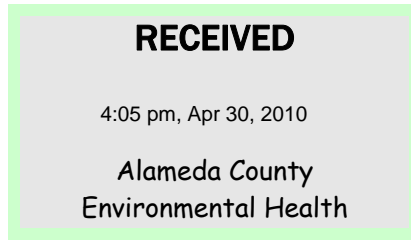


# Atlantic Richfield Company

**Chuck Carmel**  
Environmental Business Manager



PO Box 1257  
San Ramon, CA 94583  
Phone: (925) 275-3803  
Fax: (925) 275-3815  
E-Mail: charles.carmel@bp.com

30 April 2010

Re: First Quarter 2010 Semi-Annual Ground-Water Monitoring Report  
Atlantic Richfield 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, appearing to be "C Carmel", enclosed within a hand-drawn oval.

Chuck Carmel  
Environmental Business Manager

Attachment:

**First Quarter 2010 Semi-Annual  
Ground-Water Monitoring Report**  
Atlantic Richfield Company Station #2111  
1156 Davis Street, San Leandro, California  
ACEH Case #RO0000494

Prepared for

Mr. Chuck Carmel  
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*

30 April 2010

Project No. 06-88-615

30 April 2010

Project No. 06-88-615

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

Attn.: Mr. Chuck Carmel

Re: First Quarter 2010 Semi-Annual Ground-Water Monitoring Report, Atlantic Richfield Company Station #2111, 1156 Davis Street, San Leandro, Alameda County, California; ACEH Case #RO0000494

Dear Mr. Carmel:

Attached is the *First Quarter 2010 Semi-Annual Ground-Water Monitoring Report* for Atlantic Richfield Company (a BP affiliated company) Station #2111 located at 1156 Davis Street, San Leandro, California (Site). This report presents a status update and the results of ground-water monitoring conducted at the Site during the First Quarter 2010.

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

Sincerely,

BROADBENT & ASSOCIATES, INC.



Thomas A. Venus, P.E.  
Senior Engineer



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 (Submitted via GeoTracker)  
Electronic copy uploaded to GeoTracker

## STATION #2111 GROUND-WATER MONITORING REPORT

Facility: #2111	Address:	1156 Davis Street, San Leandro, California
Environmental Business Manager:		Mr. Chuck Carmel
Consulting Co./Contact Person:		Broadbent & Associates, Inc.(BAI)/Mr. Tom Venus, PE (530) 566-1400
Consultant Project No.:		06-88-615
Primary Agency/Regulatory ID No.:		Alameda County Environmental Health (ACEH) ACEH Case #RO0000494

### WORK PERFORMED THIS QUARTER (First Quarter 2010):

1. Prepared and submitted *Fourth Quarter 2009 Status Report* (BAI, 01/22/2010).
2. Conducted ground-water monitoring/sampling for First Quarter 2010. Work performed on 18 February 2010 by BAI.
3. Cancelled City of San Leandro Special Discharge Permit SD-036 (for DPE treatment system shutdown on 9/29/2009).
4. Cancelled Bay Area Air Quality Management District Permit to Operate for Plant 16189 (shutdown on 9/29/2009).

### WORK PROPOSED FOR NEXT QUARTER (Second Quarter 2010):

1. Prepared and submitted this *First Quarter 2010 Semi-Annual Ground-Water Monitoring Report* (contained herein).
2. Prepare and submit Quarterly Status Report for Second Quarter 2010 to ACEH.
3. Continue to seek offsite property access at 1290 Davis Street in order to implement the approved soil and ground-water investigation work plan.
4. No environmental field activities are presently scheduled for completion during the Second Quarter of 2010.

### RESULTS SUMMARY:

Current phase of project:	<b>Ground-Water Monitoring/Sampling/Offsite Investigation</b>
Frequency of ground-water monitoring:	<b>Semi-Annually (1Q/3Q): MW-1 through MW-8</b>
Frequency of ground-water sampling:	<b>Semi-Annually: MW-1 through MW-5, MW-7 and MW-8 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>12.96 ft (MW-6) to 16.14 ft (MW-1)</b>
General ground-water flow direction:	<b>West-Southwest</b>
Approximate hydraulic gradient:	<b>0.001 ft/ft</b>

### DISCUSSION:

First quarter 2010 ground-water monitoring and sampling was conducted at Station #2111 on 18 February 2010 by BAI 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 12.96 ft at MW-6 to 16.14 ft at MW-1. Resulting ground-water surface elevations ranged from 24.33 ft above datum (NAVD88) in well MW-7 to 23.17 ft in well MW-5. Water level elevations yielded a

variable potentiometric ground-water flow direction and gradient to the west-southwest at approximately 0.001 ft/ft. 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. Current and historic ground-water flow directions and horizontal gradients are summarized in Table 3. Historic free product thickness and cumulative product recovery from well MW-2 is presented in Table 4. A Site Location Map is provided as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

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 sampling this quarter. Samples were submitted under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. (Garden Grove, California), for analysis of Gasoline Range Organics (GRO, C6-12) by the EPA Method 8015B; for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Tert-Butyl Alcohol (TBA), and Ethanol by EPA Method 8260B. The laboratory noted that the samples from wells MW-2 and MW-7 included quantitation of unknown hydrocarbon(s) based on gasoline. 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 two of the seven wells sampled at concentrations of 950 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-2 and 190  $\mu\text{g/L}$  in well MW-7. For these two samples however, the laboratory noted the quantitation of unknown hydrocarbons based on the gasoline standard. MTBE was detected above the laboratory reporting limit in five of the seven wells sampled at concentrations up to 1,300  $\mu\text{g/L}$  in well MW-7. TBA was detected above the laboratory reporting limit in four of the seven wells sampled at concentrations up to 2,300  $\mu\text{g/L}$  in well MW-7. The remaining fuel additives and oxygenates were not detected above their respective laboratory reporting limits in the seven wells sampled this quarter. 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 2. Ground-water monitoring data (GEO\_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

## **CONCLUSIONS AND RECOMMENDATIONS:**

Water level elevations were between historic minimum and maximum ranges for each well, as summarized in Table 1. The First Quarter 2010 ground-water flow direction and horizontal gradient was generally consistent with the highly variable range of historical data. Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well, with the following exceptions: MTBE reached historic minimum concentrations in wells MW-1 (1.4  $\mu\text{g/L}$ ), MW-2 (<5.0  $\mu\text{g/L}$ ), and MW-4 (<0.50  $\mu\text{g/L}$ ).

The system was shutdown on 29 September 2009 due to decreasing concentration trends observed in the wells associated with the Site, the asymptotic mass removal conditions associated with the remediation system, and the observed system influent concentrations. The shutdown was approved by ACEH in their letter dated 24 September 2009. On 19 February 2010, BAI submitted a Facility Information Update Form to the Bay Area Air Quality Management District requesting permit closure, which was subsequently granted. The Special Discharge Permit SD-036 with the City of San Leandro was also cancelled.

Offsite investigation should continue to determine if a plume of petroleum hydrocarbons in ground water presents an exposure hazard to down gradient receptors. In the ACEH letter dated 29 September 2009, ACEH requested the submittal of an Addendum to the work plan for offsite monitoring well installation. In the BAI email to ACEH dated 11 September 2009, and as discussed in the Conclusions & Recommendations section of the *Third Quarter 2009 Ground-Water Monitoring and Remediation System Status Report* (BAI, 10/30/2009), BAI noted that it has been unsuccessful in obtaining offsite access to the down gradient strip mall at 1290 Davis Street. The 11 September 2009 email provided ACEH with evidence of this offsite access stalemate and requested that ACEH assist in obtaining offsite access if they were interested in determining whether an exposure hazard exists for the strip mall employees and visitors. BP and BAI have expressed to ACEH that it would be preferred not to mobilize twice to install the offsite monitoring wells proposed. In an email dated 24 November 2009, BAI requested that ACEH assist with obtaining access at 1290 Davis Street, or inform BP and BAI that offsite access in this down gradient direction will not be required. BP and BAI received an email response from the ACEH on 4 December 2009 stating that ACEH would send a letter to the offsite property owner. ACEH's letter to the offsite property owner was dated 10 February 2010, and at this time BP and BAI are awaiting further correspondence from ACEH or access from the offsite property owner.

