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.52		"	2.50		101	60-150		
<i>Surrogate: Toluene-d8</i>	2.71		"	2.50		108	75-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.57		"	2.50		103	55-130		

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**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A10021 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Laboratory Control Sample (8A10021-BS1)		Prepared & Analyzed: 01/10/08					
tert-Amyl methyl ether	11.2	0.50	ug/l	10.0	112	75-125	
Benzene	10.3	0.50	"	10.0	103	75-120	
tert-Butyl alcohol	199	20	"	200	99	80-120	
Di-isopropyl ether	9.62	0.50	"	10.0	96	70-130	
Ethyl tert-butyl ether	10.8	0.50	"	10.0	108	75-130	
Ethylbenzene	11.0	0.50	"	10.0	110	80-125	
Methyl tert-butyl ether	11.1	0.50	"	10.0	111	80-130	
Toluene	11.2	0.50	"	10.0	112	80-120	
Xylenes (total)	34.0	0.50	"	30.0	113	80-125	
<i>Surrogate: Dibromoformmethane</i>	2.61		"	2.50	104	75-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.52		"	2.50	101	60-150	
<i>Surrogate: Toluene-d8</i>	2.75		"	2.50	110	75-120	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.65		"	2.50	106	55-130	

Laboratory Control Sample (8A10021-BS2)		Prepared & Analyzed: 01/10/08					
Gasoline Range Organics (C4-C12)	433	50	ug/l	500	87	55-130	
<i>Surrogate: Dibromoformmethane</i>	2.59		"	2.50	104	75-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.57		"	2.50	103	60-150	
<i>Surrogate: Toluene-d8</i>	2.80		"	2.50	112	75-120	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.79		"	2.50	112	55-130	

Laboratory Control Sample Dup (8A10021-BSD2)		Prepared & Analyzed: 01/10/08					
Gasoline Range Organics (C4-C12)	427	50	ug/l	500	85	55-130	1 20
<i>Surrogate: Dibromoformmethane</i>	2.52		"	2.50	101	75-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.53		"	2.50	101	60-150	
<i>Surrogate: Toluene-d8</i>	2.81		"	2.50	112	75-120	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.72		"	2.50	109	55-130	

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A10021 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Matrix Spike (8A10021-MS1)	Source: MRA0306-07	Prepared & Analyzed: 01/10/08							
Gasoline Range Organics (C4-C12)	10600	500	ug/l	5500	2620	144	25-150		
tert-Amyl methyl ether	131	5.0	"	100	ND	131	75-140		
Benzene	1140	5.0	"	100	1000	133	80-120		BB, EY
tert-Butyl alcohol	2260	200	"	2000	ND	113	80-125		
Di-isopropyl ether	115	5.0	"	100	ND	115	75-135		
Ethyl tert-butyl ether	128	5.0	"	100	ND	128	80-135		
Ethylbenzene	371	5.0	"	100	229	142	75-130		LM,AY
Methyl tert-butyl ether	140	5.0	"	100	8.90	131	75-145		
Toluene	143	5.0	"	100	17.1	126	80-125		LM,AY
Xylenes (total)	452	5.0	"	300	67.6	128	75-125		LM,AY
Surrogate: Dibromo/fluoromethane	2.60		"	2.50		104	75-130		
Surrogate: 1,2-Dichloroethane-d4	2.63		"	2.50		105	60-150		
Surrogate: Toluene-d8	2.79		"	2.50		112	75-120		
Surrogate: 4-Bromo/fluorobenzene	2.69		"	2.50		108	55-130		
Matrix Spike Dup (8A10021-MSD1)	Source: MRA0306-07	Prepared & Analyzed: 01/10/08							
Gasoline Range Organics (C4-C12)	8560	500	ug/l	5500	2620	108	25-150	21	20 BA
tert-Amyl methyl ether	114	5.0	"	100	ND	114	75-140	14	25
Benzene	1130	5.0	"	100	1000	127	80-120	0.5	20 BB, EY
tert-Butyl alcohol	1900	200	"	2000	ND	95	80-125	17	25
Di-isopropyl ether	98.0	5.0	"	100	ND	98	75-135	16	25
Ethyl tert-butyl ether	112	5.0	"	100	ND	112	80-135	13	25
Ethylbenzene	345	5.0	"	100	229	116	75-130	7	20
Methyl tert-butyl ether	121	5.0	"	100	8.90	112	75-145	15	25
Toluene	125	5.0	"	100	17.1	108	80-125	14	25
Xylenes (total)	398	5.0	"	300	67.6	110	75-125	13	20
Surrogate: Dibromo/fluoromethane	2.65		"	2.50		106	75-130		
Surrogate: 1,2-Dichloroethane-d4	2.62		"	2.50		105	60-150		
Surrogate: Toluene-d8	2.75		"	2.50		110	75-120		
Surrogate: 4-Bromo/fluorobenzene	2.57		"	2.50		103	55-130		

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MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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**Batch 8A21014 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Blank (8A21014-BLK1)</b>	Prepared & Analyzed: 01/21/08					
Gasoline Range Organics (C4-C12)	ND	50	ug/l			
tert-Amyl methyl ether	ND	0.50	"			
Benzene	ND	0.50	"			
tert-Butyl alcohol	ND	20	"			
Di-isopropyl ether	ND	0.50	"			
Ethyl tert-butyl ether	ND	0.50	"			
Ethylbenzene	ND	0.50	"			
Methyl tert-butyl ether	ND	0.50	"			
Toluene	ND	0.50	"			
Xylenes (total)	ND	0.50	"			
<i>Surrogate: Dibromofluoromethane</i>	2.54		"	2.50	102	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.62		"	2.50	105	60-150
<i>Surrogate: Toluene-d8</i>	2.66		"	2.50	106	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.47		"	2.50	99	55-130

<b>Laboratory Control Sample (8A21014-BS1)</b>	Prepared & Analyzed: 01/21/08					
tert-Amyl methyl ether	9.56	0.50	ug/l	10.0	96	75-125
Benzene	9.67	0.50	"	10.0	97	75-120
tert-Butyl alcohol	188	20	"	200	94	80-120
Di-isopropyl ether	8.88	0.50	"	10.0	89	70-130
Ethyl tert-butyl ether	9.45	0.50	"	10.0	94	75-130
Ethylbenzene	10.4	0.50	"	10.0	104	80-125
Methyl tert-butyl ether	9.46	0.50	"	10.0	95	80-130
Toluene	10.4	0.50	"	10.0	104	80-120
Xylenes (total)	31.4	0.50	"	30.0	105	80-125
<i>Surrogate: Dibromofluoromethane</i>	2.48		"	2.50	99	75-130
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.29		"	2.50	92	60-150
<i>Surrogate: Toluene-d8</i>	2.72		"	2.50	109	75-120
<i>Surrogate: 4-Bromofluorobenzene</i>	2.49		"	2.50	100	55-130

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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**Batch 8A21014 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

<b>Laboratory Control Sample (8A21014-BS2)</b>		Prepared & Analyzed: 01/21/08							
Gasoline Range Organics (C4-C12)	439	50	ug/l	500	88	55-130			
<i>Surrogate: Dibromofluoromethane</i>	2.55		"	2.50	102	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.40		"	2.50	96	60-150			
<i>Surrogate: Toluene-d8</i>	2.74		"	2.50	110	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.68		"	2.50	107	55-130			
<b>Laboratory Control Sample Dup (8A21014-BSD2)</b>		Prepared & Analyzed: 01/21/08							
Gasoline Range Organics (C4-C12)	435	50	ug/l	500	87	55-130	0.9	20	
<i>Surrogate: Dibromofluoromethane</i>	2.42		"	2.50	97	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.29		"	2.50	92	60-150			
<i>Surrogate: Toluene-d8</i>	2.65		"	2.50	106	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.60		"	2.50	104	55-130			
<b>Matrix Spike (8A21014-MS1)</b>	<b>Source: MRA0686-01</b>		Prepared & Analyzed: 01/21/08						
Gasoline Range Organics (C4-C12)	814	50	ug/l	550	219	108	25-150		
tert-Amyl methyl ether	9.86	0.50	"	10.0	ND	99	75-140		
Benzene	10.8	0.50	"	10.0	1.18	96	80-120		
tert-Butyl alcohol	471	20	"	200	278	97	80-125		
Di-isopropyl ether	9.25	0.50	"	10.0	0.210	90	75-135		
Ethyl tert-butyl ether	9.64	0.50	"	10.0	ND	96	80-135		
Ethylbenzene	10.1	0.50	"	10.0	ND	101	75-130		
Methyl tert-butyl ether	60.5	0.50	"	10.0	61.1	0	75-145		BB
Toluene	10.2	0.50	"	10.0	ND	102	80-125		
Xylenes (total)	30.9	0.50	"	30.0	0.500	101	75-125		
<i>Surrogate: Dibromofluoromethane</i>	2.48		"	2.50	99	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.48		"	2.50	99	60-150			
<i>Surrogate: Toluene-d8</i>	2.79		"	2.50	112	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.51		"	2.50	100	55-130			

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8A21014 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Matrix Spike Dup (8A21014-MSD1)	Source: MRA0686-01		Prepared & Analyzed: 01/21/08							
Gasoline Range Organics (C4-C12)	770	50	ug/l	550	219	100	25-150	5	20	
tert-Amyl methyl ether	11.4	0.50	"	10.0	ND	114	75-140	14	25	
Benzene	11.1	0.50	"	10.0	1.18	100	80-120	3	20	
tert-Butyl alcohol	468	20	"	200	278	95	80-125	0.7	25	
Di-isopropyl ether	9.92	0.50	"	10.0	0.210	97	75-135	7	25	
Ethyl tert-butyl ether	11.0	0.50	"	10.0	ND	110	80-135	13	25	
Ethylbenzene	10.1	0.50	"	10.0	ND	101	75-130	0.2	20	
Methyl tert-butyl ether	66.2	0.50	"	10.0	61.1	52	75-145	9	25	BB
Toluene	10.8	0.50	"	10.0	ND	108	80-125	5	25	
Xylenes (total)	30.4	0.50	"	30.0	0.500	100	75-125	2	20	
<i>Surrogate: Dibromofluoromethane</i>	2.56		"	2.50		102	75-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.74		"	2.50		110	60-150			
<i>Surrogate: Toluene-d8</i>	2.71		"	2.50		108	75-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.55		"	2.50		102	55-130			

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0310  
Reported:  
01/22/08 14:13

### Notes and Definitions

PV	Hydrocarbon result partly due to individ. peak(s) in quant. range
LM,AY	MS and/or MSD above acceptance limits. See Blank Spike(LCS). Matrix interference suspected.
EY	Result exceeds normal dynamic range; reported as a min. est.
BZ	Sample preserved improperly
BB	Sample > 4x spike concentration
BA	Relative percent difference out of control
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



## Chain of Custody Record

RUSH

Project Name: ARCO Facility No. 2111

BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > Alameda

State or Lead Regulatory Agency: California Regional Water Quality Control Board

Requested Due Date (mm/dd/yy): 24 hours for Effluent  
& STD for others

On-site Time:	0500	Temp:	45
Off-site Time:	1700	Temp:	47
Sky Conditions:			
Meteorological Events:			
Wind Speed:			Direction:

Lab Name: TestAmerica	BP/AR Facility No.: 2111	Consultant/Contractor: Stratus Environmental, Inc.
Address: 885 Jarvis Drive	BP/AR Facility Address: 1156 Davis St, San Leandro	Address: 3330 Cameron Park Drive, Suite 550
Morgan Hill, CA 95037	Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Lisa Race	California Global ID No.: T0600101764	Consultant/Contractor Project No.: E2111-03
Tele/Fax: 408-782-8156/408-782-6308	Enfos Project No.: G0C28-0023	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple	Provision or OOC (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150	Phase/WBS: 03-O&M	Report Type & QC Level: Level 1 with EDF
San Ramon, CA	Sub Phase/Task: 03-Analytical	E-mail EDD To: shayes@stratusinc.net
Tele/Fax: 925-275-3506/925-275-3815	Cost Element: Subcontractor Cost	Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis	Turnaround Time	Sample Point Lat/Long and Comments	
		Time	Date	Soil/Solid	Water/Liquid	Air	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol				
1	02111DPWINF	0600	1700	x		-01	3		x			x	x	x	
2	02111ASWINF	1558		x		-02	3		x			x	x	x	
3	02111ASWEFF	1554		x		-03	3		x			x	x	x	
4	02111WGAC1	0550		x		-04	3		x			x	x	x	
5	02111WEFF	0547		x		-05	3		x			x	x	x	x
6	02111MW2WINF	0612	1738	x		-06	3		x			x	x	x	x
7															
8															
9															
10	TBZ1111208	0630	1708			-07	2								Hold

Sampler's Name:	Chris Helli	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Stratus Environmental, Inc.	Chris Helli Stratus	1709	0940	Chris Helli	1708	0945
Shipment Date:	1-7-08		1/26	1045	Ed MacFarley	1-7-08	1130
Shipment Method:	Stratus						
Shipment Tracking No.:							

Please cc results to bpedf@broadbentinc.com

Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: ARCO 2111  
 REC. BY (PRINT) DV  
 WORKORDER: MRA 0310

DATE REC'D AT LAB: 1/17/08  
 TIME REC'D AT LAB: 1730  
 DATE LOGGED IN: 1/8/08

For Regulatory Purposes?  
 DRINKING WATER  
 WASTE WATER  
 OTHER

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / <u>Absent</u>							
	Intact / Broken*							
2. Chain-of-Custody	Present / <u>Absent*</u>							
3. Traffic Reports or Packing List:	Present / <u>Absent</u>							
4. Airbill:	Airbill / Sticker							
	Present / <u>Absent</u>							
5. Airbill #:								
6. Sample Labels:	Present / <u>Absent</u>							
7. Sample IDs:	Listed / Not Listed							
	on Chain-of-Custody							
8. Sample Condition:	Intact / Broken* / Leaking*							
9. Does information on chain-of-custody, traffic reports and sample labels agree?	Yes / <u>No*</u>							
10. Sample received within hold time?	Yes / <u>No*</u>							
11. Adequate sample volume received?	Yes / <u>No*</u>							
12. Proper preservatives used?	Yes / <u>No*</u>							
13. Trip Blank / Temp Blank Received? (circle which, if yes)	Yes / <u>No*</u>							
14. Read Temp:	<u>4.3</u>							
Correction Factor:	<u>-1.0</u>							
Corrected Temp:	<u>3.3</u>							
Is corrected temp. 0-6°C?	Yes / <u>No**</u>							
**Exception (if any): Metals / Perchlorate DFF on Ice or Problem COC								

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

9 January, 2008

Jay Johnson  
Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park, CA 95682

RE: ARCO #2111, San Leandro, CA  
Work Order: MRA0321

Enclosed are the results of analyses for samples received by the laboratory on 01/07/08 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Race  
Senior Project Manager

CA ELAP Certificate # 2682

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
02111DPEAINF	MRA0321-01	Vapor	01/07/08 06:45	01/07/08 17:30
02111ASAEFF	MRA0321-02	Vapor	01/07/08 06:50	01/07/08 17:30
02111ASYSINF	MRA0321-03	Vapor	01/07/08 06:40	01/07/08 17:30
02111AGAC1	MRA0321-04	Vapor	01/07/08 06:32	01/07/08 17:30
02111AEFF	MRA0321-05	Vapor	01/07/08 06:30	01/07/08 17:30

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with no custody seals.

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

### Volatiles Organic Compounds by 8260B/LUFT GC/MS

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111DPEAINF (MRA0321-01) Vapor      Sampled: 01/07/08 06:45      Received: 01/07/08 17:30</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>1700</b>	50	mg/m <sup>3</sup> Air	1	8A08003	01/08/08	01/08/08 13:37	EPA 8260B/LUFT GC/MS	
<b>Methyl tert-butyl ether</b>	<b>120</b>	0.50	"	"	"	"	"	"	"
Benzene	7.6	0.50	"	"	"	"	"	"	"
Toluene	5.9	0.50	"	"	"	"	"	"	"
Ethylbenzene	15	0.50	"	"	"	"	"	"	"
Xylenes (total)	19	0.50	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>60-150</i>		"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>119 %</i>	<i>55-130</i>		"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>	<i>75-130</i>		"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	<i>107 %</i>	<i>75-120</i>		"	"	"	"	"	"
<b>Gasoline Range Organics (C4-C12)</b>	<b>490</b>	14	ppmv	"	"	"	"	"	"
Benzene	2.4	0.16	"	"	"	"	"	"	"
Ethylbenzene	3.4	0.12	"	"	"	"	"	"	"
Methyl tert-butyl ether	32	0.14	"	"	"	"	"	"	"
Toluene	1.6	0.13	"	"	"	"	"	"	"
Xylenes (total)	4.5	0.12	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>60-150</i>		"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>119 %</i>	<i>55-130</i>		"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>	<i>75-130</i>		"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	<i>107 %</i>	<i>75-120</i>		"	"	"	"	"	"
<b>02111ASAEFF (MRA0321-02) Vapor      Sampled: 01/07/08 06:50      Received: 01/07/08 17:30</b>									
<b>Gasoline Range Organics (C4-C12)</b>	<b>ND</b>	50	mg/m <sup>3</sup> Air	1	8A08003	01/08/08	01/08/08 12:04	EPA 8260B/LUFT GC/MS	
<b>Methyl tert-butyl ether</b>	<b>14</b>	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>115 %</i>	<i>60-150</i>		"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>99 %</i>	<i>55-130</i>		"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	<i>104 %</i>	<i>75-130</i>		"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	<i>97 %</i>	<i>75-120</i>		"	"	"	"	"	"
<b>Gasoline Range Organics (C4-C12)</b>	<b>ND</b>	14	ppmv	"	"	"	"	"	"
Benzene	ND	0.16	"	"	"	"	"	"	"
Ethylbenzene	ND	0.12	"	"	"	"	"	"	"
Methyl tert-butyl ether	<b>3.9</b>	0.14	"	"	"	"	"	"	"

TestAmerica Morgan Hill

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Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