#### **CLOSURE:**

The findings presented in this report are based upon: observations of BAI field personnel (see Appendices A), the points investigated, and results of laboratory tests performed by 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. Site Location Map, Station #2111, 1156 Davis Street, San Leandro, California
- Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, 18 February 2010, Station #2111, 1156 Davis Street, San Leandro, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #2111, 1156 Davis Street, San Leandro, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #2111, 1156 Davis Street, San Leandro, California
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #2111, 1156 Davis Street, San Leandro, California
- Table 4. Approximate Cumulative Floating Product Recovered, Station #2111, 1156 Davis Street, San Leandro, California

Appendix A. BAI Ground-Water Sampling Data Package (Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Analytical Report with Chain-of-Custody Documentation and Field Procedures)

Appendix B. GeoTracker Upload Confirmation Receipts



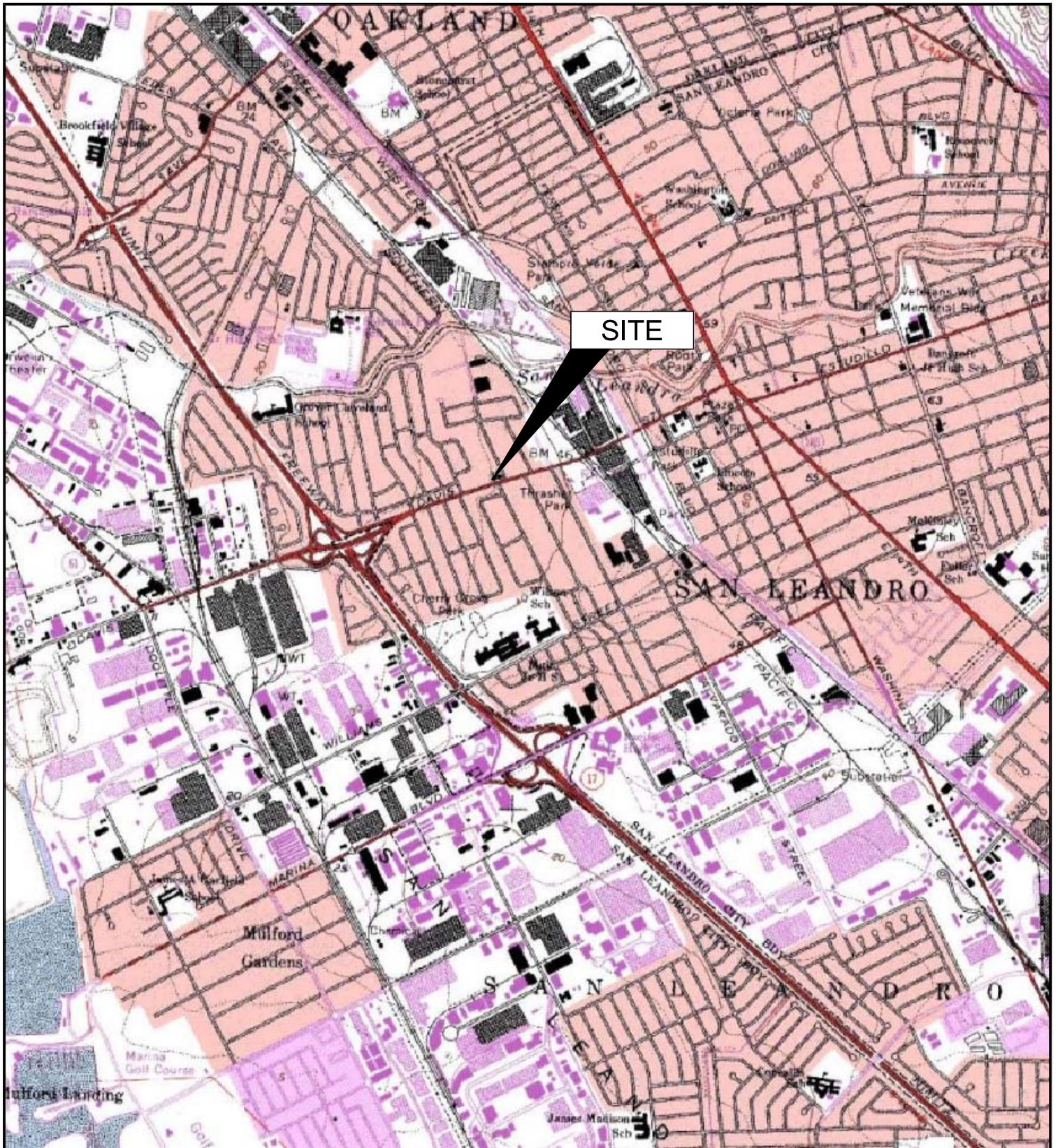


IMAGE SOURCE: USGS

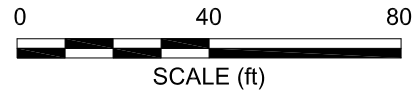


PARKING

H-4

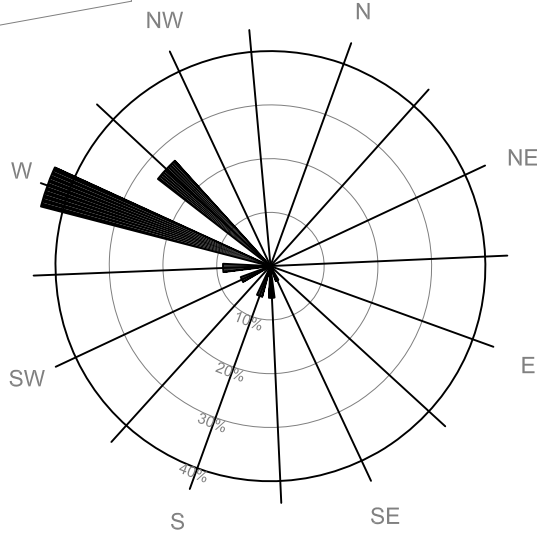
H-5

SB-1



**LEGEND**

- ⊕ MONITORING WELL LOCATION
- ⊙ VAPOR EXTRACTION WELL LOCATION
- DESTROYED WELL LOCATION
- Well WELL DESIGNATION
- ELEV GROUND-WATER ELEVATION (FT)
- GRO CONCENTRATIONS OF GRO, BENZENE & MTBE IN MICROGRAMS PER LITER (µg/L)
- MTBE
- A/Q SAMPLING FREQUENCY
- ← 0.001 GROUND-WATER FLOW DIRECTION AND GRADIENT (FT/FT)
- 24.0 GROUND-WATER ELEVATION CONTOUR (FT)
- SA(1,3) SAMPLED SEMI-ANNUALLY
- 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