### Volatiles Organic Compounds by 8260B/LUFT GC/MS

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111ASAEFF (MRA0321-02) Vapor      Sampled: 01/07/08 06:50      Received: 01/07/08 17:30</b>									
Toluene	ND	0.13	ppmv	1	8A08003	01/08/08	01/08/08 12:04	EPA 8260B/LUFT GC/MS	
Xylenes (total)	ND	0.12	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		115 %	60-150	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		99 %	55-130	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		104 %	75-130	"	"	"	"	"	"
Surrogate: Toluene-d8		97 %	75-120	"	"	"	"	"	"
<b>02111ASYSINF (MRA0321-03) Vapor      Sampled: 01/07/08 06:40      Received: 01/07/08 17:30</b>									
Gasoline Range Organics (C4-C12)	410	50	mg/m <sup>3</sup> Air	1	8A08003	01/08/08	01/08/08 12:35	EPA 8260B/LUFT GC/MS	
Methyl tert-butyl ether	44	0.50	"	"	"	"	"	"	"
Benzene	2.2	0.50	"	"	"	"	"	"	"
Toluene	1.5	0.50	"	"	"	"	"	"	"
Ethylbenzene	2.9	0.50	"	"	"	"	"	"	"
Xylenes (total)	3.9	0.50	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		111 %	60-150	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		107 %	55-130	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		106 %	75-130	"	"	"	"	"	"
Surrogate: Toluene-d8		104 %	75-120	"	"	"	"	"	"
Gasoline Range Organics (C4-C12)	120	14	ppmv	"	"	"	"	"	"
Benzene	0.70	0.16	"	"	"	"	"	"	"
Ethylbenzene	0.67	0.12	"	"	"	"	"	"	"
Methyl tert-butyl ether	12	0.14	"	"	"	"	"	"	"
Toluene	0.41	0.13	"	"	"	"	"	"	"
Xylenes (total)	0.90	0.12	"	"	"	"	"	"	"
Surrogate: 1,2-Dichloroethane-d4		111 %	60-150	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		107 %	55-130	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		106 %	75-130	"	"	"	"	"	"
Surrogate: Toluene-d8		104 %	75-120	"	"	"	"	"	"

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111AGAC1 (MRA0321-04) Vapor    Sampled: 01/07/08 06:32    Received: 01/07/08 17:30</b>									
Gasoline Range Organics (C4-C12)	ND	50	mg/m <sup>3</sup> Air	1	8A08003	01/08/08	01/08/08 13:06	EPA 8260B/LUFT GC/MS	
<b>Methyl tert-butyl ether</b>	<b>5.5</b>	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %	60-150	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	55-130	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		106 %	75-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		99 %	75-120	"	"	"	"	"	"
Gasoline Range Organics (C4-C12)	ND	14	ppmv	"	"	"	"	"	"
Benzene	ND	0.16	"	"	"	"	"	"	"
Ethylbenzene	ND	0.12	"	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>1.5</b>	0.14	"	"	"	"	"	"	"
Toluene	ND	0.13	"	"	"	"	"	"	"
Xylenes (total)	ND	0.12	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %	60-150	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	55-130	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		106 %	75-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		99 %	75-120	"	"	"	"	"	"
<b>02111AEFF (MRA0321-05) Vapor    Sampled: 01/07/08 06:30    Received: 01/07/08 17:30</b>									
Gasoline Range Organics (C4-C12)	ND	50	mg/m <sup>3</sup> Air	1	8A08003	01/08/08	01/08/08 11:33	EPA 8260B/LUFT GC/MS	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	60-150	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	55-130	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		100 %	75-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98 %	75-120	"	"	"	"	"	"
Gasoline Range Organics (C4-C12)	ND	14	ppmv	"	"	"	"	"	"
Benzene	ND	0.16	"	"	"	"	"	"	"
Ethylbenzene	ND	0.12	"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	0.14	"	"	"	"	"	"	"

TestAmerica Morgan Hill

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Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

**Volatiles Organic Compounds by 8260B/LUFT GC/MS**

**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>02111AEFF (MRA0321-05) Vapor   Sampled: 01/07/08 06:30   Received: 01/07/08 17:30</b>									
Toluene	ND	0.13	ppmv	1	8A08003	01/08/08	01/08/08 11:33	EPA 8260B/LUFT GC/MS	"
Xylenes (total)	ND	0.12	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	60-150	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	55-130	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		100 %	75-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98 %	75-120	"	"	"	"	"	"

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

**Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8A08003 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS**

Blank (8A08003-BLK1)		Prepared & Analyzed: 01/08/08					
Gasoline Range Organics (C4-C12)	ND	50	mg/m <sup>3</sup> Air				
Gasoline Range Organics (C4-C12)	ND	14	ppmv				
Methyl tert-butyl ether	ND	0.50	mg/m <sup>3</sup> Air				
Benzene	ND	0.16	ppmv				
Benzene	ND	0.50	mg/m <sup>3</sup> Air				
Toluene	ND	0.50	"				
Ethylbenzene	ND	0.50	"				
Xylenes (total)	ND	0.50	"				
Ethylbenzene	ND	0.12	ppmv				
Methyl tert-butyl ether	ND	0.14	"				
Toluene	ND	0.13	"				
Xylenes (total)	ND	0.12	"				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.45		mg/m <sup>3</sup> Air	2.50	98	60-150	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.582		ppmv	0.594	98	60-150	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.44		mg/m <sup>3</sup> Air	2.50	98	55-130	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.341		ppmv	0.349	98	55-130	
<i>Surrogate: Dibromofluoromethane</i>	0.303		"	0.318	95	75-130	
<i>Surrogate: Dibromofluoromethane</i>	2.38		mg/m <sup>3</sup> Air	2.50	95	75-130	
<i>Surrogate: Toluene-d8</i>	2.48		"	2.50	99	75-120	
<i>Surrogate: Toluene-d8</i>	0.659		ppmv	0.665	99	75-120	

Laboratory Control Sample (8A08003-BS1)		Prepared & Analyzed: 01/08/08					
Methyl tert-butyl ether	9.25	0.50	mg/m <sup>3</sup> Air	10.0	92	80-130	
Benzene	3.12	0.16	ppmv	3.14	100	75-120	
Benzene	9.95	0.50	mg/m <sup>3</sup> Air	10.0	100	75-120	
Toluene	11.2	0.50	"	10.0	112	80-120	
Ethylbenzene	12.3	0.50	"	10.0	123	80-125	
Xylenes (total)	37.4	0.50	"	30.0	124	80-125	
Ethylbenzene	2.84	0.12	ppmv	2.31	123	80-125	
Methyl tert-butyl ether	2.57	0.14	"	2.78	92	80-130	
Toluene	2.98	0.13	"	2.66	112	80-120	
Xylenes (total)	8.62	0.12	"	6.92	124	80-125	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.34		mg/m <sup>3</sup> Air	2.50	94	60-150	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.556		ppmv	0.594	94	60-150	
<i>Surrogate: 4-Bromofluorobenzene</i>	2.66		mg/m <sup>3</sup> Air	2.50	106	55-130	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.372		ppmv	0.349	106	55-130	

TestAmerica Morgan Hill

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Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch 8A08003 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Laboratory Control Sample (8A08003-BS1)		Prepared & Analyzed: 01/08/08						
Surrogate: Dibromofluoromethane	2.58		mg/m <sup>3</sup> Air	2.50	103	75-130		
Surrogate: Dibromofluoromethane	0.329		ppmv	0.318	103	75-130		
Surrogate: Toluene-d8	2.55		mg/m <sup>3</sup> Air	2.50	102	75-120		
Surrogate: Toluene-d8	0.678		ppmv	0.665	102	75-120		
Laboratory Control Sample (8A08003-BS2)		Prepared & Analyzed: 01/08/08						
Gasoline Range Organics (C4-C12)	488	50	mg/m <sup>3</sup> Air	500	98	55-130		
Gasoline Range Organics (C4-C12)	138	14	ppmv	142	98	55-130		
Surrogate: 1,2-Dichloroethane-d4	2.37		mg/m <sup>3</sup> Air	2.50	95	60-150		
Surrogate: 1,2-Dichloroethane-d4	0.563		ppmv	0.594	95	60-150		
Surrogate: 4-Bromofluorobenzene	2.69		mg/m <sup>3</sup> Air	2.50	108	55-130		
Surrogate: 4-Bromofluorobenzene	0.376		ppmv	0.349	108	55-130		
Surrogate: Dibromofluoromethane	2.45		mg/m <sup>3</sup> Air	2.50	98	75-130		
Surrogate: Dibromofluoromethane	0.312		ppmv	0.318	98	75-130		
Surrogate: Toluene-d8	2.63		mg/m <sup>3</sup> Air	2.50	105	75-120		
Surrogate: Toluene-d8	0.699		ppmv	0.665	105	75-120		
Laboratory Control Sample Dup (8A08003-BSD1)		Prepared & Analyzed: 01/08/08						
Methyl tert-butyl ether	9.95	0.50	mg/m <sup>3</sup> Air	10.0	100	80-130	7	25
Benzene	3.04	0.16	ppmv	3.14	97	75-120	3	20
Benzene	9.69	0.50	mg/m <sup>3</sup> Air	10.0	97	75-120	3	20
Toluene	10.5	0.50	"	10.0	105	80-120	7	25
Ethylbenzene	11.4	0.50	"	10.0	114	80-125	8	20
Xylenes (total)	34.8	0.50	"	30.0	116	80-125	7	20
Ethylbenzene	2.63	0.12	ppmv	2.31	114	80-125	8	20
Methyl tert-butyl ether	2.77	0.14	"	2.78	100	80-130	7	25
Toluene	2.79	0.13	"	2.66	105	80-120	7	25
Xylenes (total)	8.03	0.12	"	6.92	116	80-125	7	20
Surrogate: 1,2-Dichloroethane-d4	2.47		mg/m <sup>3</sup> Air	2.50	99	60-150		
Surrogate: 1,2-Dichloroethane-d4	0.587		ppmv	0.594	99	60-150		
Surrogate: 4-Bromofluorobenzene	2.65		mg/m <sup>3</sup> Air	2.50	106	55-130		
Surrogate: 4-Bromofluorobenzene	0.370		ppmv	0.349	106	55-130		
Surrogate: Dibromofluoromethane	2.58		mg/m <sup>3</sup> Air	2.50	103	75-130		
Surrogate: Dibromofluoromethane	0.329		ppmv	0.318	103	75-130		
Surrogate: Toluene-d8	2.47		mg/m <sup>3</sup> Air	2.50	99	75-120		
Surrogate: Toluene-d8	0.657		ppmv	0.665	99	75-120		

TestAmerica Morgan Hill

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Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

### Volatiles Organic Compounds by 8260B/LUFT GC/MS - Quality Control

#### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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#### Batch 8A08003 - EPA 5030B P/T / EPA 8260B/LUFT GC/MS

Laboratory Control Sample Dup (8A08003-BSD2)				Prepared & Analyzed: 01/08/08				
Gasoline Range Organics (C4-C12)	477	50	mg/m <sup>3</sup> Air	500	95	55-130	2	20
Gasoline Range Organics (C4-C12)	135	14	ppmv	142	95	55-130	2	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.46		mg/m <sup>3</sup> Air	2.50	98	60-150		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.584		ppmv	0.594	98	60-150		
<i>Surrogate: 4-Bromofluorobenzene</i>	2.88		mg/m <sup>3</sup> Air	2.50	115	55-130		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.403		ppmv	0.349	115	55-130		
<i>Surrogate: Dibromofluoromethane</i>	2.42		mg/m <sup>3</sup> Air	2.50	97	75-130		
<i>Surrogate: Dibromofluoromethane</i>	0.308		ppmv	0.318	97	75-130		
<i>Surrogate: Toluene-d8</i>	2.64		mg/m <sup>3</sup> Air	2.50	106	75-120		
<i>Surrogate: Toluene-d8</i>	0.702		ppmv	0.665	106	75-120		

Stratus Environmental Inc. [Arco]  
3330 Cameron Park Dr., Suite 550  
Cameron Park CA, 95682

Project: ARCO #2111, San Leandro, CA  
Project Number: G0C28-0023  
Project Manager: Jay Johnson

MRA0321  
Reported:  
01/09/08 14:29

### Notes and Definitions

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



## Chain of Custody Record

RUSH

Page 1 of 1

Project Name: ARCO Facility No. 2111  
 BP BU/AR Region/Envos Segment: BP > Americas > West > Retail > Alameda  
 State or Lead Regulatory Agency: California Regional Water Quality Control Board  
 Requested Due Date (mm/dd/yy): 24 hours for Effluent  
 & STD for others

On-site Time:	0500	Temp: 45
Off-site Time:	0515	Temp: 47
Sky Conditions:		
Meteorological Events:		
Wind Speed:		
Direction:		

Lab Name: TestAmerica	BP/AR Facility No.: 2111	Consultant/Contractor: Stratus Environmental, Inc.
Address: 885 Jarvis Drive	BP/AR Facility Address: 1156 Davis St., San Leandro	Address: 3330 Cameron Park Drive, Suite 550
Morgan Hill, CA 95037	Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Lisa Racc	California Global ID No.: T0600101764	Consultant/Contractor Project No.: E2111-03
Tele/Fax: 408-782-8156/408-782-6308	Envos Project No.: G0C28-0023	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple	Provision or OOC (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150	Phase/WBS: 03-O&M	Report Type & QC Level: Level I with EDF
San Ramon, CA	Sub Phase/Task: 03-Analytical	E-mail EDD To: shayes@stratusinc.net
Tele/Fax: 925-275-3506/925-275-3815	Cost Element: Subcontractor Cost	Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Matrix		Laboratory No. <i>MRA-321</i> <i>MRA-322</i>	No. of Containers	Preservative				Requested Analysis GRO by 8015 BTEx by 8260 MTBE by 8260	Turnaround Time			Sample Point Lat/Long and Comments
		Time	Date			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl		24-hours	Standard		
1	02111DPEAINF	0645	1-7-08	x	-01	2					x	x	x	x
2	02111ASAEFF	0650	1	x	-02	2					x	x	x	x
3	02111ASYSINF	0640		x	-03	2					x	x	x	x
4	02111AGAC1	0652		x	-04	2					x	x	x	x
5	02111AEFF	0630		x	-05	2					x	x	x	x
6														
7														
8														
9														
10														

Sampler's Name:	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Stratus Environmental, Inc.	<i>Chris Hill</i>	1/7/08	0945	<i>Chayse Lee</i>	1/7/08	1015
Shipment Date: 1-7-08	<i>Chris Hill</i>	1/7/08	1015	<i>Ed Martinez</i>	1/7/08	1730
Shipment Method: <i>Stratus</i>	<i>Chayse Lee</i>			<i>Ed Martinez</i>		
Shipment Tracking No:	<i>Chayse Lee</i>			<i>Ed Martinez</i>		

Special Instructions:

Please cc results to bpedit@broadbentinc.com

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: / °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

# TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME:	APCO 2111	DATE REC'D AT LAB:	1/7/08	For Regulatory Purposes?					
REC. BY (PRINT)	DV	TIME REC'D AT LAB:	1730	<input type="checkbox"/> DRINKING WATER	<input type="checkbox"/> WASTE WATER	<input checked="" type="checkbox"/> OTHER			
WORKORDER:	MRA0321	DATE LOGGED IN:	1/8/08						
CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*								
2. Chain-of-Custody	Present / Absent*								
3. Traffic Reports or Packing List:	Present / Absent								
4. Airbill:	Airbill / Sticker Present / Absent								
5. Airbill #:									
6. Sample Labels:	Present / Absent								
7. Sample IDs:	Listed / Not Listed on Chain-of-Custody								
8. Sample Condition:	Intact / Broken* / Leaking*								
9. Does information on chain-of-custody, traffic reports and sample labels agree?	Yes / No*								
10. Sample received within hold time?	Yes / No*								
11. Adequate sample volume received?	Yes / No*								
12. Proper preservatives used?	Yes / No*								
13. Trip Blank / Temp Blank Received? (circle which, if yes)	Yes / No*								
14. Read Temp: Correction Factor: Corrected Temp: Is corrected temp. 0-6°C?	Yes / No**								
**Exception (if any): Metals / Perchlorate DFF on Ice or Problem COC	AIK								

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

March 6, 2008

Mr. Rob Miller  
Broadbent & Associates, Inc.  
2000 Kirman Avenue  
Reno, NV 89502

Re: Remediation System Operation and Maintenance Data Package, ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California.

### **General Information**

*Data Submittal Prepared / Reviewed by:* Sandy Hayes and Kiran Nagaraju / Jay Johnson

*Phone Number:* (530) 676-6007 / (530) 676-6000

*On-Site Supplier Representatives:* Chris Hill

*Number of Site Visits:* 2 (February 5 and 26, 2008)

*System Overview:* Dual Phase Extraction System, Air Stripper, and Groundwater Extraction and Treatment System (GETS).

*Operational Status:* Continuous operation

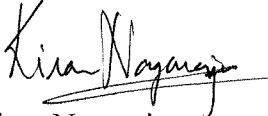
*Scope of Work Performed:* Conduct routine system operation and maintenance, and record field measurements. Influent, mid-fluent, and effluent air and water samples were collected on February 5, 2008.

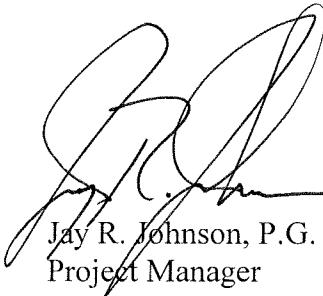
*Variations from Scope of Work:* The remediation systems were found non-functioning on February 5, 2008, due to high-water level alarm in the air stripper tank. Additionally, the transfer pump on the DPE system was found to have malfunctioned during this visit. The remediation systems were re-started momentarily on February 5, 2008 and shutdown after sampling, pending receipt of analytical results and replacement of the transfer pump. The DPE transfer pump was replaced on February 26, 2008. On the same day, Stratus oversaw Electrical Installation Contractor (electrician for Cornerstone Environmental) verify and modify the PLC program to facilitate operation of the submersible pump at well MW-2. The remediation systems were re-started on February 26, 2008.