**MW-1**  
23.35  
<50  
<0.50  
1.4  
SA(1,3)

**MW-3**  
23.88  
<50  
<0.50  
0.59  
SA(1,3)

**MW-8**  
23.98  
<50  
<0.50  
12  
SA(1,3)

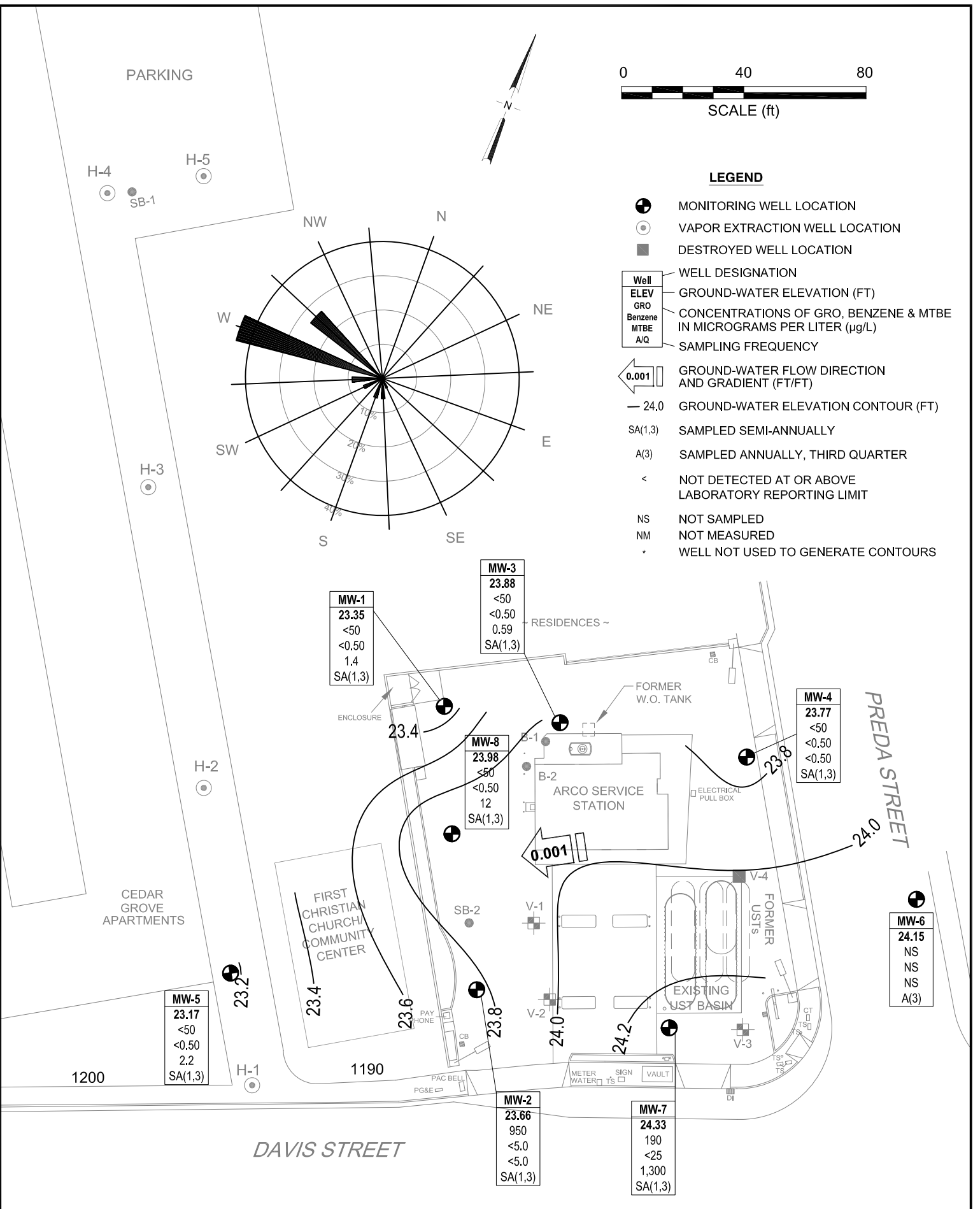
**MW-4**  
23.77  
<50  
<0.50  
SA(1,3)

**MW-5**  
23.17  
<50  
<0.50  
2.2  
SA(1,3)

**MW-6**  
24.15  
NS  
NS  
NS  
A(3)

**MW-2**  
23.66  
950  
<5.0  
<5.0  
SA(1,3)

**MW-7**  
24.33  
190  
<25  
1,300  
SA(1,3)



**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)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-1</b>															
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
1/8/2008	NP	n	39.49	12.50	26.00	15.97	23.52	140	<0.50	<0.50	<0.50	<0.50	90	1.19	5.60

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)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-1 Cont.</b>															
4/8/2008	NP		39.49	12.50	26.00	16.53	22.96	88	<0.50	<0.50	<0.50	<0.50	110	1.73	6.89
8/20/2008	NP		39.49	12.50	26.00	18.32	21.17	<50	<0.50	<0.50	<0.50	<0.50	3.3	2.37	6.95
11/17/2008	NP		39.49	12.50	26.00	18.38	21.11	<50	<0.50	<0.50	<0.50	<0.50	21	0.94	6.96
2/3/2009	NP		39.49	12.50	26.00	18.08	21.41	<50	<0.50	<0.50	<0.50	<0.50	16	1.66	6.95
5/12/2009	NP		39.49	12.50	26.00	17.05	22.44	<50	<0.50	<0.50	<0.50	<0.50	9.3	0.88	6.88
8/13/2009	NP	u	39.49	12.50	26.00	18.01	21.48	<50	<0.50	<0.50	<0.50	<0.50	5.5	0.14	7.02
<b>2/18/2010</b>	<b>NP</b>		<b>39.49</b>	<b>12.50</b>	<b>26.00</b>	<b>16.14</b>	<b>23.35</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>1.4</b>	<b>2.22</b>	<b>6.69</b>
<b>MW-2</b>															
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	--	--
12/21/00	--	b	37.99	12.0	26.00	--	--	5,010	360	189	213	626	54,300/89,200	--	--
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	--	--
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

**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)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-2 Cont.</b>															
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
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
1/8/2008	NP	n	37.86	12.0	26.00	14.10	23.76	1,900	65	<10	37	28	1,300	1.06	4.22
4/8/2008	NP		37.86	12.0	26.00	14.70	23.16	200	34	<0.50	<0.50	<0.50	690	3.24	6.95
8/20/2008	NP		37.86	12.0	26.00	16.66	21.20	990	21	<10	<10	<10	190	1.54	6.91
11/17/2008	NP		37.86	12.0	26.00	19.28	18.58	290	9.3	<5.0	<5.0	<5.0	89	0.71	6.75
2/3/2009	NP		37.86	12.0	26.00	16.45	21.41	86	3.5	<2.5	<2.5	<2.5	31	2.71	6.96
5/12/2009	NP		37.86	12.0	26.00	15.30	22.56	390	1.3	<0.50	<0.50	0.82	25	0.82	6.96
8/13/2009	NP	u	37.86	12.0	26.00	16.88	20.98	330	<10	<10	<10	<10	39	0.81	7.12
<b>2/18/2010</b>	<b>NP</b>		<b>37.86</b>	<b>12.0</b>	<b>26.00</b>	<b>14.20</b>	<b>23.66</b>	<b>950</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>1.18</b>	<b>6.94</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



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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-3 Cont.</b>															
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	l	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	0.60	53	1.0	6.6
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
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
1/8/2008	NP		39.19	12.00	26.00	15.16	24.03	<50	<0.50	<0.50	<0.50	<0.50	8.9	2.02	6.94
4/8/2008	NP		39.19	12.00	26.00	15.75	23.44	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.98	6.80
8/20/2008	NP		39.19	12.00	26.00	17.65	21.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.85	7.62
11/17/2008	NP		39.19	12.00	26.00	17.76	21.43	<50	<0.50	<0.50	<0.50	<0.50	3.6	1.36	6.90
2/3/2009	NP		39.19	12.00	26.00	17.36	21.83	<50	<0.50	<0.50	<0.50	<0.50	2.1	2.55	7.04
5/12/2009	NP		39.19	12.00	26.00	16.30	22.89	<50	<0.50	<0.50	<0.50	<0.50	2.1	1.68	6.98
8/13/2009	NP		39.19	12.00	26.00	18.75	20.44	<50	<0.50	<0.50	<0.50	<0.50	2.7	0.15	7.03
<b>2/18/2010</b>	<b>NP</b>	<b>v (GRO)</b>	<b>39.19</b>	<b>12.00</b>	<b>26.00</b>	<b>15.31</b>	<b>23.88</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>0.59</b>	<b>2.07</b>	<b>6.83</b>
<b>MW-4</b>															
6/26/2000	--		38.10	10.0	24.00	14.59	23.51	--	--	--	--	--	--	--	--