The attachments include field data sheets, chain of custody documentation, and the certified analytical results. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations. Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

**STRATUS ENVIRONMENTAL, INC.**

  
Kiran Nagaraju  
Project Engineer

  
Jay R. Johnson, P.G.  
Project Manager

  
PROFESSIONAL GEOLOGIST  
Jay R. Johnson  
No. 5867  
STATE OF CALIFORNIA

**Attachments:**

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results

CC: Paul Supple, BP/ARCO

ARCO FACILITY NO. 2111  
1156 Davis Street  
San Leandro, California  
Dual Phase Extraction and Air Stripper System

**ORIGINAL**

Date: 2508  
Onsite Time: 0915  
Offsite Time: 0930  
Equipment Manufacturer/Model#

Technician:  
Weather Conditions:  
Ambient Temperature:

Critical  
Cloudy  
60

System Information					
System Status Upon Arrival:	Operational	<input type="checkbox"/>	Non-Operational	<input checked="" type="checkbox"/> <i>DPE BHD Tank Pump</i>	
System Status Upon Departure:	Operational	<input type="checkbox"/>	Non-Operational	<input checked="" type="checkbox"/>	
Electric Meter Reading:	<u>31652</u>				
Hour Meter Reading:	<u>15565</u>				
Totalizer Reading Prior to Air Stripper:	<u>32968</u>				
	PID Calibration Date: <u>2-4-08</u>				
Totalizer Reading After Air Stripper:	<u>660860</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		<u>25</u>			
Air Velocity, FPM		<u>3000</u>			
Pipe Diameter, inches	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	
Air Flow Rate, cfm			<u>190</u>		
Applied Vacuum, "wc	<u>1441</u>	<u>.45</u>	NA	NA	
Temperature, deg F		<u>105</u>	<u>80</u>		
PID Readings, ppmv	<u>NM</u>	<u>4</u>	<u>2</u>	<u>8</u>	PID for GAC-1: <u>i</u>

Other Readings/Measurements					
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs	
V-1	<u>NM</u>	)			
V-2	)	)			
V-3	)	)			
MW-1	)	)			
MW-3	)	)			
MW-7	)	)			

Signature: Chm

Date: 2508

**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California

 ORIGINAL

Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF	No Sample	02111AGAC1	2508 0547
02111ASAEFF	2508 0555	02111AEFF	2508 0545
02111ASYSINF	1 0852		
Analyses Required: GRO, BTEX, and MTBE			

Operation & Maintenance Notes

- 1) Pump motor on DPE Tank BHD Need ordered  
New one Volts to motor But No Run
- System left off - order New pump

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:

Chris Hart

Date: 2508

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Groundwater Treatment System

 ORIGINAL

Date: 2-5-08  
 Onsite Time: 0815  
 Offsite Time: 0930

Technician: CMH  
 Weather Conditions: Clear  
 Ambient Temperature 40

System Status Upon Arrival:  Operational  Non-operational High Temp  
 System Status At Departure:  Operational  Non-operational  
 Transfer Pump:  Operational  Non-operational

Transfer Pump Hour Meter Reading: \_\_\_\_\_

Effluent Flow Totalizer Reading: 642841

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 8

**Effluent Water Characteristics**

(Quarterly by Field Instrument)

pH: 7.7

Temperature: 61°C

Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth
MW-2		<u>4714</u>		

**Sampling Information**

Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF	<u>No Sample</u>	02111MW2WINF	<u>2-5-08 0835</u>
02111ASWINF	<u>2-5-08 0830</u>		
02111ASWEFF	<u>0827</u>		
02111WGAC1	<u>0825</u>		
02111WEFF	<u>0822</u>		

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF & EFF	EPA Method 8260B

Notes:

Signature: CMH

Date: 2-5-08

ARCO FACILITY NO. 2111  
1156 Davis Street  
San Leandro, California  
Dual Phase Extraction and Air Stripper System

Date: 2-26-08  
Onsite Time: 0600  
Offsite Time: 1100  
Equipment Manufacturer/Model#

Technician: CHILL  
Weather Conditions: CLEAR  
Ambient Temperature: 42

System Information					
System Status Upon Arrival:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>			
System Status Upon Departure:	Operational <input checked="" type="checkbox"/>	Non-Operational <input type="checkbox"/>			
Electric Meter Reading:	<u>41665</u>				
Hour Meter Reading:	<u>1557</u>				
Totalizer Reading Prior to Air Stripper:	<u>33585</u>				
	PID Calibration Date: <u>2-25-08</u>				
Totalizer Reading After Air Stripper:	<u>661470</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		<u>21</u>			
Air Velocity, FPM		<u>2555</u>			
Pipe Diameter, inches	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	
Air Flow Rate, cfm			<u>190</u>		
Applied Vacuum, "wc	<u>24</u> <sup>"Hg</sup>	<u>.34</u>	NA	NA	
Temperature, deg F		<u>120</u>			
PID Readings, ppmv	<u>65</u>	<u>8</u>	<u>24</u>	<u>82</u>	PID for GAC-1: <input checked="" type="checkbox"/>

Other Readings/Measurements					
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs	
V-1	<u>25</u>	<u>18</u>			
V-2	<u>25</u>	<u>17</u>			
V-3	<u>25</u>	<u>16</u>			
MW-1	<u>0</u>				
MW-3	<u>8</u>				
MW-7	<u>100</u>	<u>17</u>			
MW-8	<u>100</u>	<u>14</u>			

Signature: Chill

Date: 2-26-08

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Dual Phase Extraction and Air Stripper System

 ORIGINAL

Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF		02111AGAC1	
02111ASAEFF		02111AEFF	
02111ASYSINF			
Analyses Required: GRO, BTEX, and MTBE			

Operation & Maintenance Notes
1) Install New Pump on DPE Tank system up
2) Meet with Camer Store To Try and get MW2 on system will not Run In Auto-
MW-2 is on system working in Auto - But Needs To have 18' New Hose - Hole in Hose Next Visit will Replace Hose.
System up with DPE Running

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:



Date: 2/26/08

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Groundwater Treatment System

 ORIGINAL

Date: 2-26-08  
 Onsite Time: 0600  
 Offsite Time: 1100

Technician: CHILL  
 Weather Conditions: CLOUDY  
 Ambient Temperature 42

System Status Upon Arrival:  Operational  Non-operational  
 System Status At Departure:  Operational  Non-operational  
 Transfer Pump:  Operational  Non-operational

Transfer Pump Hour Meter Reading: N/A

Effluent Flow Totalizer Reading: 643443

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 8

**Effluent Water Characteristics**

(Quarterly by Field Instrument)

pH: \_\_\_\_\_

Temperature: \_\_\_\_\_

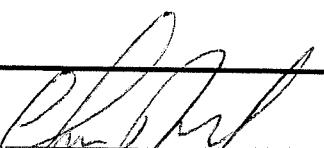
Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth	
MW-2		<u>4714</u>			

**Sampling Information**

Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF		02111MW2WINF	
02111ASWINF			
02111ASWEFF			
02111WGAC1			
02111WEFF			

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF & EFF	EPA Method 8260B

Notes:



Signature:

Date: 2-26-08



bp  
A BP affiliated company

## Chain of Custody Record

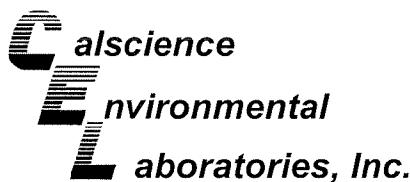
Project Name: ARCO Facility No. 2111  
 BP BU/AR Region/Enfos Segment: BP Americas West > Retail > Alameda  
 State or Lead Regulatory Agency: Alameda County Environmental Health  
 Requested Due Date (mm/dd/yy): 24 hours for Effluent  
 & STD for others

RUSH

ORIGINAL

On-site Time:	0815	Temp:	42
Off-site Time:	0930	Temp:	
Sky Conditions:			
Meteorological Events:			
Wind Speed:			
Direction:			

Lab Name: Calscience Environmental Laboratories, Inc.				BP/AR Facility No.: 2111				Consultant/Contractor: Stratus Environmental, Inc.													
Address: 7440 Lincoln Way Garden Grove, CA 92841				BP/AR Facility Address: 1156 Davis St., San Leandro Site Lat/Long:				Address: 3330 Cameron Park Drive, Suite 550 Cameron Park, CA 95682													
Lab PM: Linda Scharpenberg Tele/Fax: 714-895-5494/ 714-895-7501				California Global ID No.: T0600101764 Enfos Project No.: G0C28-0029				Consultant/Contractor Project No.: E2111-03 Consultant/Contractor PM: Jay Johnson													
BP/AR PM Contact: Paul Supple Address: 2010 Crow Canyon Place, Suite 150 San Ramon, CA Tele/Fax: 925-275-3506/925-275-3815				Provision or OOC (circle one) Provision Phase/WBS: 03-O&M Sub Phase/Task: 03-Analytical Cost Element: Subcontractor Cost				Tele/Fax: (530) 676-6000 / (530) 676-6005 Report Type & QC Level: Level I with EDF E-mail EDD To: shayes@stratusinc.net Invoice to: Atlantic Richfield Co.													
Lab Bottle Order No:				Matrix				Sample Point Lat/Long and Comments													
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air	Laboratory No.	No. of Containers	Preservative	Requested Analysis	Turnaround Time										
1	02111DPEX100							1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO	ETEX	MTBE	5-oxygenates	24-hours	Standard		
2	02111ASAEFF	0857	2/28	x				2						x	x	x					
3	02111ASYSINF	0852	)	x				2						x	x	x				x	
4	02111AGAC1	0847	)	x				2						x	x	x				x	
5	02111AEFF	0847	)	x				2						x	x	x				x	
6	02111DWXAMP							2						x	x	x			x		
7	02111ASWINF	0830	2/28	x				5						x	x	x	x		x		
8	02111ASWEFF	0827	)	x				5						x	x	x			x		
9	02111WGAC1	0827	)	x				5						x	x	x	x		x		
10	02111WEFF	0822	)	x				5						x	x	x			x		
11	02111MW2WINF	0837	)	x				5						x	x	x	x		x		
Sampler's Name: Chris Hall				Relinquished By / Affiliation				Date	Time	Accepted By / Affiliation				Date	Time						
Sampler's Company: Stratus Environmental, Inc.				John Hall Stratus				2/28/08	1500												
Shipment Date: 2/25/08																					
Shipment Method: GSO																					
Shipment Tracking No:																					
Special Instructions:				Please cc results to bpedf@broadbentinc.com																	
Custody Seals In Place: Yes / No				Temp Blank: Yes / No				Cooler Temp on Receipt: °F/C				Trip Blank: Yes / No				MS/MSD Sample Submitted: Yes / No					



February 13, 2008

Jay Johnson  
Stratus Environmental, inc.  
3330 Cameron Park Drive, Suite 550  
Cameron Park, CA 95682-8861

Subject: **Calscience Work Order No.: 08-02-0282**  
**Client Reference: ARCO Facility No. 2111**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/6/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

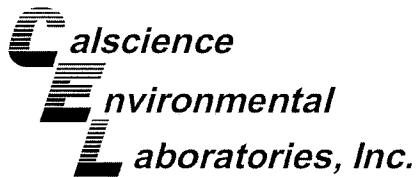
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



A handwritten signature in black ink that reads "Linda Scharpenberg". Below the signature, there is a horizontal line underlining the name.

Calscience Environmental  
Laboratories, Inc.  
Linda Scharpenberg  
Project Manager



## CASE NARRATIVE – 08-02-0282

### **Data Qualifiers - EPA 8260:**

Batch 080209S01:

The RPD for benzene was outside acceptance criteria in the MS/MSD. The % recoveries were within criteria and the RPD was within criteria in the LCS/LCSD. This has been flagged “4” within the report.

**“4”= BA, AY**

BA = Relative percent difference out of control

AY = Matrix interference suspected

# Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: N/A  
Method: EPA TO-15  
Units: ppb (v/v)

Project: ARCO Facility No. 2111

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111ASAEFF	08-02-0282-1-A	02/05/08 08:55	Air	GC/MS V	N/A	02/06/08 11:19	080206L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	99	20	40		Xylenes (total)	24	1.0	1	
Toluene	6.4	0.50	1		Methyl-t-Butyl Ether (MTBE)	1400	80	40	
Ethylbenzene	46	20	40						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	93	57-129			1,2-Dichloroethane-d4	117	47-137		
Toluene-d8	108	78-156							

02111ASYSINF	08-02-0282-2-B	02/05/08 08:52	Air	GC/MS V	N/A	02/06/08 13:50	080206L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	54	1.0	2		Xylenes (total)	11	2.0	2	
Toluene	4.6	1.0	2		Methyl-t-Butyl Ether (MTBE)	860	80	40	
Ethylbenzene	27	1.0	2						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	84	57-129			1,2-Dichloroethane-d4	118	47-137		
Toluene-d8	110	78-156							

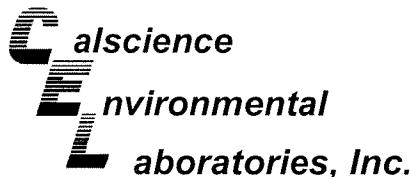
02111AGAC1	08-02-0282-3-B	02/05/08 08:47	Air	GC/MS V	N/A	02/06/08 14:39	080206L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.0	2		Xylenes (total)	ND	2.0	2	
Toluene	1.1	1.0	2		Methyl-t-Butyl Ether (MTBE)	400	40	20	
Ethylbenzene	ND	1.0	2						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	57-129			1,2-Dichloroethane-d4	109	47-137		
Toluene-d8	83	78-156							

02111AEFF	08-02-0282-4-A	02/05/08 08:45	Air	GC/MS V	N/A	02/06/08 12:58	080206L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Toluene	0.84	0.50	1		Methyl-t-Butyl Ether (MTBE)	27	2.0	1	
Ethylbenzene	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	98	47-137		
Toluene-d8	95	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: N/A  
Method: EPA TO-15  
Units: ppb (v/v)

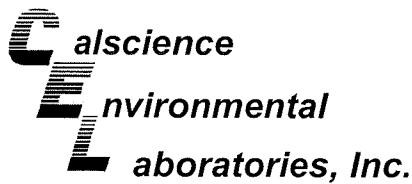
Project: ARCO Facility No. 2111

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-09-002-6,761	N/A	Air	GC/MS V	N/A	02/06/08 09:39	080206L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Toluene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	
Ethylbenzene	ND	0.50	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>		<u>Qual</u>
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	112	47-137		
Toluene-d8	100	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: N/A  
Method: EPA TO-3M

Project: ARCO Facility No. 2111

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111ASAEFF	08-02-0282-1-A	02/05/08 08:55	Air	GC 38	N/A	02/06/08 10:52	080206L01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

02111ASYSINF	08-02-0282-2-A	02/05/08 08:52	Air	GC 38	N/A	02/06/08 11:48	080206L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

02111AGAC1	08-02-0282-3-A	02/05/08 08:47	Air	GC 38	N/A	02/06/08 13:01	080206L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

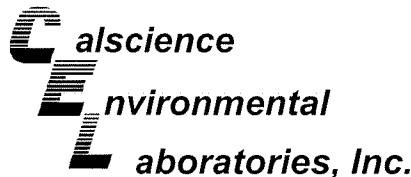
02111AEFF	08-02-0282-4-A	02/05/08 08:45	Air	GC 38	N/A	02/06/08 12:25	080206L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

Method Blank	099-12-693-7	N/A	Air	GC 38	N/A	02/06/08 09:14	080206L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111ASWINF	08-02-0282-5-E	02/05/08 08:30	Aqueous	GC 4	02/05/08	02/06/08 15:44	080205B02

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u> <u>REC (%)</u> <u>Control Limits</u> <u>Qual</u>					
1,4-Bromofluorobenzene	102	38-134			

02111ASWEFF	08-02-0282-6-E	02/05/08 08:27	Aqueous	GC 4	02/07/08	02/07/08 17:45	080207B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u> <u>REC (%)</u> <u>Control Limits</u> <u>Qual</u>					
1,4-Bromofluorobenzene	115	38-134			

02111WGAC1	08-02-0282-7-E	02/05/08 08:25	Aqueous	GC 4	02/07/08	02/07/08 19:24	080207B01
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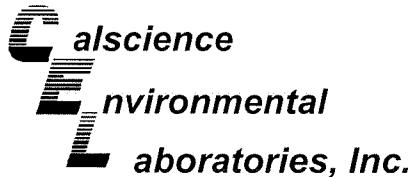
Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u> <u>REC (%)</u> <u>Control Limits</u> <u>Qual</u>					
1,4-Bromofluorobenzene	97	38-134			

02111WEFF	08-02-0282-8-E	02/05/08 08:22	Aqueous	GC 4	02/05/08	02/06/08 11:20	080205B02
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u> <u>REC (%)</u> <u>Control Limits</u> <u>Qual</u>					
1,4-Bromofluorobenzene	106	38-134			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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## Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111MW2WINF	08-02-0282-9-E	02/05/08 08:35	Aqueous	GC 4	02/05/08	02/06/08 16:17	080205B02

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1700	50	1		ug/L
<u>Surrogates:</u>					
1,4-Bromofluorobenzene	108	38-134			

Method Blank	099-12-695-3	N/A	Aqueous	GC 4	02/05/08	02/06/08 02:43	080205B02
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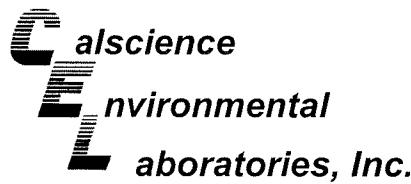
Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>					
1,4-Bromofluorobenzene	86	38-134			

Method Blank	099-12-695-4	N/A	Aqueous	GC 4	02/07/08	02/07/08 16:06	080207B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>					
1,4-Bromofluorobenzene	107	38-134			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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## Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111ASWINF	08-02-0282-5-A	02/05/08 08:30	Aqueous	GC/MS Z	02/08/08	02/09/08 07:26	080208L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	18	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	98	10	20						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	107	73-157			Dibromofluoromethane	114	82-142		
Toluene-d8	96	82-112			1,4-Bromofluorobenzene	93	75-105		

02111ASWEFF	08-02-0282-6-A	02/05/08 08:27	Aqueous	GC/MS Z	02/08/08	02/09/08 07:56	080208L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	3.7	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	114	73-157			Dibromofluoromethane	112	82-142		
Toluene-d8	99	82-112			1,4-Bromofluorobenzene	100	75-105		

02111WGAC1	08-02-0282-7-A	02/05/08 08:25	Aqueous	GC/MS Z	02/08/08	02/09/08 08:26	080208L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	108	73-157			Dibromofluoromethane	113	82-142		
Toluene-d8	102	82-112			1,4-Bromofluorobenzene	91	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**Analytical Report**

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111WEFF	08-02-0282-8-A	02/05/08 08:22	Aqueous	GC/MS Z	02/06/08	02/06/08 12:53	080206L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	108	73-157			Dibromofluoromethane	104	82-142		
Toluene-d8	101	82-112			1,4-Bromofluorobenzene	93	75-105		

02111MW2WINF	08-02-0282-9-A	02/05/08 08:35	Aqueous	GC/MS Z	02/09/08	02/09/08 12:33	080209L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	53	25	50		Tert-Butyl Alcohol (TBA)	2000	500	50	
Ethylbenzene	45	25	50		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	21	0.50	1		Tert-Amyl-Methyl Ether (TAME)	5.6	0.50	1	
Methyl-t-Butyl Ether (MTBE)	1000	25	50						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	95	73-157			Dibromofluoromethane	96	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	102	75-105		

Method Blank	099-12-703-5	N/A	Aqueous	GC/MS Z	02/06/08	02/06/08 11:50	080206L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	103	73-157			Dibromofluoromethane	103	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	93	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

# Analytical Report

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	099-12-703-9	N/A	Aqueous	GC/MS Z	02/08/08	02/09/08 03:24	080208L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	108	73-157			Dibromofluoromethane	112	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	96	75-105		

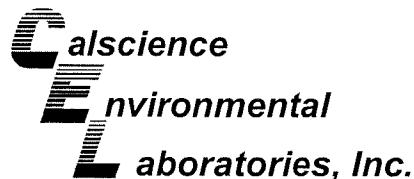
Method Blank	099-12-703-10	N/A	Aqueous	GC/MS Z	02/09/08	02/09/08	080209L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	98	73-157			Dibromofluoromethane	105	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	96	75-105		

Method Blank	099-12-703-11	N/A	Aqueous	GC/MS Z	02/09/08	02/10/08	080209L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	106	73-157			Dibromofluoromethane	108	82-142		
Toluene-d8	98	82-112			1,4-Bromofluorobenzene	91	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Quality Control - Duplicate

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

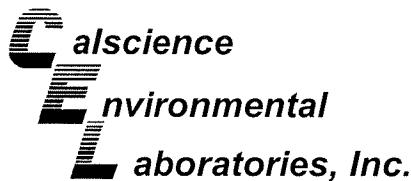
Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: N/A  
Method: EPA TO-3M

Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
08-02-0284-1	Air	GC 38	N/A	02/06/08	080206D01

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	16	14	11	0-20	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - Spike/Spike Duplicate

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project ARCO Facility No. 2111

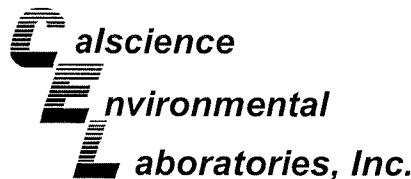
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-0175-3	Aqueous	GC 4	02/05/08	02/06/08	080205S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	112	114	38-134	2	0-25	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.  
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Cameron Park, CA 95682-8861

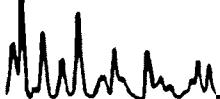
Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project ARCO Facility No. 2111

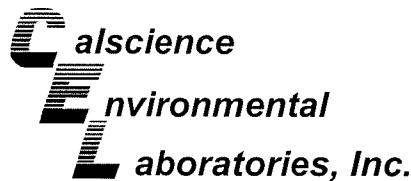
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02111ASWEFF	Aqueous	GC 4	02/07/08	02/07/08	080207S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	113	117	38-134	3	0-25	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.  
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Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

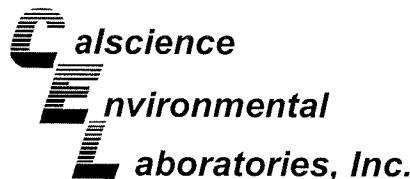
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-0106-20	Aqueous	GC/MS Z	02/06/08	02/06/08	080206S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	102	86-122	2	0-8	
Carbon Tetrachloride	107	104	78-138	3	0-9	
Chlorobenzene	103	100	90-120	3	0-9	
1,2-Dibromoethane	107	101	70-130	6	0-30	
1,2-Dichlorobenzene	105	103	89-119	2	0-10	
1,1-Dichloroethene	108	105	52-142	3	0-23	
Ethylbenzene	110	107	70-130	2	0-30	
Toluene	105	104	85-127	1	0-12	
Trichloroethene	104	100	78-126	4	0-10	
Vinyl Chloride	97	93	56-140	4	0-21	
Methyl-t-Butyl Ether (MTBE)	100	95	64-136	5	0-28	
Tert-Butyl Alcohol (TBA)	145	136	27-183	6	0-60	
Diisopropyl Ether (DIPE)	102	99	78-126	2	0-16	
Ethyl-t-Butyl Ether (ETBE)	97	94	67-133	3	0-21	
Tert-Amyl-Methyl Ether (TAME)	92	90	63-141	2	0-21	
Ethanol	128	109	11-167	15	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.  
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Cameron Park, CA 95682-8861

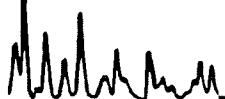
Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

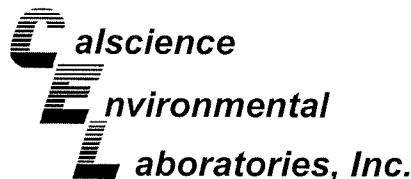
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-0540-7	Aqueous	GC/MS Z	02/08/08	02/08/08	080208S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	99	103	86-122	3	0-8	
Carbon Tetrachloride	103	99	78-138	3	0-9	
Chlorobenzene	104	104	90-120	0	0-9	
1,2-Dibromoethane	103	99	70-130	4	0-30	
1,2-Dichlorobenzene	99	103	89-119	4	0-10	
1,1-Dichloroethene	96	100	52-142	4	0-23	
Ethylbenzene	102	106	70-130	4	0-30	
Toluene	98	102	85-127	5	0-12	
Trichloroethene	96	100	78-126	4	0-10	
Vinyl Chloride	97	94	56-140	4	0-21	
Methyl-t-Butyl Ether (MTBE)	105	98	64-136	7	0-28	
Tert-Butyl Alcohol (TBA)	104	108	27-183	4	0-60	
Diisopropyl Ether (DIPE)	105	103	78-126	3	0-16	
Ethyl-t-Butyl Ether (ETBE)	102	102	67-133	0	0-21	
Tert-Amyl-Methyl Ether (TAME)	99	99	63-141	0	0-21	
Ethanol	137	107	11-167	25	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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

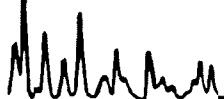
Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

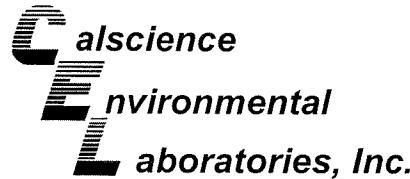
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-0279-3	Aqueous	GC/MS Z	02/09/08	02/09/08	080209S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	112	103	86-122	9	0-8	4
Carbon Tetrachloride	105	98	78-138	7	0-9	
Chlorobenzene	102	103	90-120	1	0-9	
1,2-Dibromoethane	102	94	70-130	8	0-30	
1,2-Dichlorobenzene	101	108	89-119	6	0-10	
1,1-Dichloroethene	101	95	52-142	6	0-23	
Ethylbenzene	106	107	70-130	1	0-30	
Toluene	102	100	85-127	2	0-12	
Trichloroethene	98	97	78-126	1	0-10	
Vinyl Chloride	96	95	56-140	1	0-21	
Methyl-t-Butyl Ether (MTBE)	100	105	64-136	5	0-28	
Tert-Butyl Alcohol (TBA)	98	100	27-183	2	0-60	
Diisopropyl Ether (DIPE)	104	103	78-126	1	0-16	
Ethyl-t-Butyl Ether (ETBE)	97	97	67-133	1	0-21	
Tert-Amyl-Methyl Ether (TAME)	98	97	63-141	0	0-21	
Ethanol	111	95	11-167	16	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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

Date Received: 02/06/08  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

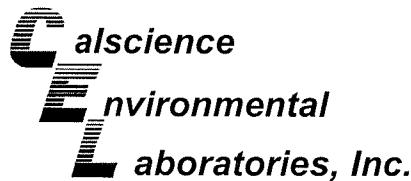
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-02-0279-12	Aqueous	GC/MS Z	02/09/08	02/10/08	080209S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	103	86-122	1	0-8	
Carbon Tetrachloride	105	106	78-138	2	0-9	
Chlorobenzene	108	104	90-120	4	0-9	
1,2-Dibromoethane	113	108	70-130	4	0-30	
1,2-Dichlorobenzene	110	104	89-119	5	0-10	
1,1-Dichloroethene	103	100	52-142	2	0-23	
Ethylbenzene	107	105	70-130	2	0-30	
Toluene	102	102	85-127	1	0-12	
Trichloroethene	98	99	78-126	1	0-10	
Vinyl Chloride	95	100	56-140	5	0-21	
Methyl-t-Butyl Ether (MTBE)	110	108	64-136	2	0-28	
Tert-Butyl Alcohol (TBA)	105	110	27-183	5	0-60	
Diisopropyl Ether (DIPE)	112	107	78-126	5	0-16	
Ethyl-t-Butyl Ether (ETBE)	110	103	67-133	6	0-21	
Tert-Amyl-Methyl Ether (TAME)	105	103	63-141	2	0-21	
Ethanol	154	114	11-167	30	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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

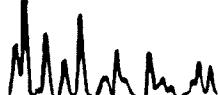
Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: N/A  
Method: EPA TO-15

Project: ARCO Facility No. 2111

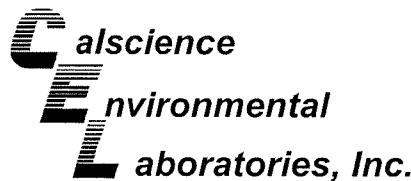
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-6,761	Air	GC/MS V	N/A	02/06/08	080206L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	93	91	60-156	2	0-40	
Toluene	99	96	56-146	2	0-43	
Ethylbenzene	102	99	52-154	3	0-38	
p/m-Xylene	104	100	42-156	3	0-41	
o-Xylene	107	103	52-148	4	0-38	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

Sample ID: 099-12-695-3  
Date: 02/06/08  
Prepared by: N/A  
Analyst: N/A  
Comments: N/A

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

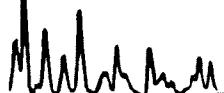
Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

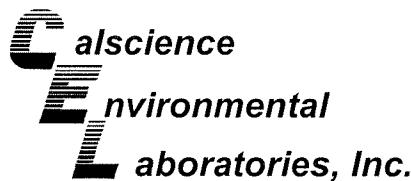
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-3	Aqueous	GC 4	02/05/08	02/06/08	080205B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	116	113	78-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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

Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

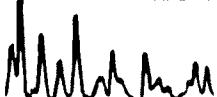
Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-4	Aqueous	GC 4	02/07/08	02/07/08	080207B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	115	119	78-120	4	0-20	

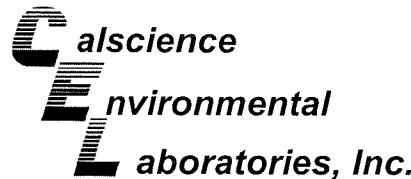
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RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

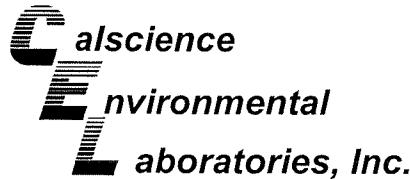
Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-5	Aqueous	GC/MS Z	02/06/08	02/06/08	080206L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	102	87-117	0	0-7	
Carbon Tetrachloride	103	100	78-132	2	0-8	
Chlorobenzene	102	98	88-118	3	0-8	
1,2-Dibromoethane	103	96	80-120	8	0-20	
1,2-Dichlorobenzene	99	100	88-118	0	0-8	
1,1-Dichloroethene	100	100	71-131	0	0-14	
Ethylbenzene	106	106	80-120	0	0-20	
Toluene	102	102	85-127	0	0-7	
Trichloroethene	100	100	85-121	1	0-11	
Vinyl Chloride	86	86	64-136	0	0-10	
Methyl-t-Butyl Ether (MTBE)	96	90	67-133	6	0-16	
Tert-Butyl Alcohol (TBA)	100	98	34-154	2	0-19	
Diisopropyl Ether (DIPE)	99	98	80-122	1	0-8	
Ethyl-t-Butyl Ether (ETBE)	95	93	73-127	3	0-11	
Tert-Amyl-Methyl Ether (TAME)	96	97	69-135	1	0-12	
Ethanol	97	88	34-124	10	0-44	

RPD - Relative Percent Difference , CL - Control Limit

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## Quality Control - LCS/LCS Duplicate

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

Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO Facility No. 2111

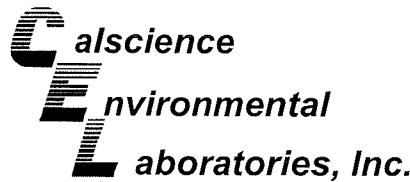
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-9	Aqueous	GC/MS Z	02/08/08	02/09/08	080208L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	100	87-117	0	0-7	
Carbon Tetrachloride	105	101	78-132	4	0-8	
Chlorobenzene	100	100	88-118	0	0-8	
1,2-Dibromoethane	93	98	80-120	5	0-20	
1,2-Dichlorobenzene	100	101	88-118	1	0-8	
1,1-Dichloroethene	102	99	71-131	4	0-14	
Ethylbenzene	102	104	80-120	2	0-20	
Toluene	100	100	85-127	0	0-7	
Trichloroethene	103	102	85-121	1	0-11	
Vinyl Chloride	101	97	64-136	4	0-10	
Methyl-t-Butyl Ether (MTBE)	98	94	67-133	5	0-16	
Tert-Butyl Alcohol (TBA)	90	83	34-154	7	0-19	
Diisopropyl Ether (DIPE)	110	102	80-122	7	0-8	
Ethyl-t-Butyl Ether (ETBE)	103	98	73-127	5	0-11	
Tert-Amyl-Methyl Ether (TAME)	94	97	69-135	3	0-12	
Ethanol	102	104	34-124	2	0-44	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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

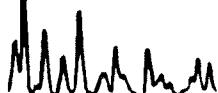
Date Received: N/A  
Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO Facility No. 2111

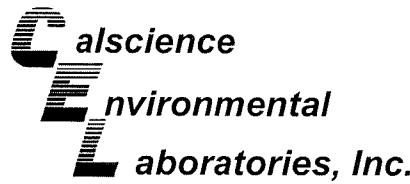
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-10	Aqueous	GC/MS Z	02/09/08	02/09/08	080209L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	102	98	87-117	4	0-7	
Carbon Tetrachloride	100	96	78-132	4	0-8	
Chlorobenzene	105	100	88-118	4	0-8	
1,2-Dibromoethane	99	96	80-120	4	0-20	
1,2-Dichlorobenzene	104	100	88-118	4	0-8	
1,1-Dichloroethene	97	90	71-131	8	0-14	
Ethylbenzene	105	100	80-120	5	0-20	
Toluene	100	97	85-127	3	0-7	
Trichloroethene	99	97	85-121	2	0-11	
Vinyl Chloride	96	95	64-136	1	0-10	
Methyl-t-Butyl Ether (MTBE)	95	92	67-133	3	0-16	
Tert-Butyl Alcohol (TBA)	90	90	34-154	0	0-19	
Diisopropyl Ether (DIPE)	98	100	80-122	2	0-8	
Ethyl-t-Butyl Ether (ETBE)	98	94	73-127	4	0-11	
Tert-Amyl-Methyl Ether (TAME)	97	98	69-135	1	0-12	
Ethanol	96	109	34-124	12	0-44	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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

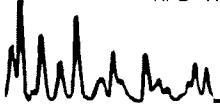
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Work Order No: 08-02-0282  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO Facility No. 2111

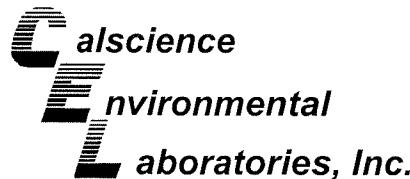
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-11	Aqueous	GC/MS Z	02/09/08	02/09/08	080209L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	104	87-117	0	0-7	
Carbon Tetrachloride	106	108	78-132	3	0-8	
Chlorobenzene	104	105	88-118	0	0-8	
1,2-Dibromoethane	104	98	80-120	6	0-20	
1,2-Dichlorobenzene	103	101	88-118	1	0-8	
1,1-Dichloroethene	106	103	71-131	3	0-14	
Ethylbenzene	105	106	80-120	1	0-20	
Toluene	103	104	85-127	1	0-7	
Trichloroethene	98	99	85-121	2	0-11	
Vinyl Chloride	100	102	64-136	2	0-10	
Methyl-t-Butyl Ether (MTBE)	110	105	67-133	5	0-16	
Tert-Butyl Alcohol (TBA)	86	99	34-154	14	0-19	
Diisopropyl Ether (DIPE)	112	112	80-122	0	0-8	
Ethyl-t-Butyl Ether (ETBE)	112	105	73-127	7	0-11	
Tert-Amyl-Methyl Ether (TAME)	106	99	69-135	7	0-12	
Ethanol	91	99	34-124	9	0-44	

RPD - Relative Percent Difference , CL - Control Limit



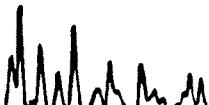
7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Glossary of Terms and Qualifiers

Work Order Number: 08-02-0282

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.





## Chain of Custody Record

Project Name: ARCO Facility 2000  
 BP BU/AR Region/Envos Segment: BP America West > Retail > Alameda  
 State or Lead Regulatory Agency: Alameda County Environmental Health  
 Requested Due Date (mm/dd/yy): 24 hours for Effluent  
 & STD for others

RUSH

ORIGINAL

(0282)

Page 1 of 1

On-site Time:	1815	Temp:	42
Off-site Time:	0930	Temp:	
Sky Conditions:			
Meteorological Events:			
Wind Speed:			

Lab Name: Calscience Environmental Laboratories, Inc.	BP/AR Facility No.: 2111	Consultant/Contractor: Stratus Environmental, Inc.						
Address: 7440 Lincoln Way Garden Grove, CA 92841	BP/AR Facility Address: 1156 Davis St., San Leandro	Address: 3330 Cameron Park Drive, Suite 550 Cameron Park, CA 95682						
Lab PM: Linda Sharpenberg	Site Lat/Long:	Consultant/Contractor Project No.: E2111-03						
Tele/Fax: 714-895-5494/ 714-895-7501	California Global ID No.: T0600101764	Consultant/Contractor PM: Jay Johnson						
BP/AR PM Contact: Paul Supple	Enfos Project No.: G0C28-0029	Tele/Fax: (530) 676-6000 / (530) 676-6005						
Address: 2010 Crow Canyon Place, Suite 150 San Ramon, CA	Provision or OOC (circle one) Provision	Report Type & QC Level: Level I with EDF						
Tele/Fax: 925-275-3506/925-275-3815	Phase/WBS: 03-O&M	E-mail EDD To: shayes@stratusinc.net						
Lab Bottle Order No:	Sub Phase/Task: 03-Analytical	Invoice to: Atlantic Richfield Co.						
Item No.	Sample Description	Matrix	Laboratory No.	No. of Containers	Preservative	Requested Analysis	Turnaround Time	Sample Point Lat/Long and Comments
					Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl Methanol	GRO BTEX MTBE 5-oxygenates	24-hours Standard	

1	02111ADP2X00				1	x	x x x	x	5-oxygenates requested are MTBE, DIPE, ETBE, TAME, and TBA.
2	02111ASAEFF	0855 2505	x		2	x	x x x	x	
3	02111ASYSINF	0852 )	x		2	x	x x x	x	
4	02111AGAC1	0847 )	x		2	x	x x x	x	
5	02111AEFF	0844 )	x		2	x	x x x	x	
6	02111AWWINFO					x	x x x	x	
7	02111ASWINF	0830 2508	x		5	x	x x x	x	
8	02111ASWEFF	0827 )	x		5	x	x x x	x	
9	02111WGAC1	0825 )	x		5	x	x x x	x	
10	02111WEFF	0823 )	x		5	x	x x x	x	
11	02111MW2WINF	0837 )	x		5	x	x x x	x	

Sampler's Name: Chris Hill

Sampler's Company: Stratus Environmental, Inc.