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-4 Cont.</b>															
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
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
1/8/2008	NP		37.99	10.0	24.00	14.10	23.89	<50	<0.50	<0.50	<0.50	<0.50	1.2	3.50	6.74
4/8/2008	NP		37.99	10.0	24.00	14.68	23.31	<50	<0.50	<0.50	<0.50	<0.50	1.7	2.54	6.80

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-4 Cont.</b>															
8/20/2008	NP		37.99	10.0	24.00	16.65	21.34	<50	<0.50	<0.50	<0.50	<0.50	0.70	2.36	6.90
11/17/2008	NP		37.99	10.0	24.00	16.73	21.26	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.07	6.83
2/3/2009	NP		37.99	10.0	24.00	16.36	21.63	<50	<0.50	<0.50	<0.50	<0.50	0.67	3.92	7.34
5/12/2009	NP		37.99	10.0	24.00	15.26	22.73	<50	<0.50	<0.50	<0.50	<0.50	0.62	0.81	6.98
8/13/2009	NP	u	37.99	10.0	24.00	16.87	21.12	<50	<0.50	<0.50	<0.50	<0.50	0.65	0.94	7.12
<b>2/18/2010</b>	<b>NP</b>		<b>37.99</b>	<b>10.0</b>	<b>24.00</b>	<b>14.22</b>	<b>23.77</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>&lt;0.50</b>	<b>1.20</b>	<b>6.25</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
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

**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)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-5 Cont.</b>															
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
1/8/2008	NP		37.12	9.50	23.50	13.82	23.30	<50	<0.50	<0.50	<0.50	<0.50	5.6	1.80	6.91
4/8/2008	NP		37.12	9.50	23.50	14.38	22.74	<50	<0.50	<0.50	<0.50	<0.50	8.0	1.14	6.76
8/20/2008	NP		37.12	9.50	23.50	16.11	21.01	<50	<1.0	<1.0	<1.0	<1.0	3.6	1.65	6.86
11/17/2008	NP		37.12	9.50	23.50	16.15	20.97	<50	<0.50	<0.50	<0.50	<0.50	1.3	0.66	6.93
2/3/2009	NP		37.12	9.50	23.50	15.83	21.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.38	6.77
5/12/2009	NP		37.12	9.50	23.50	14.48	22.64	<50	<0.50	<0.50	<0.50	<0.50	2.5	0.41	6.83
8/13/2009	NP	u	37.12	9.50	23.50	16.30	20.82	<50	<1.0	<1.0	<1.0	<1.0	1.3	0.78	7.06
<b>2/18/2010</b>	<b>NP</b>		<b>37.12</b>	<b>9.50</b>	<b>23.50</b>	<b>13.95</b>	<b>23.17</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>2.2</b>	<b>1.36</b>	<b>6.40</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



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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-6 Cont.</b>															
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
4/8/2008	--		37.11	10.00	25.00	13.52	23.59	--	--	--	--	--	--	--	--
8/20/2008	NP		37.11	10.00	25.00	15.59	21.52	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.66	6.83
11/17/2008	--		37.11	10.00	25.00	15.61	21.50	--	--	--	--	--	--	--	--
2/3/2009	--		37.11	10.00	25.00	15.23	21.88	--	--	--	--	--	--	--	--
5/12/2009	--		37.11	10.00	25.00	14.09	23.02	--	--	--	--	--	--	--	--
8/13/2009	NP	u	37.11	10.00	25.00	15.80	21.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.85	7.02
<b>2/18/2010</b>	--		<b>37.11</b>	<b>10.00</b>	<b>25.00</b>	<b>12.96</b>	<b>24.15</b>	--	--	--	--	--	--	--	--
<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	--	--

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
<b>MW-7 Cont.</b>															
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	2,200	33,000	6.6	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
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
1/8/2008	NP	n	38.54	12.0	27.00	13.90	24.64	5,100	45	<25	<25	<25	6,100	2.50	7.23
4/8/2008	NP		38.54	12.0	27.00	14.22	24.32	270	0.50	<0.50	1.2	0.66	1,200	1.67	7.17
8/20/2008	NP		38.54	12.0	27.00	16.57	21.97	<50	<0.50	<0.50	<0.50	<0.50	39	2.12	7.04
11/17/2008	NP		38.54	12.0	27.00	22.91	15.63	68	1.8	1.9	0.54	2.0	28	1.14	6.95
2/3/2009	NP		38.54	12.0	27.00	17.86	20.68	<50	<0.50	<0.50	<0.50	<0.50	18	2.58	6.97
5/12/2009	NP		38.54	12.0	27.00	15.36	23.18	110	2.0	<0.50	<0.50	2.9	390	0.72	7.14

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
<b>MW-7 Cont.</b>															
8/13/2009	NP	u	38.54	12.0	27.00	24.10	14.44	<50	<0.50	<0.50	<0.50	<0.50	21	0.84	7.11
<b>2/18/2010</b>	<b>NP</b>	<b>v (GRO)</b>	<b>38.54</b>	<b>12.0</b>	<b>27.00</b>	<b>14.21</b>	<b>24.33</b>	<b>190</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>1,300</b>	<b>1.52</b>	<b>7.06</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
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
1/8/2008	P	n	38.91	--	--	14.83	24.08	51	<0.50	<0.50	<0.50	<0.50	49	1.30	6.88
4/8/2008	P		38.91	--	--	15.38	23.53	<50	<0.50	<0.50	<0.50	<0.50	32	1.60	6.77
8/20/2008	P		38.91	--	--	17.80	21.11	<50	<0.50	<0.50	<0.50	<0.50	13	1.18	6.94
11/17/2008	P		38.91	--	--	17.47	21.44	<50	<0.50	<0.50	<0.50	<0.50	14	3.74	6.63
2/3/2009	P		38.91	--	--	16.96	21.95	<50	<0.50	<0.50	<0.50	<0.50	16	0.83	6.9
5/12/2009	P		38.91	--	--	15.93	22.98	<50	<0.50	<0.50	<0.50	<0.50	30	0.31	6.90
8/13/2009	P		38.91	--	--	17.50	21.41	<50	<0.50	<0.50	<0.50	<0.50	7.5	0.65	7.44
<b>2/18/2010</b>	<b>P</b>		<b>38.91</b>	<b>--</b>	<b>--</b>	<b>14.93</b>	<b>23.98</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>12</b>	<b>0.64</b>	<b>6.62</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.  
u = Sample taken from VOA vial with air bubble > 6mm diameter.  
v = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

#### 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.

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6



C12) for samples collected from the time period February 5, 2008 through the present.

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	
1/8/2008	<300	74	90	<0.50	<0.50	2.5	<0.50	<0.50	a
4/8/2008	<300	57	110	<0.50	<0.50	2.6	<0.50	<0.50	
8/20/2008	<300	<10	3.3	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	<10	21	<0.50	<0.50	0.52	<0.50	<0.50	
2/3/2009	<300	<10	16	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	9.3	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	b
<b>2/18/2010</b>	<b>&lt;300</b>	<b>&lt;10</b>	<b>1.4</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>	
<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

**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>									
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	
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	
1/8/2008	<6,000	2,600	1,300	<10	<10	<10	<10	<10	a
4/8/2008	<300	970	690	<0.50	<0.50	3.3	<0.50	<0.50	
8/20/2008	<6,000	470	190	<10	<10	<10	<10	<10	
11/17/2008	<3,000	740	89	<5.0	<5.0	<5.0	<5.0	<5.0	
2/3/2009	<1,500	230	31	<2.5	<2.5	<2.5	<2.5	<2.5	
5/12/2009	<300	590	25	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<6,000	2,300	39	<10	<10	<10	<10	<10	b
<b>2/18/2010</b>	<b>&lt;3,000</b>	<b>1,000</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	
<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