Shipment Date: 26-08

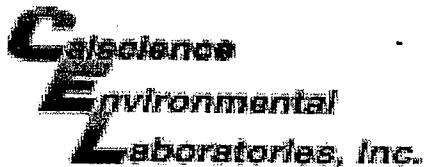
Shipment Method: GSO

Shipment Tracking No:

Special Instructions:

Please cc results to bpedf@broadbentinc.com

Custody Seals In Place: Yes / No	Temp Blank: Yes / No	Cooler Temp on Receipt: °F/C	Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No
----------------------------------	----------------------	------------------------------	----------------------	-----------------------------------



WORK ORDER #: 08 - 0 2 - 0 2 8 2

Cooler 1 of 1

## SAMPLE RECEIPT FORM

CLIENT: STRATUSDATE: 2-6-08**TEMPERATURE - SAMPLES RECEIVED BY:****CALSCIENCE COURIER:**

- Chilled, cooler with temperature blank provided.  
 Chilled, cooler without temperature blank.  
 Chilled and placed in cooler with wet ice.  
 Ambient and placed in cooler with wet ice.  
 Ambient temperature.  
 °C Temperature blank.

**LABORATORY (Other than Calscience Courier):**

- 2.7 °C Temperature blank.  
 °C IR thermometer.  
 Ambient temperature.

Initial: WB**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_

Cooler: 

No (Not Intact) : \_\_\_\_\_

Not Present: \_\_\_\_\_

Initial: WB**SAMPLE CONDITION:**

- |   | Yes                                 | No    | N/A   |
|---|-------------------------------------|-------|-------|
| Chain-Of-Custody document(s) received with samples.....       | <input checked="" type="checkbox"/> | ..... | ..... |
| Sampler's name indicated on COC.....                          | <input checked="" type="checkbox"/> | ..... | ..... |
| Sample container label(s) consistent with custody papers..... | <input checked="" type="checkbox"/> | ..... | ..... |
| Sample container(s) intact and good condition.....            | <input checked="" type="checkbox"/> | ..... | ..... |
| Correct containers and volume for analyses requested.....     | <input checked="" type="checkbox"/> | ..... | ..... |
| Proper preservation noted on sample label(s).....             | <input checked="" type="checkbox"/> | ..... | ..... |
| VOA vial(s) free of headspace.....                            | <input checked="" type="checkbox"/> | ..... | ..... |
| Tedlar bag(s) free of condensation.....                       | <input checked="" type="checkbox"/> | ..... | ..... |

Initial: WB**COMMENTS:**

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3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

April 4, 2008

Mr. Rob Miller  
Broadbent & Associates, Inc.  
2000 Kirman Avenue  
Reno, NV 89502

Re: Remediation System Operation and Maintenance Data Package, ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California.

### **General Information**

*Data Submittal Prepared / Reviewed by:* Sandy Hayes and Kiran Nagaraju / Jay Johnson

*Phone Number:* (530) 676-6007 / (530) 676-6000

*On-Site Supplier Representatives:* Chris Hill

*Number of Site Visits:* 2 (March 5 and 17, 2008)

*System Overview:* Dual Phase Extraction System, Air Stripper, and Groundwater Extraction and Treatment System (GETS).

*Operational Status:* Continuous operation

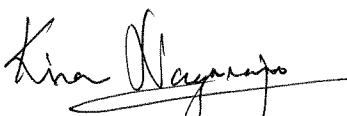
*Scope of Work Performed:* Conduct routine system operation and maintenance, and record field measurements. Influent, mid-fluent, and effluent air and water samples were collected on March 5, 2008.

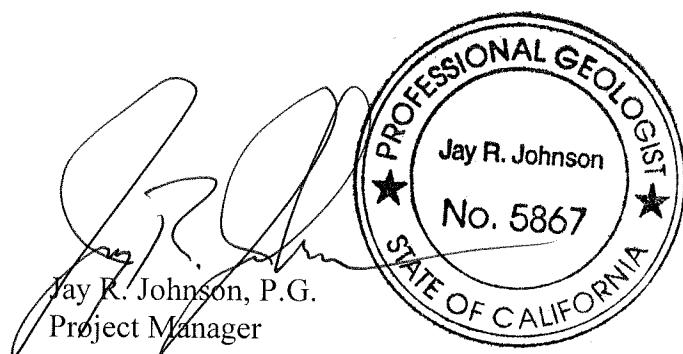
*Variations from Scope of Work:* The remediation systems were found non-functioning on March 5, 2008, due to high-water level alarm in the air stripper tank. The remediation systems were re-started momentarily on March 5, 2008 and shutdown after sampling, pending receipt of analytical results. Upon receipt of analytical results and compliance verification, the remediation systems were re-started on March 17, 2008, but the DPE system shutdown immediately due to float malfunction of the DPE system. The GETS was left operational on March 17, 2008 and the DPE system will be re-started after replacing the floats.

The attachments include field data sheets, chain of custody documentation, and the certified analytical results. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations. Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

**STRATUS ENVIRONMENTAL, INC.**

  
Kiran Nagaraju  
Project Engineer



**Attachments:**

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results

CC: Paul Supple, BP/ARCO

**ORIGINAL**

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
**Dual Phase Extraction and Air Stripper System**

Date: 3-5-08  
 Onsite Time: 0400  
 Offsite Time: 0445  
 Equipment Manufacturer/Model# \_\_\_\_\_

Technician: CHILL  
 Weather Conditions: clear  
 Ambient Temperature: 40

System Information					
System Status Upon Arrival:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>	High Level Dose Test		
System Status Upon Departure:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>			
Electric Meter Reading:	<u>NM</u>				
Hour Meter Reading:	<u>1561</u>				
Totalizer Reading Prior to Air Stripper:	<u>36529</u>		PID Calibration Date:	<u>3-5-08</u>	
Totalizer Reading After Air Stripper:	<u>664310</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		<u>25</u>			
Air Velocity, FPM		<u>3004</u>			
Pipe Diameter, inches	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	
Air Flow Rate, cfm		<u>100</u>	<u>100</u>		
Applied Vacuum, "wc		<u>-40</u>	NA	NA	
Temperature, deg F		<u>114</u>	<u>92</u>		
PID Readings, ppmv	<u>20</u>	<u>8</u>	<u>18</u>	<u>8</u>	PID for GAC-1: 1.2

Other Readings/Measurements					
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs	
V-1	<u>25</u>	<u>17</u>			
V-2	<u>25</u>	<u>18</u>			
V-3	<u>25</u>	<u>17</u>			
MW-1	<u>8</u>	<u>8</u>			
MW-3	<u>8</u>	<u>8</u>			
MW-7	<u>100</u>	<u>14</u>			
MW-8	<u>50</u>	<u>18</u>			

Signature: John R. H.

Date: 3-5-08



**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California  
**Dual Phase Extraction and Air Stripper System**

Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF	3508 0803	02111AGAC1	3508 0555
02111ASAEFF	}	02111AEFF	
02111ASYSINF	}		6500
Analyses Required: GRO, BTEX, and MTBE			

Operation & Maintenance Notes

Put New Hose on M-2 Extension Pump old one Has  
Hole

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:

*Chard*

Date: 3508

 **ORIGINAL**

**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California  
Groundwater Treatment System

Date: 3-5-08  
Onsite Time: 0402  
Offsite Time: 0645

Technician: CHILL  
Weather Conditions: Clear  
Ambient Temperature 40

System Status Upon Arrival:  Operational  Non-operational **DPE Down**

System Status At Departure:  Operational  Non-operational

Transfer Pump:  Operational  Non-operational *wait for Lab Samples*

Transfer Pump Hour Meter Reading: N14

Effluent Flow Totalizer Reading: 1646123

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 10

**Effluent Water Characteristics**

(Quarterly by Field Instrument)

pH: 7.7

Temperature: 11.6

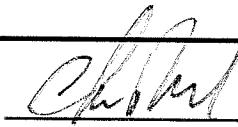
Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth	
MW-2		<u>5419</u>			

**Sampling Information**

Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF	<u>3508 0542</u>	02111MW2WINF	<u>3508 0545</u>
02111ASWINF	<u>0538</u>		
02111ASWEFF	<u>0534</u>		
02111WGAC1	<u>0529</u>		
02111WEFF	<u>0526</u>		

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF& EFF	EPA Method 8260B

Notes:

Signature: 

Date: 3508

ARCO FACILITY NO. 2111  
1156 Davis Street  
San Leandro, California  
Dual Phase Extraction and Air Stripper System

 ORIGINAL

Date: 3/17/08  
Onsite Time: 0430  
Offsite Time: 0520  
Equipment Manufacturer/Model# \_\_\_\_\_

Technician: \_\_\_\_\_  
Weather Conditions: \_\_\_\_\_  
Ambient Temperature: 40

System Information					
System Status Upon Arrival:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>	<u>2113 Cleaned &amp; Start</u>		
System Status Upon Departure:	Operational <input type="checkbox"/>	Non-Operational <input checked="" type="checkbox"/>	<u>Just MW-2 Pumping waiting for Floats for DPK tank</u>		
Electric Meter Reading:	<u>Nm</u>				
Hour Meter Reading:	<u>1561</u>				
Totalizer Reading Prior to Air Stripper:	<u>36647</u>		PID Calibration Date: <u>3/18/08</u>		
Totalizer Reading After Air Stripper:	<u>664430</u>				

Field Measurements					
Parameter	Influent (after blower, 2111DPEAINF)	Air Stripper (2111ASAEFF)	System Influent (2111ASYSINF)	Stack Air Flow (2111AEFF)	Comments
Differential Pressure, "wc		<u>25</u>			
Air Velocity, FPM		<u>3022</u>			
Pipe Diameter, inches	<u>3</u>	<u>4</u>	<u>4</u>	<u>3</u>	
Air Flow Rate, cfm			<u>190</u>		
Applied Vacuum, "wc		<u>.45</u>	NA	NA	
Temperature, deg F		<u>98</u>	<u>60</u>		
PID Readings, ppmv		<u>3</u>	<u>3</u>	<u>6</u>	PID for GAC-1: <u>8</u>

Other Readings/Measurements					
Well ID	% Open	Applied Vac., "Hg	Total depth, feet bgs	Stinger Depth, feet bgs	
V-1	<u>8</u>	<u>7</u>			
V-2					
V-3					
MW-1					
MW-3					
MW-7					
MW-8					

Signature: Chill

Date: 3/17/08

**ARCO FACILITY NO. 2111**  
1156 Davis Street  
San Leandro, California

 ORIGINAL

Sampling Information (monthly)			
Sample ID	Date & Time	Sample ID	Date & Time
02111DPEAINF		02111AGAC1	
02111ASAEFF		02111AEFF	
02111ASYSINF			
Analyses Required: GRO, BTEX, and MTBE			

## Operation & Maintenance Notes

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8015
BTEX	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B
MTBE	Monthly	02111DPEAINF, 02111ASAINF, 02111ASYSINF, 02111AGAC1, & 02111AEFF	EPA Method 8260B

Signature:

*John*

Date: 31708

ARCO FACILITY NO. 2111  
 1156 Davis Street  
 San Leandro, California  
 Groundwater Treatment System

 ORIGINAL

Date: 3/7/08  
 Onsite Time: 0430  
 Offsite Time: 0520

Technician: CHIC  
 Weather Conditions: clear  
 Ambient Temperature 40

System Status Upon Arrival:  Operational  Non-operational LAB Clean Restart

System Status At Departure:  Operational  Non-operational

Transfer Pump:  Operational  Non-operational

Transfer Pump Hour Meter Reading: NA

Effluent Flow Totalizer Reading: 646221

No. of Carbon Vessels: 2

Lead Carbon Vessel Pressure (psi): 10

**Effluent Water Characteristics**

(Quarterly by Field Instrument)

pH: \_\_\_\_\_

Temperature: \_\_\_\_\_

Well ID	Hour Meter Reading	Totalizer Reading	Total Depth	Pump Depth	
MW-2		<u>5529</u>			

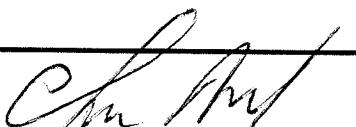
**Sampling Information**

Sample ID	Date & Time	Sample ID	Date & Time
02111DPEWINF		02111MW2WINF	
02111ASWINF			
02111ASWEFF			
02111WGAC1			
02111WEFF			

Lab Parameters	Sampling Frequency	Sample Location	Analytical Method
GRO, BTEX, & 5-Oxys	Monthly	INF& EFF	EPA Method 8260B

Notes: Just Running MW-2 -  
Waiting for Floats for DPE Tank

Signature:



Date: 3/7/08



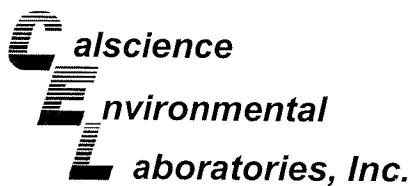
## Chain of Custody Record

Project Name: ARCO Facility No. 2F11      RUSH  
 BP BU/AR Region/Envos Segment: BP > Americas > West > Retail > Alameda  
 State or Lead Regulatory Agency: Alameda County Environmental Health  
 Requested Due Date (mm/dd/yy): 24 hours for Effluent  
 & STD for others

Page 1 of 1

On-site Time:	0400	Temp:	40
Off-site Time:	0445	Temp:	42
Sky Conditions:	Clear		
Meteorological Events:			
Wind Speed:			
Direction:			

Lab Name: Calscience Environmental Laboratories, Inc.				BP/AR Facility No.: 2111				Consultant/Contractor: Stratus Environmental, Inc.					
Address: 7440 Lincoln Way Garden Grove, CA 92841				BP/AR Facility Address: 1156 Davis St., San Leandro				Address: 3330 Cameron Park Drive, Suite 550 Cameron Park, CA 95682					
Lab PM: Linda Scharpenberg				Site Lat/Long:				Consultant/Contractor Project No.: E2111-03					
Tele/Fax: 714-895-5494/ 714-895-7501				California Global ID No.: T0600101764				Consultant/Contractor PM: Jay Johnson					
BP/AR PM Contact: Paul Supple				Envos Project No.: G0C28-0029				Tele/Fax: (530) 676-6000 / (530) 676-6005					
Address: 2010 Crow Canyon Place, Suite 150 San Ramon, CA				Provision or OOC (circle one) Provision				Report Type & QC Level: Level I with EDF					
Tele/Fax: 925-275-3506/925-275-3815				Phase/WBS: 03-O&M				E-mail EDD To: shayes@stratusinc.net					
Lab Bottle Order No:				Sub Phase/Task: 03-Analytical				Invoice to: Atlantic Richfield Co.					
				Cost Element: Subcontractor Cost									
Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative		Requested Analysis		Turnaround Time		Sample Point Lat/Long and Comments
							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO	
1	02111DPEAINF	0603	3508	Soil/Solid	x	2	x			x x x		x	5-oxygenates requested are MTBE, DIPE, ETBE, TAME, and TBA.
2	02111ASAEFF	0600		Water/Liquid	x	2	x			x x x		x	
3	02111ASYSINF	0603		Air	x	2	x			x x x		x	
4	02111AGAC1	0535			x	2	x			x x x		x	
5	02111AEFF	0530			x	2	x			x x x		x	
6	02111DPEWINF	0542			x	6			x	x x x		x	
7	02111ASWINF	0538			x	6			x	x x x	x	x	
8	02111ASWEFF	0534			x	6			x	x x x	x	x	
9	02111WGAC1	0529			x	6			x	x x x	x	x	
10	02111WEFF	0526			x	6			x	x x x	x	x	
11	02111MW2WINF	0545	3508		x	6			x	x x x	x	x	
Sampler's Name: Chris Hill				Relinquished By / Affiliation: John Vito Santa				Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: Stratus Environmental, Inc.								3508	1500				
Shipment Date: 3508													
Shipment Method: GSO													
Shipment Tracking No:													
Special Instructions:				Please cc results to bpedf@broadbentinc.com									
Custody Seals In Place: Yes / No				Temp Blank: Yes / No				Cooler Temp on Receipt: °F/C		Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No		



March 17, 2008

Jay Johnson  
Stratus Environmental, inc.  
3330 Cameron Park Drive, Suite 550  
Cameron Park, CA 95682-8861

**Subject: Calscience Work Order No.: 08-03-0424**  
**Client Reference: ARCO Facility No. 2111**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/6/2008 and analyzed in accordance with the attached chain-of-custody.

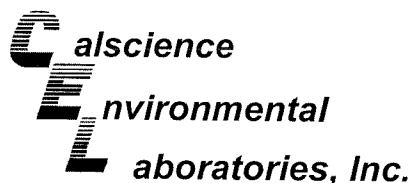
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink that reads "Linda Scharpenberg". Below the signature, there is a small horizontal line with a double underline underneath it.