**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-3 Cont.</b>									
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	
1/8/2008	<300	<20	8.9	<0.50	<0.50	0.84	<0.50	<0.50	a
4/8/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	<10	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	<10	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	2.7	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>2/18/2010</b>	<b>&lt;300</b>	<b>&lt;10</b>	<b>0.59</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>	
<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	
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	

**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>									
10/11/2007	<300	<20	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	
1/8/2008	<300	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	a
4/8/2008	<300	<10	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	<10	0.70	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	<10	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	<10	0.67	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	<10	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	0.65	<0.50	<0.50	<0.50	<0.50	<0.50	b
<b>2/18/2010</b>	<b>&lt;300</b>	<b>&lt;10</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>	<b>&lt;0.50</b>	
<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	
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
4/8/2008	<300	300	8.0	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<600	520	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	

**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>									
11/17/2008	<300	160	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	94	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	29	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<600	180	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	b
<b>2/18/2010</b>	<b>&lt;300</b>	<b>17</b>	<b>2.2</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>	
<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	
8/20/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
<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	

**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-7 Cont.</b>									
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	
4/8/2008	<300	700	1,200	<0.50	<0.50	5.1	<0.50	<0.50	
8/20/2008	<300	34	39	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	44	28	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2009	<300	66	18	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	75	390	<0.50	<0.50	1.2	<0.50	<0.50	
8/13/2009	<300	19	21	<0.50	<0.50	<0.50	<0.50	<0.50	b
<b>2/18/2010</b>	<b>&lt;15,000</b>	<b>2,300</b>	<b>1,300</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	<b>&lt;25</b>	
<b>MW-8</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	59	49	<0.50	<0.50	0.80	<0.50	<0.50	
4/8/2008	<300	110	32	<0.50	<0.50	<0.50	<0.50	<0.50	
8/20/2008	<300	62	13	<0.50	<0.50	<0.50	<0.50	<0.50	
11/17/2008	<300	24	14	<0.50	<0.50	<0.50	<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-8 Cont.</b>									
2/3/2009	<300	17	16	<0.50	<0.50	<0.50	<0.50	<0.50	
5/12/2009	<300	18	30	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2009	<300	28	7.5	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>2/18/2010</b>	<b>&lt;300</b>	<b>37</b>	<b>12</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>	

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.

b = Sample taken from VOA vial with air bubble > 6mm diameter.

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**

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
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
1/8/2008	West	0.008
4/8/2008	West	0.006
8/20/2008	West	0.006
11/17/2008	South-Southeast	0.05
2/3/2009	South-Southeast	0.01
5/12/2009	North to West	0.004
8/13/2009	South	0.006
<b>2/18/2010</b>	<b>West-Southwest</b>	<b>0.001</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**

<b>Well Designation</b>	<b>Product Recovery Field Date</b>	<b>Floating Product Thickness (feet)</b>	<b>Floating Product Recovered (gallons)</b>
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	01/08/08	ND	0.00
MW-2	04/24/08	ND	0.00
MW-2	08/20/08	ND	0.00
MW-2	11/17/08	ND	0.00
MW-2	02/03/09	ND	0.00
MW-2	05/12/09	ND	0.00
<b>MW-2</b>	<b>08/13/09</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

## **APPENDIX A**

### **BAI GROUND-WATER SAMPLING DATA PACKAGE**

**(Includes Field Data Sheets, Non-Hazardous Waste Data Form, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)**

Project: BP 2111 Project No.: 06-88-615

Field Representative(s): T. Geddas E. Farrow Day: Thurs Date: 2/18/10

Time Onsite: From: 0840 To: 1125; From: \_\_\_\_\_ To: \_\_\_\_\_; From: \_\_\_\_\_ To: \_\_\_\_\_

- Signed HASP     Safety Glasses     Hard Hat     Steel Toe Boots     Safety Vest  
 UST Emergency System Shut-off Switches Located     Proper Gloves  
 Proper Level of Barricading    \_\_\_\_\_ Other PPE (describe)

Weather: overcast 50

Equipment In Use: OTW probe, temp/ph/conc meter, bailers

Visitors: \_\_\_\_\_

**TIME:**

**WORK DESCRIPTION:**

0720    Depart office

0840    Arrive 2111

1125    Depart 2111

Signature: 

DATE: 2/18/10  
PERSONNEL: T. Geddes E. Farrer  
WEATHER: Fog

PROJECT NO.: 06-88-615  
COMMENTS:

					Equip:	Geosquirt	Tubing	Bailers	DO	wli	Ec/pH		
Well ID	Time	MEASURING POINT	DTW (FT)	PRODUCT-THICKNESS well diam	pH	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	Iron (mg/l)	Alk. (mg/l)	WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC	
MW-1	0945	TOC	16.14	4									
MW-2	1020	↓	14.28	4									
MW-3	0935		15.31	4									
MW-4	0900		14.22	4									
MW-5	0916		13.98	3									
MW-7	1120		14.21	4									
<del>MW-6</del>	<del>0850</del>		<del>↓</del>	<del>14.25</del>	<del>4</del>								
MW-6	0850		↓	12.46	2"								
MW-8	1108		14.93	2									



**Groundwater Sampling Data Sheet**

Well I.D.: MW-1  
 Project Name/Location: BP 2111 Project #: 06-88-615  
 Sampler's Name: T. Gaddes E. Ferrar Date: 2/18/10  
 Purging Equipment: —  
 Sampling Equipment: Pailer

Casing Type: PVC  
 Casing Diameter: 4" inch  
 Total Well Depth: 26.3 feet  
 Depth to Water: 16.14 feet  
 Water Column Thickness: = — feet  
 Unit Casing Volume\*: x — gallon / foot  
 Casing Water Volume: = — gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = — gallons

**\*UNIT CASING VOLUMES**  
 2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): —

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>0950</u>	<u>2.22</u>	<u>66</u>		<u>699.7</u>	<u>64.8</u>	<u>6.69</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons  
 Depth to Water at Sample Collection: 16.14 feet  
 Sample Collection Time: 0955 Purged Dry? (Y/N) (N)

Comments: NP @ 12.50  
DTB 26.27



# BROADBENT & ASSOCIATES, INC.

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## Groundwater Sampling Data Sheet

Well I.D.: NW-2

Project Name/Location: BP 2111 Project #: 06-88-615

Sampler's Name: T. Geddes E. Farrer Date: 2/18/10

Purging Equipment: \_\_\_\_\_

Sampling Equipment: Beiler

Casing Type: PVC

Casing Diameter: 4" inch

Total Well Depth: 26.74 feet

Depth to Water: 14.20 feet

Water Column Thickness: = \_\_\_\_\_ feet

Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot

Casing Water Volume: = \_\_\_\_\_ gallons

Casing Volume: x 3 each

Estimated Purge Volume: = \_\_\_\_\_ gallons

### \*UNIT CASING VOLUMES

2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>1030</u>	<u>1.19</u>	<u>-85</u>		<u>715.8</u>	<u>68.0</u>	<u>6.94</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons

Depth to Water at Sample Collection: 14.20 feet

Sample Collection Time: 1030 Purged Dry? (Y/N) (N)

Comments: DTB 26.74

NP@

**Groundwater Sampling Data Sheet**

Well I.D.: MW-3  
 Project Name/Location: BP 2111 Project #: 06-88-615  
 Sampler's Name: T. Geddes E. Ferrer Date: 2/18/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: Bailer

Casing Type: PVC  
 Casing Diameter: 4<sup>4</sup> inch  
 Total Well Depth: 26.13 feet  
 Depth to Water: 15.31 feet  
 Water Column Thickness: = \_\_\_\_\_ feet  
 Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot  
 Casing Water Volume: = \_\_\_\_\_ gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.

3" = 0.37 gal/lin ft.

4" = 0.65 gal/lin ft.

6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>0940</u>	<u>207</u>	<u>59</u>		<u>675.3</u>	<u>64.3</u>	<u>6.83</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallonsDepth to Water at Sample Collection: 26.13 feetSample Collection Time: 0940Purged Dry? (Y  N)Comments: DTB 26.39


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**Groundwater Sampling Data Sheet**

Well I.D.: MW-4  
 Project Name/Location: BP 211 Project #: 06-88-615  
 Sampler's Name: T. Geddes E. Farrer Date: 2/18/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: Dailer

Casing Type: PVC  
 Casing Diameter: 4" inch  
 Total Well Depth: 21.82 feet  
 Depth to Water: - 14.22 feet  
 Water Column Thickness: = \_\_\_\_\_ feet  
 Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot  
 Casing Water Volume: = \_\_\_\_\_ gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	0903	1.20	139		715.1	66.1	6.25	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons  
 Depth to Water at Sample Collection: 14.22 feet  
 Sample Collection Time: 0905 Purged Dry? (Y/N) (N)

Comments: NP @ 10'  
TD 21.70 w/ soft bottom



**BROADBENT & ASSOCIATES, INC.**  
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

**Groundwater Sampling Data Sheet**

Well I.D.: MW-5  
 Project Name/Location: BP 2111 Project #: 06-88-615  
 Sampler's Name: T. Geddes & Farrar Date: 2/18/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: Dailer

Casing Type: PVC  
 Casing Diameter: \_\_\_\_\_  
 Total Well Depth: \_\_\_\_\_  
 Depth to Water: \_\_\_\_\_  
 Water Column Thickness: = \_\_\_\_\_  
 Unit Casing Volume\*: x \_\_\_\_\_  
 Casing Water Volume: = \_\_\_\_\_  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_

2" inch  
23.90 feet  
13.95 feet  
 \_\_\_\_\_ feet  
 \_\_\_\_\_ gallon / foot  
 \_\_\_\_\_ gallons  
 \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**  
 2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>0915</u>	<u>1.36</u>	<u>112</u>		<u>678.4</u>	<u>63.8</u>	<u>6.40</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons  
 Depth to Water at Sample Collection: 13.95 feet  
 Sample Collection Time: 0920

Purged Dry? (Y/N) (N)

Comments: NP @ 9.5'  
DTB 23.90



# BROADBENT & ASSOCIATES, INC.

ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

## Groundwater Sampling Data Sheet

Well I.D.: MW-7  
 Project Name/Location: BP 2111 Project #: 06-88-615  
 Sampler's Name: T. Geddes E. Furrer Date: 2/18/10  
 Purging Equipment: \_\_\_\_\_  
 Sampling Equipment: Bailer

Casing Type: PVC  
 Casing Diameter: 4" inch  
 Total Well Depth: 26.40 feet  
 Depth to Water: 14.21 feet  
 Water Column Thickness: = \_\_\_\_\_ feet  
 Unit Casing Volume\*: x \_\_\_\_\_ gallon / foot  
 Casing Water Volume: = \_\_\_\_\_ gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = \_\_\_\_\_ gallons

**\*UNIT CASING VOLUMES**  
 2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>0</u>	<u>1120</u>	<u>1.52</u>	<u>26</u>		<u>781.1</u>	<u>65.4</u>	<u>7.06</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons  
 Depth to Water at Sample Collection: 14.21 feet  
 Sample Collection Time: 1120 Purged Dry? (Y N)

Comments: MP @ 12.00  
DTD 26.49



**Groundwater Sampling Data Sheet**

Well I.D.: MW-8  
 Project Name/Location: DP 211 Project #: 06-88-615  
 Sampler's Name: T. Geddes E. Farrer Date: 2/18/10  
 Purging Equipment: Baker  
 Sampling Equipment: Dailer

Casing Type: PVC  
 Casing Diameter: 2 inch  
 Total Well Depth: 39.19 feet  
 Depth to Water: - 14.93 feet  
 Water Column Thickness: = 24.26 feet  
 Unit Casing Volume\*: x 0.16 gallon / foot  
 Casing Water Volume: = 3.88 gallons  
 Casing Volume: x 3 each  
 Estimated Purge Volume: = 11.64 gallons

**\*UNIT CASING VOLUMES**

2" = 0.16 gal/lin ft.  
 3" = 0.37 gal/lin ft.  
 4" = 0.65 gal/lin ft.  
 6" = 1.47 gal/lin ft.

Free product measurement (if present): \_\_\_\_\_

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	10:17	6.4	-412		669.4	65.1	6.70	
5	10:50	X	X	X	666.1	65.9	6.63	
8	10:56	6.8	X	X	665.8	65.9	6.62	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 8 gallons  
 Depth to Water at Sample Collection: -14.93 feet  
 Sample Collection Time: 1102

Purged Dry? (Y/N) (N)

Comments: T039.11



NON-HAZARDOUS WASTE DATA FORM

1. BEI #

2. Generator's Name and Mailing Address  
 BP WEST COAST PRODUCTS, LLC  
 P.O. BOX 80249  
 RANCHO SANTA MARGARITA, CA 92688

Generator's Site Address (if different than mailing address)  
 BP 2111  
 1156 Davis St  
 San Leandro, CA

Generator's Phone: (949) 460-5200

24-HOUR EMERGENCY PHONE: (949) 699-3706

3. Transporter 1 Company Name  
 Broadbent & Associates, Inc.

Phone #  
 (530) 566-1400

4. Transporter 2 Company Name  
 Gomes Excavating

Phone #  
 (707) 374-2881

5. Designated Facility Name and Site Address  
 INTRAT, INC.  
 1105 AIRPORT RD #C  
 RIO VISTA, CA 94571

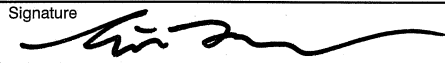
Phone #  
 (530) 753-1829

GENERATOR

6. Waste Shipping Name and Description	7. Containers		8. Total Quantity	9. Unit Wt/Vol	10. Profile No.
	No.	Type			
A. NON-HAZARDOUS WATER	1	TT	8	G	
B.					
C.					
D.					

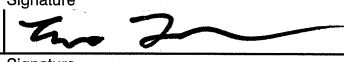
11. Special Handling Instructions and Additional Information  
 WEAR ALL APPROPRIATE PROTECTIVE CLOTHING  
 WELL PURGING / DECON WATER

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this data form are non-hazardous.

Generator's/Officer's Printed/Typed Name: Eric Farrer  
 Signature:   
 Month: 2 | Day: 18 | Year: 10

TRANSPORTER

13. Transporter Acknowledgment of Receipt of Materials

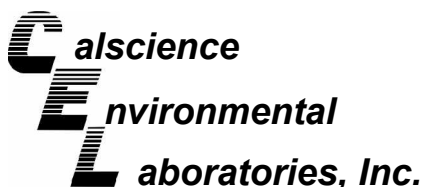
Transporter 1 Printed/Typed Name: Eric Farrer  
 Signature:   
 Month: 2 | Day: 22 | Year: 10

Transporter 2 Printed/Typed Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Month: \_\_\_\_\_ | Day: \_\_\_\_\_ | Year: \_\_\_\_\_

FACILITY

14. Designated Facility Owner or Operator: Certification of receipt of materials covered by this data form.

Printed/Typed Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Month: \_\_\_\_\_ | Day: \_\_\_\_\_ | Year: \_\_\_\_\_



March 04, 2010

Tom Venus  
Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Subject: **CalScience Work Order No.: 10-02-1665**  
**Client Reference: ARCO 2111**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/19/2010 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, appearing to read "Richard Villafania".