Calscience Environmental  
Laboratories, Inc.  
Linda Scharpenberg  
Project Manager



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: ARCO Facility No. 2111

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111DPEAINF	08-03-0424-1-A	03/05/08 06:03	Air	GC/MS AA	N/A	03/06/08 20:02	080306L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.27	0.050	100		Xylenes (total)	0.0060	0.0040	4	
Toluene	0.0083	0.0020	4		Methyl-t-Butyl Ether (MTBE)	5.3	0.80	400	
Ethylbenzene	0.010	0.0020	4						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	106		47-137	
Toluene-d8	105	78-156							

02111ASAEFF	08-03-0424-2-A	03/05/08 06:00	Air	GC/MS AA	N/A	03/06/08 16:08	080306L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.00076	0.00050	1		Xylenes (total)	0.0013	0.0010	1	
Toluene	0.0063	0.00050	1		Methyl-t-Butyl Ether (MTBE)	0.076	0.0050	2.5	
Ethylbenzene	0.00057	0.00050	1						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	107		47-137	
Toluene-d8	96	78-156							

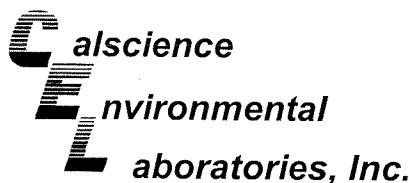
02111ASYSINF	08-03-0424-3-A	03/05/08 06:05	Air	GC/MS AA	N/A	03/06/08 18:30	080306L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.25	0.20	400		Xylenes (total)	0.024	0.0040	4	
Toluene	0.0089	0.0020	4		Methyl-t-Butyl Ether (MTBE)	7.3	0.80	400	
Ethylbenzene	0.075	0.0020	4						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	106		47-137	
Toluene-d8	104	78-156							

02111AGAC1	08-03-0424-4-A	03/05/08 05:55	Air	GC/MS AA	N/A	03/06/08 17:44	080306L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Xylenes (total)	0.0011	0.0010	1	
Toluene	0.0058	0.00050	1		Methyl-t-Butyl Ether (MTBE)	0.52	0.040	20	
Ethylbenzene	ND	0.00050	1						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	91	57-129			1,2-Dichloroethane-d4	108		47-137	
Toluene-d8	96	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: ARCO Facility No. 2111

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111AEFF	08-03-0424-5-A	03/05/08 05:50	Air	GC/MS AA	N/A	03/06/08 16:57	080306L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Xylenes (total)	ND	0.0010	1	
Toluene	0.0069	0.00050	1		Methyl-t-Butyl Ether (MTBE)	0.035	0.0020	1	
Ethylbenzene	ND	0.00050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	108	47-137		
Toluene-d8	100	78-156							

Method Blank	097-09-002-6,875	N/A	Air	GC/MS AA	N/A	03/06/08 14:30	080306L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Xylenes (total)	ND	0.0010	1	
Toluene	ND	0.00050	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1	
Ethylbenzene	ND	0.00050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	110	47-137		
Toluene-d8	96	78-156							

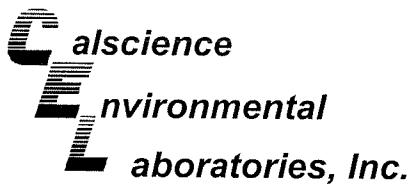
Method Blank	097-09-002-6,876	N/A	Air	GC/MS NN	N/A	03/07/08 11:00	080307L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Xylenes (total)	ND	0.0010	1	
Toluene	ND	0.00050	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1	
Ethylbenzene	ND	0.00050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	89	57-129			1,2-Dichloroethane-d4	94	47-137		
Toluene-d8	95	78-156							

Method Blank	097-09-002-6,879	N/A	Air	GC/MS AA	N/A	03/07/08 14:48	080307L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Xylenes (total)	ND	0.0010	1	
Toluene	ND	0.00050	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1	
Ethylbenzene	ND	0.00050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	104	47-137		
Toluene-d8	101	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-3M

Project: ARCO Facility No. 2111

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111DPEAINF	08-03-0424-1-A	03/05/08 06:03	Air	GC 38	N/A	03/06/08 16:27	080306L01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	22	13	1		ppm (v/v)

02111ASAEFF	08-03-0424-2-A	03/05/08 06:00	Air	GC 38	N/A	03/06/08 14:48	080306L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

02111ASYSINF	08-03-0424-3-A	03/05/08 06:05	Air	GC 38	N/A	03/06/08 17:08	080306L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	16	13	1		ppm (v/v)

02111AGAC1	08-03-0424-4-A	03/05/08 05:55	Air	GC 38	N/A	03/06/08 18:43	080306L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

02111AEFF	08-03-0424-5-A	03/05/08 05:50	Air	GC 38	N/A	03/06/08 15:30	080306L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

Method Blank	099-12-693-21	N/A	Air	GC 38	N/A	03/06/08 08:35	080306L01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	13	1		ppm (v/v)

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111DPEWINF	08-03-0424-6-E	03/05/08 05:42	Aqueous	GC 4	03/06/08	03/07/08 03:22	080306B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	107	38-134			

02111ASWINF	08-03-0424-7-E	03/05/08 05:38	Aqueous	GC 4	03/06/08	03/07/08 03:55	080306B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	860	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	115	38-134			

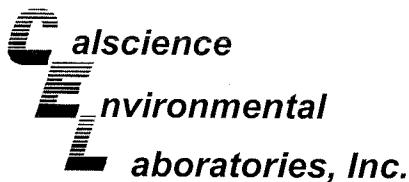
02111ASWEFF	08-03-0424-8-E	03/05/08 05:34	Aqueous	GC 4	03/06/08	03/07/08 00:37	080306B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	113	38-134			

02111WGAC1	08-03-0424-9-E	03/05/08 05:29	Aqueous	GC 4	03/06/08	03/07/08 02:16	080306B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	113	38-134			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111WEFF	08-03-0424-10-E	03/05/08 05:26	Aqueous	GC 4	03/05/08	03/06/08 13:57	080305B02

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	107	38-134			

02111MW2WINF	08-03-0424-11-E	03/05/08 05:45	Aqueous	GC 4	03/06/08	03/07/08 02:49	080306B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1600	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	108	38-134			

Method Blank	099-12-695-49	N/A	Aqueous	GC 4	03/05/08	03/06/08 07:16	080305B02
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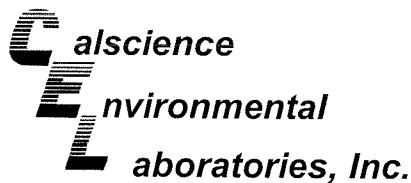
Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	99	38-134			

Method Blank	099-12-695-50	N/A	Aqueous	GC 4	03/06/08	03/06/08 00:04	080306B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	97	38-134			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111DPEWINF	08-03-0424-6-A	03/05/08 05:42	Aqueous	GC/MS BB	03/11/08	03/12/08 09:18	080311L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	91	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	1.8	0.50	1	
Methyl-t-Butyl Ether (MTBE)	570	20	40						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	100	73-157			Dibromofluoromethane	109	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	91	75-105		

02111ASWINF	08-03-0424-7-A	03/05/08 05:38	Aqueous	GC/MS BB	03/13/08	03/13/08 18:37	080313L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	40	40	80		Tert-Butyl Alcohol (TBA)	1800	800	80	
Ethylbenzene	39	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	12	0.50	1		Tert-Amyl-Methyl Ether (TAME)	5.0	0.50	1	
Methyl-t-Butyl Ether (MTBE)	880	40	80						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	105	73-157			Dibromofluoromethane	115	82-142		
Toluene-d8	101	82-112			1,4-Bromofluorobenzene	95	75-105		

02111ASWEFF	08-03-0424-8-A	03/05/08 05:34	Aqueous	GC/MS BB	03/13/08	03/13/08 19:42	080313L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	1500	400	40	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	19	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	112	73-157			Dibromofluoromethane	120	82-142		
Toluene-d8	100	82-112			1,4-Bromofluorobenzene	91	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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# Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
02111WGAC1	08-03-0424-9-B	03/05/08 05:29	Aqueous	GC/MS BB	03/13/08	03/13/08 20:14	080313L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	19	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	106	73-157			Dibromofluoromethane	111	82-142		
Toluene-d8	99	82-112			1,4-Bromofluorobenzene	93	75-105		

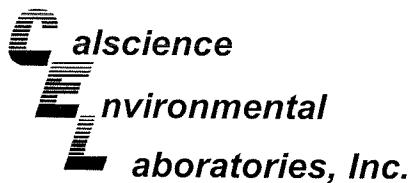
02111WEFF	08-03-0424-10-A	03/05/08 05:26	Aqueous	GC/MS BB	03/06/08	03/06/08 18:29	080306L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	93	73-157			Dibromofluoromethane	101	82-142		
Toluene-d8	95	82-112			1,4-Bromofluorobenzene	92	75-105		

02111MW2WINF	08-03-0424-11-B	03/05/08 05:45	Aqueous	GC/MS BB	03/13/08	03/13/08 20:46	080313L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	56	40	80		Tert-Butyl Alcohol (TBA)	2100	800	80	
Ethylbenzene	50	40	80		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	18	0.50	1		Tert-Amyl-Methyl Ether (TAME)	5.4	0.50	1	
Methyl-t-Butyl Ether (MTBE)	990	40	80						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	98	73-157			Dibromofluoromethane	107	82-142		
Toluene-d8	105	82-112			1,4-Bromofluorobenzene	97	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO Facility No. 2111

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-73	N/A	Aqueous	GC/MS BB	03/06/08	03/06/08 16:19	080306L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	98	73-157			Dibromofluoromethane	98	82-142		
Toluene-d8	95	82-112			1,4-Bromofluorobenzene	93	75-105		

Method Blank	099-12-703-86	N/A	Aqueous	GC/MS BB	03/11/08	03/12/08 02:18	080311L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	102	73-157			Dibromofluoromethane	102	82-142		
Toluene-d8	99	82-112			1,4-Bromofluorobenzene	91	75-105		

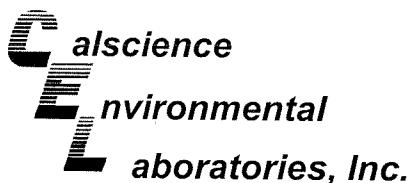
Method Blank	099-12-703-89	N/A	Aqueous	GC/MS BB	03/13/08	03/13/08 14:18	080313L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	108	73-157			Dibromofluoromethane	107	82-142		
Toluene-d8	98	82-112			1,4-Bromofluorobenzene	91	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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## Analytical Report

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

Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

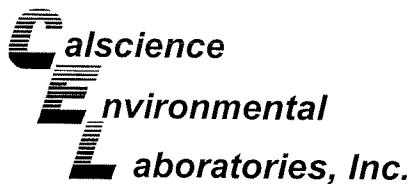
Project: ARCO Facility No. 2111

Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-91	N/A	Aqueous	GC/MS BB	03/14/08	03/14/08 14:57	080314L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Toluene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	99	73-157			Dibromofluoromethane	101	82-142		
Toluene-d8	97	82-112			1,4-Bromofluorobenzene	94	75-105		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Quality Control - Duplicate

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

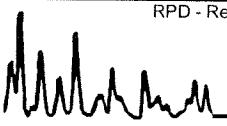
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-3M

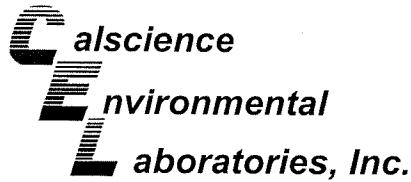
Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
08-03-0421-1	Air	GC 38	N/A	03/06/08	080306D01

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	200	190	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

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## Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.  
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Cameron Park, CA 95682-8861

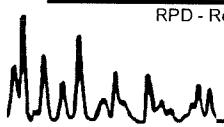
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project ARCO Facility No. 2111

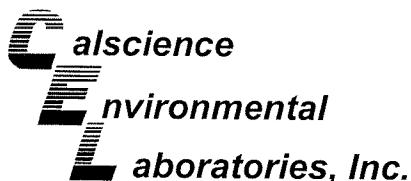
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-0131-9	Aqueous	GC 4	03/05/08	03/06/08	080305S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	107	109	38-134	2	0-25	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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

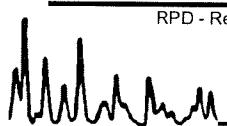
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project ARCO Facility No. 2111

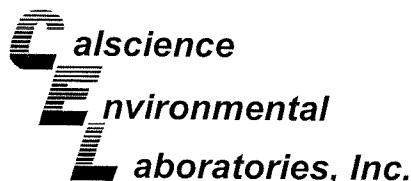
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02111ASWEFF	Aqueous	GC 4	03/06/08	03/07/08	080306S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	108	110	38-134	2	0-25	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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Cameron Park, CA 95682-8861

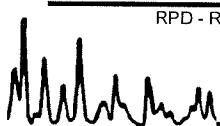
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

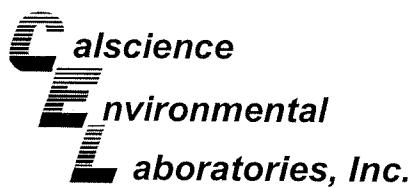
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-0420-5	Aqueous	GC/MS BB	03/06/08	03/06/08	080306S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	93	92	86-122	1	0-8	
Carbon Tetrachloride	78	79	78-138	1	0-9	
Chlorobenzene	96	96	90-120	1	0-9	
1,2-Dibromoethane	92	91	70-130	1	0-30	
1,2-Dichlorobenzene	94	95	89-119	1	0-10	
1,1-Dichloroethene	78	89	52-142	13	0-23	
Ethylbenzene	88	90	70-130	2	0-30	
Toluene	90	91	85-127	1	0-12	
Trichloroethene	90	91	78-126	0	0-10	
Vinyl Chloride	86	85	56-140	1	0-21	
Methyl-t-Butyl Ether (MTBE)	88	80	64-136	10	0-28	
Tert-Butyl Alcohol (TBA)	111	95	27-183	16	0-60	
Diisopropyl Ether (DIPE)	91	95	78-126	4	0-16	
Ethyl-t-Butyl Ether (ETBE)	87	87	67-133	1	0-21	
Tert-Amyl-Methyl Ether (TAME)	84	82	63-141	3	0-21	
Ethanol	59	60	11-167	3	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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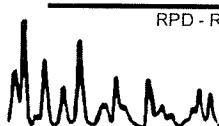
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO Facility No. 2111

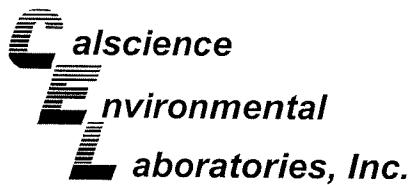
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-0134-8	Aqueous	GC/MS BB	03/11/08	03/12/08	080311S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	95	92	86-122	4	0-8	
Carbon Tetrachloride	90	88	78-138	3	0-9	
Chlorobenzene	96	94	90-120	2	0-9	
1,2-Dibromoethane	106	91	70-130	16	0-30	
1,2-Dichlorobenzene	97	95	89-119	2	0-10	
1,1-Dichloroethene	60	78	52-142	27	0-23	
Ethylbenzene	81	87	70-130	8	0-30	
Toluene	86	87	85-127	0	0-12	
Trichloroethene	92	87	78-126	5	0-10	
Vinyl Chloride	83	90	56-140	9	0-21	
Methyl-t-Butyl Ether (MTBE)	128	100	64-136	25	0-28	
Tert-Butyl Alcohol (TBA)	98	97	27-183	1	0-60	
Diisopropyl Ether (DIPE)	114	108	78-126	5	0-16	
Ethyl-t-Butyl Ether (ETBE)	119	101	67-133	16	0-21	
Tert-Amyl-Methyl Ether (TAME)	113	94	63-141	18	0-21	
Ethanol	96	88	11-167	8	0-64	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Spike/Spike Duplicate

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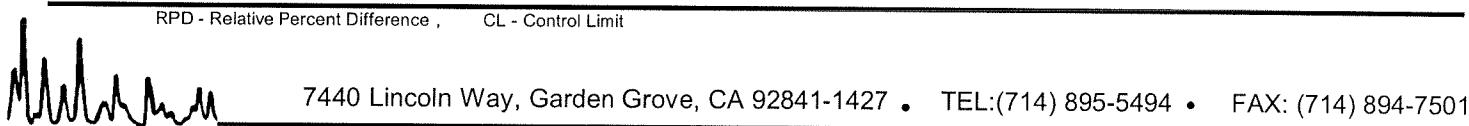
Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

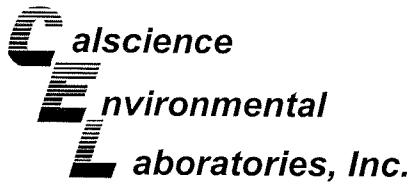
Project ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-1083-4	Aqueous	GC/MS BB	03/13/08	03/13/08	080313S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	89	90	86-122	1	0-8	
Carbon Tetrachloride	92	94	78-138	2	0-9	
Chlorobenzene	91	92	90-120	1	0-9	
1,2-Dibromoethane	88	90	70-130	3	0-30	
1,2-Dichlorobenzene	89	91	89-119	2	0-10	
1,1-Dichloroethene	79	80	52-142	0	0-23	
Ethylbenzene	91	91	70-130	0	0-30	
Toluene	87	87	85-127	0	0-12	
Trichloroethene	88	89	78-126	1	0-10	
Vinyl Chloride	90	92	56-140	2	0-21	
Methyl-t-Butyl Ether (MTBE)	88	91	64-136	4	0-28	
Tert-Butyl Alcohol (TBA)	106	104	27-183	2	0-60	
Diisopropyl Ether (DIPE)	96	96	78-126	1	0-16	
Ethyl-t-Butyl Ether (ETBE)	91	92	67-133	1	0-21	
Tert-Amyl-Methyl Ether (TAME)	88	90	63-141	3	0-21	
Ethanol	101	125	11-167	21	0-64	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate

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Date Received: 03/06/08  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

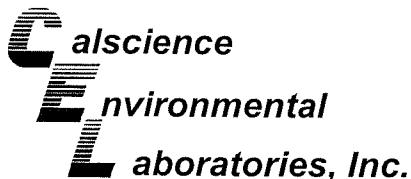
Project ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-03-0128-5	Aqueous	GC/MS BB	03/14/08	03/14/08	080314S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	99	97	86-122	2	0-8	
Carbon Tetrachloride	100	102	78-138	2	0-9	
Chlorobenzene	98	97	90-120	1	0-9	
1,2-Dibromoethane	95	94	70-130	1	0-30	
1,2-Dichlorobenzene	98	97	89-119	1	0-10	
1,1-Dichloroethene	97	95	52-142	3	0-23	
Ethylbenzene	98	97	70-130	1	0-30	
Toluene	95	94	85-127	1	0-12	
Trichloroethene	97	94	78-126	3	0-10	
Vinyl Chloride	98	99	56-140	1	0-21	
Methyl-t-Butyl Ether (MTBE)	94	92	64-136	2	0-28	
Tert-Butyl Alcohol (TBA)	116	103	27-183	8	0-60	
Diisopropyl Ether (DIPE)	105	104	78-126	1	0-16	
Ethyl-t-Butyl Ether (ETBE)	101	102	67-133	0	0-21	
Tert-Amyl-Methyl Ether (TAME)	98	95	63-141	3	0-21	
Ethanol	99	114	11-167	13	0-64	

RPD - Relative Percent Difference , CL - Control Limit

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## Quality Control - LCS/LCS Duplicate

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Date Received: N/A  
Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-15

Project: ARCO Facility No. 2111

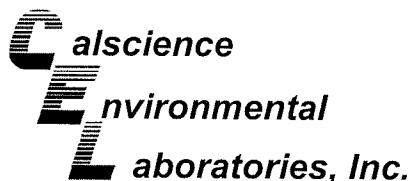
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-6,875	Air	GC/MS AA	N/A	03/06/08	080306L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	105	60-156	0	0-40	
Toluene	104	105	56-146	0	0-43	
Ethylbenzene	107	107	52-154	0	0-38	
p/m-Xylene	107	106	42-156	0	0-41	
o-Xylene	106	105	52-148	1	0-38	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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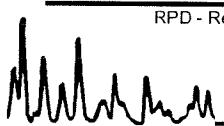
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Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-15