CalScience Environmental  
Laboratories, Inc.  
Richard Villafania  
Project Manager

## Analytical Report



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO 2111

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1</b>	<b>10-02-1665-1-E</b>	<b>02/18/10 09:55</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/19/10 20:49</b>	<b>100219B01</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	89	38-134			

<b>MW-2</b>	<b>10-02-1665-2-E</b>	<b>02/18/10 10:30</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/19/10 23:05</b>	<b>100219B01</b>
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Comment(s): -LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Gasoline Range Organics (C6-C12)	950	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	101	38-134			

<b>MW-3</b>	<b>10-02-1665-3-E</b>	<b>02/18/10 09:40</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/19/10 23:38</b>	<b>100219B01</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	89	38-134			

<b>MW-4</b>	<b>10-02-1665-4-E</b>	<b>02/18/10 09:05</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/20/10 00:12</b>	<b>100219B01</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	88	38-134			

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

## Analytical Report



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO 2111

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5</b>	<b>10-02-1665-5-E</b>	<b>02/18/10 09:20</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/20/10 00:46</b>	<b>100219B01</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	91	38-134			

<b>MW-7</b>	<b>10-02-1665-6-E</b>	<b>02/18/10 11:20</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/20/10 01:20</b>	<b>100219B01</b>
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Comment(s): -LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Gasoline Range Organics (C6-C12)	190	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	94	38-134			

<b>MW-8</b>	<b>10-02-1665-7-E</b>	<b>02/18/10 11:02</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/20/10 01:53</b>	<b>100219B01</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	90	38-134			

<b>Method Blank</b>	<b>099-12-695-757</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC 11</b>	<b>02/19/10</b>	<b>02/19/10 20:15</b>	<b>100219B01</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
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	88	38-134			

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

**Analytical Report**



Broadbent & Associates, Inc.  
 1324 Mangrove Ave, Ste 212  
 Chico, CA 95926-2642

Date Received: 02/19/10  
 Work Order No: 10-02-1665  
 Preparation: EPA 5030B  
 Method: EPA 8260B  
 Units: ug/L

Project: ARCO 2111

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	10-02-1665-1-A	02/18/10 09:55	Aqueous	GC/MS O	02/26/10	02/26/10 18:38	100226L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	1.4	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	111	80-128			Dibromofluoromethane	108	80-127		
Toluene-d8	101	80-120			1,4-Bromofluorobenzene	88	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	10-02-1665-2-C	02/18/10 10:30	Aqueous	GC/MS BB	03/02/10	03/02/10 20:48	100302L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	5.0	10		Methyl-t-Butyl Ether (MTBE)	ND	5.0	10	
1,2-Dibromoethane	ND	5.0	10		Tert-Butyl Alcohol (TBA)	1000	100	10	
1,2-Dichloroethane	ND	5.0	10		Diisopropyl Ether (DIPE)	ND	5.0	10	
Ethylbenzene	ND	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Toluene	ND	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	
Xylenes (total)	ND	5.0	10		Ethanol	ND	3000	10	
<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	104	80-128			Dibromofluoromethane	108	80-127		
Toluene-d8	104	80-120			1,4-Bromofluorobenzene	96	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	10-02-1665-3-A	02/18/10 09:40	Aqueous	GC/MS O	02/26/10	02/26/10 19:37	100226L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	0.59	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	112	80-128			Dibromofluoromethane	110	80-127		
Toluene-d8	93	80-120			1,4-Bromofluorobenzene	86	68-120		

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

## Analytical Report



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: ARCO 2111

Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	10-02-1665-4-A	02/18/10 09:05	Aqueous	GC/MS O	02/26/10	02/26/10 20:07	100226L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	109	80-128			Dibromofluoromethane	106	80-127		
Toluene-d8	101	80-120			1,4-Bromofluorobenzene	91	68-120		

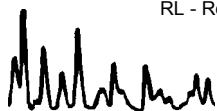
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	10-02-1665-5-C	02/18/10 09:20	Aqueous	GC/MS BB	03/02/10	03/02/10 21:16	100302L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	2.2	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	17	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	99	80-128			Dibromofluoromethane	107	80-127		
Toluene-d8	89	80-120			1,4-Bromofluorobenzene	96	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-7	10-02-1665-6-B	02/18/10 11:20	Aqueous	GC/MS O	03/01/10	03/01/10 15:24	100301L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	25	50		Methyl-t-Butyl Ether (MTBE)	1300	25	50	
1,2-Dibromoethane	ND	25	50		Tert-Butyl Alcohol (TBA)	2300	500	50	
1,2-Dichloroethane	ND	25	50		Diisopropyl Ether (DIPE)	ND	25	50	
Ethylbenzene	ND	25	50		Ethyl-t-Butyl Ether (ETBE)	ND	25	50	
Toluene	ND	25	50		Tert-Amyl-Methyl Ether (TAME)	ND	25	50	
Xylenes (total)	ND	25	50		Ethanol	ND	15000	50	
<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	93	80-128			Dibromofluoromethane	104	80-127		
Toluene-d8	97	80-120			1,4-Bromofluorobenzene	89	68-120		

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



**Analytical Report**



Broadbent & Associates, Inc.  
 1324 Mangrove Ave, Ste 212  
 Chico, CA 95926-2642

Date Received: 02/19/10  
 Work Order No: 10-02-1665  
 Preparation: EPA 5030B  
 Method: EPA 8260B  
 Units: ug/L

Project: ARCO 2111

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-8	10-02-1665-7-B	02/18/10 11:02	Aqueous	GC/MS O	03/01/10	03/01/10 15:53	100301L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	12	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	37	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	92	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	88	68-120		

Method Blank	099-12-703-1,241	N/A	Aqueous	GC/MS O	02/26/10	02/26/10 12:13	100226L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	80-128			Dibromofluoromethane	104	80-127		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	89	68-120		

Method Blank	099-12-703-1,248	N/A	Aqueous	GC/MS O	03/01/10	03/01/10 11:59	100301L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	96	80-128			Dibromofluoromethane	103	80-127		
Toluene-d8	96	80-120			1,4-Bromofluorobenzene	88	68-120		

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

**Analytical Report**



Broadbent & Associates, Inc.  
 1324 Mangrove Ave, Ste 212  
 Chico, CA 95926-2642

Date Received: 02/19/10  
 Work Order No: 10-02-1665  
 Preparation: EPA 5030B  
 Method: EPA 8260B  
 Units: ug/L

Project: ARCO 2111

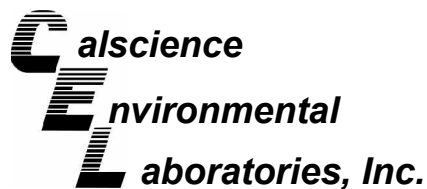
Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-1,250	N/A	Aqueous	GC/MS BB	03/02/10	03/02/10 11:52	100302L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	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	93	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	91	80-120			1,4-Bromofluorobenzene	95	68-120		

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





## Quality Control - Spike/Spike Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

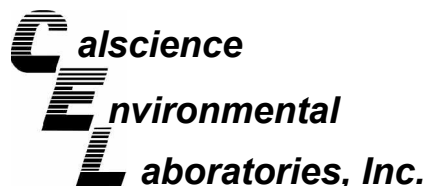
Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-1	Aqueous	GC 11	02/19/10	02/19/10	100219S01

<u>Parameter</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	104	93	38-134	11	0-25	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - Spike/Spike Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

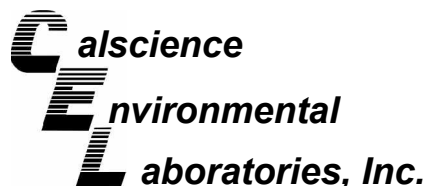
Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-02-1648-2	Aqueous	GC/MS O	02/26/10	02/26/10	100226S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	114	121	76-124	6	0-20	
Carbon Tetrachloride	112	127	74-134	12	0-20	
Chlorobenzene	109	115	80-120	6	0-20	
1,2-Dibromoethane	110	117	80-120	6	0-20	
1,2-Dichlorobenzene	103	112	80-120	8	0-20	
1,1-Dichloroethene	115	110	73-127	5	0-20	
Ethylbenzene	115	119	78-126	3	0-20	
Toluene	110	115	80-120	5	0-20	
Trichloroethene	111	116	77-120	4	0-20	
Vinyl Chloride	108	107	72-126	1	0-20	
Methyl-t-Butyl Ether (MTBE)	112	116	67-121	3	0-49	
Tert-Butyl Alcohol (TBA)	109	109	36-162	0	0-30	
Diisopropyl Ether (DIPE)	107	113	60-138	5	0-45	
Ethyl-t-Butyl Ether (ETBE)	113	121	69-123	6	0-30	
Tert-Amyl-Methyl Ether (TAME)	109	116	65-120	6	0-20	
Ethanol	111	105	30-180	6	0-72	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - Spike/Spike Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