Project: ARCO Facility No. 2111

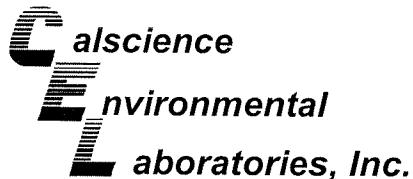
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-6,879	Air	GC/MS AA	N/A	03/07/08	080307L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	112	109	60-156	3	0-40	
Toluene	111	109	56-146	2	0-43	
Ethylbenzene	114	109	52-154	5	0-38	
p/m-Xylene	113	108	42-156	5	0-41	
o-Xylene	113	106	52-148	6	0-38	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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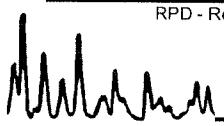
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Work Order No: 08-03-0424  
Preparation: N/A  
Method: EPA TO-15

Project: ARCO Facility No. 2111

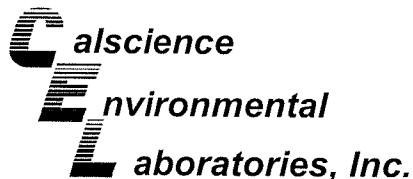
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-6,876	Air	GC/MS NN	N/A	03/07/08	080307L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	114	122	60-156	6	0-40	
Toluene	120	129	56-146	7	0-43	
Ethylbenzene	117	124	52-154	6	0-38	
p/m-Xylene	111	118	42-156	6	0-41	
o-Xylene	114	121	52-148	6	0-38	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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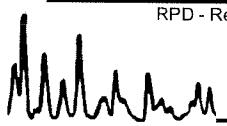
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Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

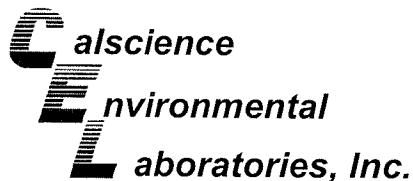
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-49	Aqueous	GC 4	03/05/08	03/06/08	080305B02

Parameter	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	109	109	78-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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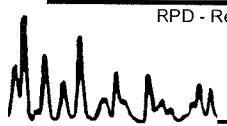
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Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO Facility No. 2111

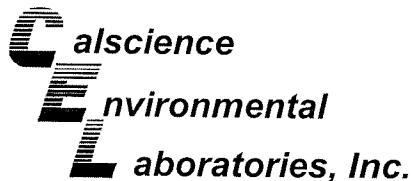
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-50	Aqueous	GC 4	03/06/08	03/06/08	080306B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	113	112	78-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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Date Received: N/A  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

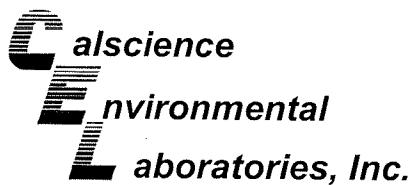
Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-73	Aqueous	GC/MS BB	03/06/08	03/06/08	080306L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	97	96	87-117	1	0-7	
Carbon Tetrachloride	82	83	78-132	1	0-8	
Chlorobenzene	99	100	88-118	1	0-8	
1,2-Dibromoethane	99	99	80-120	1	0-20	
1,2-Dichlorobenzene	99	99	88-118	0	0-8	
1,1-Dichloroethene	95	95	71-131	1	0-14	
Ethylbenzene	95	94	80-120	1	0-20	
Toluene	95	96	85-127	1	0-7	
Trichloroethene	99	99	85-121	0	0-11	
Vinyl Chloride	92	92	64-136	1	0-10	
Methyl-t-Butyl Ether (MTBE)	88	87	67-133	1	0-16	
Tert-Butyl Alcohol (TBA)	92	93	34-154	1	0-19	
Diisopropyl Ether (DIPE)	97	95	80-122	2	0-8	
Ethyl-t-Butyl Ether (ETBE)	89	91	73-127	1	0-11	
Tert-Amyl-Methyl Ether (TAME)	88	87	69-135	1	0-12	
Ethanol	67	82	34-124	20	0-44	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate

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Cameron Park, CA 95682-8861

Date Received: N/A  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

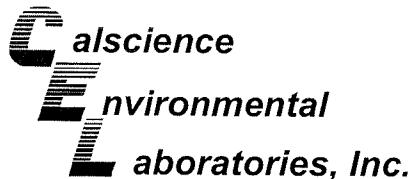
Project: ARCO Facility No. 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-86	Aqueous	GC/MS BB	03/11/08	03/11/08	080311L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	90	92	87-117	2	0-7	
Carbon Tetrachloride	88	90	78-132	2	0-8	
Chlorobenzene	92	92	88-118	1	0-8	
1,2-Dibromoethane	96	95	80-120	1	0-20	
1,2-Dichlorobenzene	94	95	88-118	1	0-8	
1,1-Dichloroethene	83	91	71-131	10	0-14	
Ethylbenzene	92	93	80-120	1	0-20	
Toluene	88	90	85-127	3	0-7	
Trichloroethylene	91	92	85-121	1	0-11	
Vinyl Chloride	92	97	64-136	5	0-10	
Methyl-t-Butyl Ether (MTBE)	94	98	67-133	5	0-16	
Tert-Butyl Alcohol (TBA)	102	103	34-154	2	0-19	
Diisopropyl Ether (DIPE)	94	97	80-122	3	0-8	
Ethyl-t-Butyl Ether (ETBE)	93	95	73-127	2	0-11	
Tert-Amyl-Methyl Ether (TAME)	91	95	69-135	5	0-12	
Ethanol	104	112	34-124	7	0-44	

RPD - Relative Percent Difference , CL - Control Limit

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## Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.  
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Cameron Park, CA 95682-8861

Date Received: N/A  
Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO Facility No. 2111

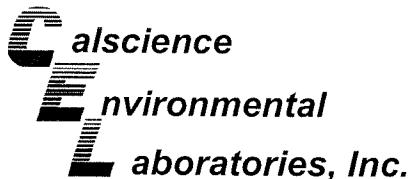
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099-12-703-89	Aqueous	GC/MS BB	03/13/08	03/13/08	080313L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	90	91	87-117	1	0-7	
Carbon Tetrachloride	93	93	78-132	0	0-8	
Chlorobenzene	92	93	88-118	1	0-8	
1,2-Dibromoethane	90	93	80-120	3	0-20	
1,2-Dichlorobenzene	92	93	88-118	0	0-8	
1,1-Dichloroethene	82	89	71-131	9	0-14	
Ethylbenzene	92	92	80-120	0	0-20	
Toluene	89	90	85-127	2	0-7	
Trichloroethene	90	91	85-121	0	0-11	
Vinyl Chloride	91	90	64-136	0	0-10	
Methyl-t-Butyl Ether (MTBE)	89	90	67-133	0	0-16	
Tert-Butyl Alcohol (TBA)	105	101	34-154	5	0-19	
Diisopropyl Ether (DIPE)	91	91	80-122	0	0-8	
Ethyl-t-Butyl Ether (ETBE)	90	90	73-127	0	0-11	
Tert-Amyl-Methyl Ether (TAME)	88	89	69-135	1	0-12	
Ethanol	105	98	34-124	7	0-44	

RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate

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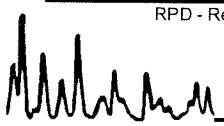
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Work Order No: 08-03-0424  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO Facility No. 2111

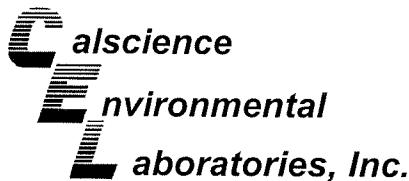
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099-12-703-91	Aqueous	GC/MS BB	03/14/08	03/14/08	080314L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	97	87-117	1	0-7	
Carbon Tetrachloride	99	100	78-132	1	0-8	
Chlorobenzene	97	98	88-118	1	0-8	
1,2-Dibromoethane	93	99	80-120	6	0-20	
1,2-Dichlorobenzene	95	97	88-118	2	0-8	
1,1-Dichloroethene	99	93	71-131	7	0-14	
Ethylbenzene	97	99	80-120	2	0-20	
Toluene	94	95	85-127	1	0-7	
Trichloroethene	94	96	85-121	3	0-11	
Vinyl Chloride	99	99	64-136	0	0-10	
Methyl-t-Butyl Ether (MTBE)	96	98	67-133	2	0-16	
Tert-Butyl Alcohol (TBA)	91	97	34-154	6	0-19	
Diisopropyl Ether (DIPE)	101	101	80-122	0	0-8	
Ethyl-t-Butyl Ether (ETBE)	100	101	73-127	1	0-11	
Tert-Amyl-Methyl Ether (TAME)	96	100	69-135	4	0-12	
Ethanol	89	91	34-124	2	0-44	

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Glossary of Terms and Qualifiers

Work Order Number: 08-03-0424

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.



## Chain of Custody Record

Project Name: ARCO Facility No. 2111      RUSH  
 BP BU/AR Region/Enfos Segment: BP > Americas > West > Retail > Alameda  
 State or Lead Regulatory Agency: Alameda County Environmental Health  
 Requested Due Date (mm/dd/yy): 24 hours for Effluent  
 & STD for others

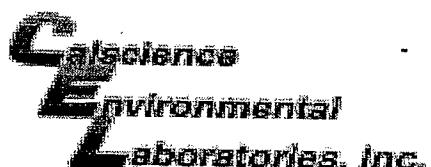
Page 1 of 1

On-site Time:	0400	Temp:	40
Off-site Time:	0445	Temp:	42
Sky Conditions:	Clear		
Meteorological Events:			
Wind Speed:		Direction:	

Lab Name: Calscience Environmental Laboratories, Inc.		BP/AR Facility No.: 2111	Consultant/Contractor: Stratus Environmental, Inc.
Address: 7440 Lincoln Way		BP/AR Facility Address: 1156 Davis St., San Leandro	Address: 3330 Cameron Park Drive, Suite 550
Garden Grove, CA 92841		Site Lat/Long:	Cameron Park, CA 95682
Lab PM: Linda Scharpenberg		California Global ID No.: T0600101764	Consultant/Contractor Project No.: E2111-03
Tele/Fax: 714-895-5494/ 714-895-7501		Enfos Project No.: G0C28-0029	Consultant/Contractor PM: Jay Johnson
BP/AR PM Contact: Paul Supple		Provision or OOC (circle one) Provision	Tele/Fax: (530) 676-6000 / (530) 676-6005
Address: 2010 Crow Canyon Place, Suite 150		Phase/WBS: 03-O&M	Report Type & QC Level: Level 1 with EDF
San Ramon, CA		Sub Phase/Task: 03-Analytical	E-mail EDD To: shayes@stratusinc.net
Tele/Fax: 925-275-3506/925-275-3815		Cost Element: Subcontractor Cost	Invoice to: Atlantic Richfield Co.

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis			Turnaround Time		Sample Point Lat/Long and Comments	
							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO	BTEx	MIBE	5-oxygenates	24-hours	Standard	
1	02111DPEAINF	0603	3/26	x		2	x					x	x	x			x	5-oxygenates requested are MTBE, DIPE, ETBE, TAME, and TBA.
2	02111ASAEFF	0600		x		2	x					x	x	x			x	
3	02111ASYSINF	0603		x		2	x					x	x	x			x	
4	02111AGAC1	0535		x		2	x					x	x	x			x	
5	02111AEFF	0530		x		2	x					x	x	x			x	
6	02111DPWINF	0542		x		1			x			x	x	x			x	
7	02111ASWINF	0538		x		6			x			x	x	x			x	
8	02111ASWEFF	0534		x		6			x			x	x	x			x	
9	02111WGAC1	0529		x		6			x			x	x	x			x	
10	02111WEFF	0526		x		6			x			x	x	x		x		
11	02111MW2WINF	0545	3/28	x		6			x			x	x	x			x	

Sampler's Name: Chris Hall	Relinquished By / Affiliation: John Hall Stratus	Date: 3/26	Time: 1500	Accepted By / Affiliation:	Date: 3/26	Time: 1500
Sampler's Company: Stratus Environmental, Inc.						
Shipment Date: 3/26						
Shipment Method: C50						
Shipment Tracking No: 0255161562						
Special Instructions: Please cc results to bpedit@broadbentinc.com						
Custody Seals In Place: Yes / No	Temp Blank: Yes / No	Cooler Temp on Receipt: °F/C	Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No		



WORK ORDER #: 08 - 03 - 0424

Cooler 1 of 2

## **SAMPLE RECEIPT FORM**

**CLIENT:** Stratus

DATE: 3/6/08

**TEMPERATURE – SAMPLES RECEIVED BY:**

CALSCIENCE COURIER:

- Chilled, cooler with temperature blank provided.
  - Chilled, cooler without temperature blank.
  - Chilled and placed in cooler with wet ice.
  - Ambient and placed in cooler with wet ice.
  - Ambient temperature.
  - °C Temperature blank.

**LABORATORY (Other than Calscience Courier):**

- 4.1 °C Temperature blank.  
       °C IR thermometer.  
       Ambient temperature.

Initial: *gf*

**CUSTODY SEAL INTACT:**

Sample(s): \_\_\_\_\_ Cooler:  No (Not Intact): \_\_\_\_\_ Not Present: \_\_\_\_\_

Cooler:

No (Not Intact) :

Not Present:

Initial: *JG*

**SAMPLE CONDITION:**

Chain-Of-Custody document(s) received with samples..... ✓ .....

Sampler's name indicated on COC..... ✓ .....

Sample container label(s) consistent with custody papers..... ✓ .....

Sample container(s) intact and good condition..... ✓ .....

Correct containers and volume for analyses requested..... ✓ .....

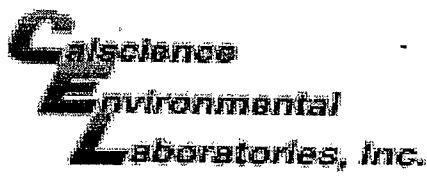
Proper preservation noted on sample label(s)..... ✓ .....

VOA vial(s) free of headspace. .... ✓ .....

Tedlar bag(s) free of condensation..... ..... ✓

Initial: f

**COMMENTS:**



WORK ORDER #: 08 - 0 3 - 0 4 2 4

Cooler 2 of 2

## SAMPLE RECEIPT FORM

CLIENT: StretesDATE: 3/6/08

## TEMPERATURE – SAMPLES RECEIVED BY:

## CALSCIENCE COURIER:

- Chilled, cooler with temperature blank provided.
- Chilled, cooler without temperature blank.
- Chilled and placed in cooler with wet ice.
- Ambient and placed in cooler with wet ice.
- Ambient temperature.
  
- °C Temperature blank.

## LABORATORY (Other than Calscience Courier):

- °C Temperature blank.
- °C IR thermometer.
- Ambient temperature.

Initial: JF

## CUSTODY SEAL INTACT:

Sample(s): \_\_\_\_\_

Cooler: 

No (Not Intact) : \_\_\_\_\_

Not Present: \_\_\_\_\_

Initial: JF

## SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	.....	.....
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	.....	.....
Sample container label(s) consistent with custody papers.....	<input checked="" type="checkbox"/>	.....	.....
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	.....	.....
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	.....	.....
Proper preservation noted on sample label(s).....	.....	.....	<input checked="" type="checkbox"/>
VOA vial(s) free of headspace.....	.....	.....	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input checked="" type="checkbox"/>	.....	.....

Initial: JF

## COMMENTS:

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## **APPENDIX D**

**STRATUS REMEDIATION SYSTEM MONTHLY DISCHARGE REPORTS  
(INCLUDES BRIEF STATEMENTS SUMMARIZING OPERATIONS AND SEWER  
DISCHARGE SUMMARY TABLES)**



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
**(530) 676-6004** ~ Fax: (530) 676-6005

## TRANSMITTAL

Date February 4, 2008

Project E2111-03

To:

Ms. Tiffany Treece

City of San Leandro

Civic Center, 835 E. 14<sup>th</sup> Street

San Leandro, CA 94577

Re: Permit # SD-036, ARCO Service Station No. 2111, 1156 Davis Street, San Leandro

<u>Item</u>	<u>Description</u>
1	Monthly Discharge Report for January 2008
2	Table 1– Sewer Discharge Summary Report

**Comments:**

Dear Ms. Treece:

Please find attached for your review the *Monthly Discharge Report* for January 2008, for the remediation system at ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California. A total of approximately 2,918 gallons of treated groundwater were discharged to the sanitary sewer between December 17, 2007 and January 15, 2008.

If you have any questions or need any additional information, please call either Kiran Nagaraju at (530) 676 6007 or myself at (530) 676-6000.

Sincerely,

Jay R. Johnson, P.G.  
Project Manager

cc: Mr. Rob Miller, Broadbent & Associates, Inc.

## MONTHLY DISCHARGE REPORT

### ARCO SERVICE STATION #2111, 1156 DAVIS STREET

This form and enclosed documents serve as the remediation activities monthly discharge report to the City of San Leandro for the reporting period of: December 17, 2007 to January 15, 2008. This report is submitted in compliance with 40 CFR 403.12 and Part III (A) of Special Discharge Permit **SD-036**. The information contained in this report is accurate and complete. For any questions or comments regarding this report, contact Kiran Nagaraju at (530) 676 6007.

Number of days discharged: 29

Total monthly discharge: 2,918 U. S. Gallons

Signature of Certifying Official

Printed Name of Official: Jay R. Johnson, P.G.

Title: Project Manager

Date: February 4, 2008

Include a brief statement summarizing the month's operations:

The operation of the dual phase extraction (DPE) system, air stripper (AS) and the groundwater extraction and treatment system (GETS) was initiated on January 29, 2007. Soil vapors and groundwater were concurrently extracted from wells V-1, V-2, V-3, MW-1, MW-3, MW-7, and MW-8 using the liquid ring pump of the DPE system. In addition, groundwater was also extracted from well MW-2 using the electrical submersible pump. The groundwater extracted by both the DPE and the submersible pump is treated using the air stripper and two 2,000-pound carbon vessels in series prior to the discharge to the sewer. The remediation systems were found non-functioning on January 7, 2008 due to high-water level alarm on the air stripper. The remediation systems were re-started momentarily on January 7, 2008 and shutdown after sampling, pending receipt of analytical results. Upon receipt of analytical results and compliance verification, the remediation systems were re-started on January 15, 2008.

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
January-07	1/29/07 8:00	System Start-up	
	1/29/07 8:00	3,000	
	1/29/07 <sup>1</sup> 12:00	5,000	5,560
	01/30/07	6,200	
	01/31/07	8,560	
February-07	2/1/07 5:15	16,860	
	2/2/07 5:00	25,480	
	2/5/07 5:00	33,400	
	2/20/07 6:30	122,790	114,230
March-07	3/5/07 <sup>2</sup> 5:00	130,565	
	3/8/07 <sup>3</sup> 4:50	132,951	
	3/14/07 <sup>4</sup> 7:00	NM	
	3/29/07 <sup>5</sup> 10:00	133,262	10,472
April-07	4/2/07 <sup>6</sup> 5:30	170,596	
	4/10/07 <sup>7</sup> 5:00	NM	
	4/23/07 <sup>8</sup> 7:00	172,210	
	4/26/07 6:00	200,143	66,881
May-07	5/1/2007 <sup>9</sup> 4:50	220,892	
	5/15/2007 <sup>10</sup> 5:00	225,297	
	5/29/07 8:30	410,246	210,103
June-07	6/4/2007 <sup>11</sup> 5:00	429,450	
	6/12/2007 <sup>12</sup> 5:00	430,092	
	6/26/2007 <sup>13</sup> 4:30	430,222	19,976

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
July-07	7/2/07 5:30	480,377	
	7/10/2007 <sup>14</sup> 5:45	523,553	115,872
	7/17/2007 <sup>15</sup> 5:00	546,094	
August-07	8/1/2007 <sup>15</sup> 5:00	580,301	
	8/7/07 5:00	580,662	36,612
	8/20/2007 <sup>15</sup> 5:00	582,706	
September-07	9/5/2007 <sup>16</sup> 5:00	589,944	
	9/11/2007 <sup>17</sup> 9:00	589,950	8,737
	9/17/2007 <sup>18</sup> 5:30	591,443	
October-07	10/1/07 <sup>19</sup> 5:00	592,403	
	10/11/07 <sup>20</sup> 8:15	NM	
	10/23/07 <sup>17</sup> 5:00	NM	
	10/30/07 <sup>15</sup> 7:10	593,647	2,204
November-07	11/6/07 <sup>11</sup> 4:30	612,552	
	11/14/07 <sup>17</sup> 6:00	612,552	19,890
	11/20/07 <sup>15</sup> 6:50	613,537	
December-07	12/5/07 <sup>11</sup> 5:00	633,121	
	12/17/07 <sup>17</sup> 4:30	633,123	19,586
January-08	1/7/08 <sup>11</sup> 5:00	635,200	
	1/15/08 <sup>17</sup> 7:00	636,041	2,918

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
Notes:			
NM = Not measured			
<sup>1</sup> Submersible pump at well MW-2 was shutdown. This pump will be re-started after troubleshooting the level floats/controller malfunction.			
<sup>2</sup> System observed non-functioning upon arrival. Re-started by re-setting power supply.			
<sup>3</sup> System shutdown to verify effluent air results.			
<sup>4</sup> System shutdown due to float malfunction.			
<sup>5</sup> System re-started after replacing the floats.			
<sup>6</sup> System shutdown due to high-level in oil-water separator. System restarted after replacing a capacitor on the transfer pump.			
<sup>7</sup> System shutdown due to transfer pump malfunction. System could not be restarted pending replacement of transfer pump.			
<sup>8</sup> System restarted after replacing transfer pump.			
<sup>9</sup> System observed non-functioning upon arrival due to DPE liquid ring pump malfunction. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>10</sup> System re-started upon compliance verification and after conducting maintenance on the liquid ring pump.			
<sup>11</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>12</sup> System re-started momentarily upon compliance verification and to collect carbon sample for profiling and change-out.			
<sup>13</sup> System re-started upon receipt of analytical results for carbon profile.			
<sup>14</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started after replacing particulate filters on the system.			
<sup>15</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper. System re-started after re-setting air stripper.			
<sup>16</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>17</sup> System re-started upon receipt of analytical results and compliance verification.			
<sup>18</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started momentarily after conducting maintenance, but shutdown pending further troubleshooting.			
<sup>19</sup> System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>20</sup> System re-started briefly but shutdown to verify effluent air results.			



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

## TRANSMITTAL

Date March 3, 2008  
Project E2111-03

To:

Ms. Tiffany Treece

City of San Leandro

Civic Center, 835 E. 14<sup>th</sup> Street

San Leandro, CA 94577

Re: Permit # SD-036, ARCO Service Station No. 2111, 1156 Davis Street, San Leandro

<u>Item</u>	<u>Description</u>
1	Monthly Discharge Report for February 2008
2	Table 1– Sewer Discharge Summary Report

**Comments:**

Dear Ms. Treece:

Please find attached for your review the *Monthly Discharge Report* for February 2008, for the remediation system at ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California. A total of approximately 7,402 gallons of treated groundwater were discharged to the sanitary sewer between January 15, 2008 and February 26, 2008.

If you have any questions or need any additional information, please call either Kiran Nagaraju at (530) 676 6007 or myself at (530) 676-6000.

Sincerely,

Jay R. Johnson, P.G.  
Project Manager

cc: Mr. Rob Miller, Broadbent & Associates, Inc.

**MONTHLY DISCHARGE REPORT**  
**ARCO SERVICE STATION #2111, 1156 DAVIS STREET**

This form and enclosed documents serve as the remediation activities monthly discharge report to the City of San Leandro for the reporting period of: January 15, 2008 to February 26, 2008. This report is submitted in compliance with 40 CFR 403.12 and Part III (A) of Special Discharge Permit **SD-036**. The information contained in this report is accurate and complete. For any questions or comments regarding this report, contact Kiran Nagaraju at (530) 676 6007.

Number of days discharged: 42

Total monthly discharge: 7,402 U. S. Gallons

Signature of Certifying Official:

Printed Name of Official: Jay R. Johnson, P.G.

Title: Project Manager

Date: March 3, 2008

Include a brief statement summarizing the month's operations:

The operation of the dual phase extraction (DPE) system, air stripper (AS) and the groundwater extraction and treatment system (GETS) was initiated on January 29, 2007. Soil vapors and groundwater were concurrently extracted from wells V-1, V-2, V-3, MW-1, MW-3, MW-7, and MW-8 using the liquid ring pump of the DPE system. In addition, groundwater was also extracted from well MW-2 using the electrical submersible pump. The groundwater extracted by both the DPE and the submersible pump is treated using the air stripper and two 2,000-pound carbon vessels in series prior to the discharge to the sewer. The remediation systems were found non-functioning on February 5, 2008, due to high-water level alarm in the air stripper tank. Additionally, the transfer pump on the DPE system was also observed malfunctioning on February 5, 2008. The remediation systems were re-started momentarily on February 5, 2008 and shutdown after sampling, pending receipt of analytical results and replacement of transfer pump. Upon receipt of analytical results and compliance verification and replacement of the transfer pump on the DPE system, the remediation systems were re-started on February 26, 2008.

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
January-07	1/29/07 8:00 1/29/07 8:00 1/29/07 <sup>1</sup> 12:00 01/30/07 01/31/07	System Start-up 3,000 5,000 6,200 8,560	5,560
February-07	2/1/07 5:15 2/2/07 5:00 2/5/07 5:00 2/20/07 6:30	16,860 25,480 33,400 122,790	114,230
March-07	3/5/07 <sup>2</sup> 5:00 3/8/07 <sup>3</sup> 4:50 3/14/07 <sup>4</sup> 7:00 3/29/07 <sup>5</sup> 10:00	130,565 132,951 NM 133,262	10,472
April-07	4/2/07 <sup>6</sup> 5:30 4/10/07 <sup>7</sup> 5:00 4/23/07 <sup>8</sup> 7:00 4/26/07 6:00	170,596 NM 172,210 200,143	66,881
May-07	5/1/2007 <sup>9</sup> 4:50 5/15/2007 <sup>10</sup> 5:00 5/29/07 8:30	220,892 225,297 410,246	210,103
June-07	6/4/2007 <sup>11</sup> 5:00 6/12/2007 <sup>12</sup> 5:00 6/26/2007 <sup>13</sup> 4:30	429,450 430,092 430,222	19,976

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
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	7/10/2007 <sup>14</sup> 5:45	523,553	115,872
	7/17/2007 <sup>15</sup> 5:00	546,094	
August-07	8/1/2007 <sup>15</sup> 5:00	580,301	
	8/7/07 5:00	580,662	36,612
	8/20/2007 <sup>15</sup> 5:00	582,706	
September-07	9/5/2007 <sup>16</sup> 5:00	589,944	
	9/11/2007 <sup>17</sup> 9:00	589,950	8,737
	9/17/2007 <sup>18</sup> 5:30	591,443	
October-07	10/1/07 <sup>19</sup> 5:00	592,403	
	10/11/07 <sup>20</sup> 8:15	NM	2,204
	10/23/07 <sup>17</sup> 5:00	NM	
	10/30/07 <sup>15</sup> 7:10	593,647	
November-07	11/6/07 <sup>11</sup> 4:30	612,552	
	11/14/07 <sup>17</sup> 6:00	612,552	19,890
	11/20/07 <sup>15</sup> 6:50	613,537	
December-07	12/5/07 <sup>11</sup> 5:00	633,121	
	12/17/07 <sup>17</sup> 4:30	633,123	19,586
January-08	1/7/08 <sup>11</sup> 5:00	635,200	
	1/15/08 <sup>17</sup> 7:00	636,041	2,918
February-08	2/5/08 <sup>21</sup> 8:15	642,841	
	2/26/08 <sup>22</sup> 6:00	643,443	7,402

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
Notes:			
NM = Not measured			
<sup>1</sup> Submersible pump at well MW-2 was shutdown. This pump will be re-started after troubleshooting the level floats/controller malfunction.			
<sup>2</sup> System observed non-functioning upon arrival. Re-started by re-setting power supply.			
<sup>3</sup> System shutdown to verify effluent air results.			
<sup>4</sup> System shutdown due to float malfunction.			
<sup>5</sup> System re-started after replacing the floats.			
<sup>6</sup> System shutdown due to high-level in oil-water separator. System restarted after replacing a capacitor on the transfer pump.			
<sup>7</sup> System shutdown due to transfer pump malfunction. System could not be restarted pending replacement of transfer pump.			
<sup>8</sup> System restarted after replacing transfer pump.			
<sup>9</sup> System observed non-functioning upon arrival due to DPE liquid ring pump malfunction. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>10</sup> System re-started upon compliance verification and after conducting maintenance on the liquid ring pump.			
<sup>11</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>12</sup> System re-started momentarily upon compliance verification and to collect carbon sample for profiling and change-out.			
<sup>13</sup> System re-started upon receipt of analytical results for carbon profile.			
<sup>14</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started after replacing particulate filters on the system.			
<sup>15</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper. System re-started after re-setting air stripper.			
<sup>16</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>17</sup> System re-started upon receipt of analytical results and compliance verification.			
<sup>18</sup> System observed non-functioning upon arrival due to high-level in oil-water separator. System re-started momentarily after conducting maintenance, but shutdown pending further troubleshooting.			

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
<sup>19</sup> System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>20</sup> System re-started briefly but shutdown to verify effluent air results.			
<sup>21</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper and transfer pump malfunction. System re-started; but shutdown after sampling pending receipt and verification of analytical results and replacement of transfer pump.			
<sup>22</sup> System re-started upon receipt of analytical results and compliance verification and replacement of transfer pump.			



3330 Cameron Park Drive, Ste 550  
Cameron Park, California 95682  
(530) 676-6004 ~ Fax: (530) 676-6005

## TRANSMITTAL

Date April 1, 2008  
Project E2111-03

To:

Ms. Tiffany Treece  
City of San Leandro  
Civic Center, 835 E. 14<sup>th</sup> Street  
San Leandro, CA 94577

Re: Permit # SD-036, ARCO Service Station No. 2111, 1156 Davis Street, San Leandro

<u>Item</u>	<u>Description</u>
1	Monthly Discharge Report for March 2008
2	Table 1– Sewer Discharge Summary Report

**Comments:**

Dear Ms. Treece:

Please find attached for your review the *Monthly Discharge Report* for March 2008, for the remediation system at ARCO Service Station No. 2111, located at 1156 Davis Street, San Leandro, California. A total of approximately 2,778 gallons of treated groundwater were discharged to the sanitary sewer between February 26, 2008 and March 17, 2008.

If you have any questions or need any additional information, please call either Kiran Nagaraju at (530) 676 6007 or myself at (530) 676-6000.

Sincerely,  
Jay R. Johnson, P.G.  
Project Manager

cc: Mr. Rob Miller, Broadbent & Associates, Inc.

**MONTHLY DISCHARGE REPORT**  
**ARCO SERVICE STATION #2111, 1156 DAVIS STREET**

This form and enclosed documents serve as the remediation activities monthly discharge report to the City of San Leandro for the reporting period of: February 26, 2008 to March 17, 2008. This report is submitted in compliance with 40 CFR 403.12 and Part III (A) of Special Discharge Permit **SD-036**. The information contained in this report is accurate and complete. For any questions or comments regarding this report, contact Kiran Nagaraju at (530) 676 6007.

Number of days discharged: 20

Total monthly discharge: 2,778 U. S. Gallons

Signature of Certifying Official:

Printed Name of Official: Jay R. Johnson, P.G.

Title: Project Manager

Date: April 1, 2008

Include a brief statement summarizing the month's operations:

The operation of the dual phase extraction (DPE) system, air stripper (AS) and the groundwater extraction and treatment system (GETS) was initiated on January 29, 2007. Soil vapors and groundwater were concurrently extracted from wells V-1, V-2, V-3, MW-1, MW-3, MW-7, and MW-8 using the liquid ring pump of the DPE system. In addition, groundwater was also extracted from well MW-2 using the electrical submersible pump. The groundwater extracted by both the DPE and the submersible pump is treated using the air stripper and two 2,000-pound carbon vessels in series prior to the discharge to the sewer. The remediation systems were found non-functioning on March 5, 2008, due to high-water level alarm in the air stripper tank. The remediation systems were re-started momentarily on March 5, 2008 and shutdown after sampling, pending receipt of analytical results and replacement of transfer pump. Upon receipt of analytical results and compliance verification, the remediation systems were re-started on March 17, 2008. However, the DPE system shutdown immediately due to float malfunction on the DPE system. The GETS was left operational on March 17, 2008 and the DPE system will be re-started in April 2008 after replacing the floats.

**TABLE 1**  
**SEWER DISCHARGE SUMMARY REPORT**  
ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
January-07	1/29/07 8:00 1/29/07 8:00 1/29/07 <sup>1</sup> 12:00 01/30/07 01/31/07	System Start-up 3,000 5,000 6,200 8,560	5,560
February-07	2/1/07 5:15 2/2/07 5:00 2/5/07 5:00 2/20/07 6:30	16,860 25,480 33,400 122,790	114,230
March-07	3/5/07 <sup>2</sup> 5:00 3/8/07 <sup>3</sup> 4:50 3/14/07 <sup>4</sup> 7:00 3/29/07 <sup>5</sup> 10:00	130,565 132,951 NM 133,262	10,472
April-07	4/2/07 <sup>6</sup> 5:30 4/10/07 <sup>7</sup> 5:00 4/23/07 <sup>8</sup> 7:00 4/26/07 6:00	170,596 NM 172,210 200,143	66,881
May-07	5/1/2007 <sup>9</sup> 4:50 5/15/2007 <sup>10</sup> 5:00 5/29/07 8:30	220,892 225,297 410,246	210,103
June-07	6/4/2007 <sup>11</sup> 5:00 6/12/2007 <sup>12</sup> 5:00 6/26/2007 <sup>13</sup> 4:30	429,450 430,092 430,222	19,976

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ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
July-07	7/2/07 5:30	480,377	
	7/10/2007 <sup>14</sup> 5:45	523,553	115,872
	7/17/2007 <sup>15</sup> 5:00	546,094	
August-07	8/1/2007 <sup>15</sup> 5:00	580,301	
	8/7/07 5:00	580,662	36,612
	8/20/2007 <sup>15</sup> 5:00	582,706	
September-07	9/5/2007 <sup>16</sup> 5:00	589,944	
	9/11/2007 <sup>17</sup> 9:00	589,950	8,737
	9/17/2007 <sup>18</sup> 5:30	591,443	
October-07	10/1/07 <sup>19</sup> 5:00	592,403	
	10/11/07 <sup>20</sup> 8:15	NM	
	10/23/07 <sup>17</sup> 5:00	NM	2,204
	10/30/07 <sup>15</sup> 7:10	593,647	
November-07	11/6/07 <sup>11</sup> 4:30	612,552	
	11/14/07 <sup>17</sup> 6:00	612,552	19,890
	11/20/07 <sup>15</sup> 6:50	613,537	
December-07	12/5/07 <sup>11</sup> 5:00	633,121	
	12/17/07 <sup>17</sup> 4:30	633,123	19,586
January-08	1/7/08 <sup>11</sup> 5:00	635,200	
	1/15/08 <sup>17</sup> 7:00	636,041	2,918
February-08	2/5/08 <sup>21</sup> 8:15	642,841	
	2/26/08 <sup>22</sup> 6:00	643,443	7,402
March-08	3/5/08 <sup>11</sup> 4:00	646,123	
	3/17/08 <sup>23</sup> 4:30	646,221	2,778

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ARCO Service Station No. 2111  
1156 Davis Street  
San Leandro, California

Report Month (month/year)	Date	Effluent Totalizer Reading (gallons)	Monthly Discharge (gallons)
Notes:			
NM = Not measured			
<sup>1</sup> Submersible pump at well MW-2 was shutdown. This pump will be re-started after troubleshooting the level floats/controller malfunction.			
<sup>2</sup> System observed non-functioning upon arrival. Re-started by re-setting power supply.			
<sup>3</sup> System shutdown to verify effluent air results.			
<sup>4</sup> System shutdown due to float malfunction.			
<sup>5</sup> System re-started after replacing the floats.			
<sup>6</sup> System shutdown due to high-level in oil-water separator. System restarted after replacing a capacitor on the transfer pump.			
<sup>7</sup> System shutdown due to transfer pump malfunction. System could not be restarted pending replacement of transfer pump.			
<sup>8</sup> System restarted after replacing transfer pump.			
<sup>9</sup> System observed non-functioning upon arrival due to DPE liquid ring pump malfunction. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
<sup>10</sup> System re-started upon compliance verification and after conducting maintenance on the liquid ring pump.			
<sup>11</sup> System observed non-functioning upon arrival due to high water level alarm on air stripper. System re-started, but shutdown after sampling pending receipt and verification of analytical results.			
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			<sup>22</sup> System re-started upon receipt of analytical results and compliance verification and replacement of transfer pump.
			<sup>23</sup> System re-started upon receipt of analytical results and compliance verification, but DPE system was shutdown due float malfunction.