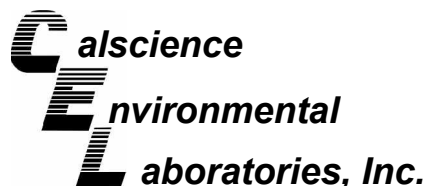
Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-02-1751-14	Aqueous	GC/MS O	03/01/10	03/01/10	100301S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	106	96	76-124	9	0-20	
Carbon Tetrachloride	104	96	74-134	7	0-20	
Chlorobenzene	103	100	80-120	3	0-20	
1,2-Dibromoethane	88	95	80-120	7	0-20	
1,2-Dichlorobenzene	100	101	80-120	1	0-20	
1,1-Dichloroethene	85	91	73-127	7	0-20	
Ethylbenzene	116	108	78-126	7	0-20	
Toluene	105	108	80-120	2	0-20	
Trichloroethene	99	98	77-120	0	0-20	
Vinyl Chloride	86	91	72-126	5	0-20	
Methyl-t-Butyl Ether (MTBE)	68	96	67-121	34	0-49	
Tert-Butyl Alcohol (TBA)	103	101	36-162	1	0-30	
Diisopropyl Ether (DIPE)	71	98	60-138	32	0-45	
Ethyl-t-Butyl Ether (ETBE)	78	90	69-123	15	0-30	
Tert-Amyl-Methyl Ether (TAME)	85	89	65-120	5	0-20	
Ethanol	139	117	30-180	17	0-72	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - Spike/Spike Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

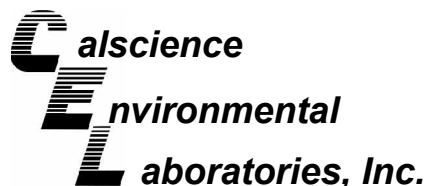
Date Received: 02/19/10  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-03-0071-1	Aqueous	GC/MS BB	03/02/10	03/02/10	100302S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	103	76-124	2	0-20	
Carbon Tetrachloride	87	90	74-134	3	0-20	
Chlorobenzene	98	101	80-120	3	0-20	
1,2-Dibromoethane	91	96	80-120	6	0-20	
1,2-Dichlorobenzene	94	100	80-120	6	0-20	
1,1-Dichloroethene	97	106	73-127	9	0-20	
Ethylbenzene	97	100	78-126	3	0-20	
Toluene	106	92	80-120	15	0-20	
Trichloroethene	90	94	77-120	4	0-20	
Vinyl Chloride	102	98	72-126	4	0-20	
Methyl-t-Butyl Ether (MTBE)	97	100	67-121	3	0-49	
Tert-Butyl Alcohol (TBA)	101	111	36-162	9	0-30	
Diisopropyl Ether (DIPE)	102	103	60-138	1	0-45	
Ethyl-t-Butyl Ether (ETBE)	100	103	69-123	3	0-30	
Tert-Amyl-Methyl Ether (TAME)	94	97	65-120	2	0-20	
Ethanol	116	136	30-180	16	0-72	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

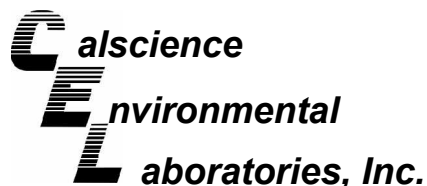
Date Received: N/A  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-757	Aqueous	GC 11	02/19/10	02/19/10	100219B01

<u>Parameter</u>	<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)	112	114	78-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: N/A  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,241	Aqueous	GC/MS O	02/26/10	02/26/10	100226L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	109	111	80-120	73-127	2	0-20	
Carbon Tetrachloride	114	110	74-134	64-144	4	0-20	
Chlorobenzene	107	108	80-120	73-127	0	0-20	
1,2-Dibromoethane	107	112	79-121	72-128	4	0-20	
1,2-Dichlorobenzene	106	105	80-120	73-127	1	0-20	
1,1-Dichloroethene	117	107	78-126	70-134	9	0-28	
Ethylbenzene	115	116	80-120	73-127	1	0-20	
Toluene	110	110	80-120	73-127	0	0-20	
Trichloroethene	106	107	79-127	71-135	1	0-20	
Vinyl Chloride	107	93	72-132	62-142	14	0-20	
Methyl-t-Butyl Ether (MTBE)	109	103	69-123	60-132	5	0-20	
Tert-Butyl Alcohol (TBA)	97	100	63-123	53-133	3	0-20	
Diisopropyl Ether (DIPE)	105	99	59-137	46-150	5	0-37	
Ethyl-t-Butyl Ether (ETBE)	106	104	69-123	60-132	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	103	112	70-120	62-128	9	0-20	
Ethanol	95	96	28-160	6-182	1	0-57	

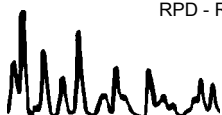
Total number of LCS compounds : 16

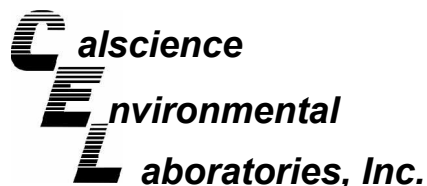
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: N/A  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,248	Aqueous	GC/MS O	03/01/10	03/01/10	100301L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	95	106	80-120	73-127	10	0-20	
Carbon Tetrachloride	101	102	74-134	64-144	1	0-20	
Chlorobenzene	102	103	80-120	73-127	1	0-20	
1,2-Dibromoethane	102	101	79-121	72-128	0	0-20	
1,2-Dichlorobenzene	101	103	80-120	73-127	2	0-20	
1,1-Dichloroethene	95	102	78-126	70-134	8	0-28	
Ethylbenzene	112	111	80-120	73-127	1	0-20	
Toluene	106	120	80-120	73-127	12	0-20	
Trichloroethene	101	102	79-127	71-135	1	0-20	
Vinyl Chloride	93	104	72-132	62-142	11	0-20	
Methyl-t-Butyl Ether (MTBE)	93	111	69-123	60-132	18	0-20	
Tert-Butyl Alcohol (TBA)	102	96	63-123	53-133	6	0-20	
Diisopropyl Ether (DIPE)	100	107	59-137	46-150	7	0-37	
Ethyl-t-Butyl Ether (ETBE)	94	100	69-123	60-132	6	0-20	
Tert-Amyl-Methyl Ether (TAME)	98	104	70-120	62-128	6	0-20	
Ethanol	101	88	28-160	6-182	14	0-57	

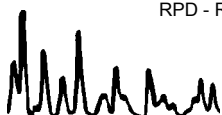
Total number of LCS compounds : 16

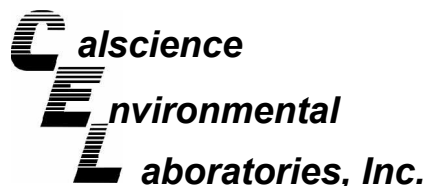
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



Broadbent & Associates, Inc.  
1324 Mangrove Ave, Ste 212  
Chico, CA 95926-2642

Date Received: N/A  
Work Order No: 10-02-1665  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: ARCO 2111

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,250	Aqueous	GC/MS BB	03/02/10	03/02/10	100302L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	102	101	80-120	73-127	1	0-20	
Carbon Tetrachloride	92	90	74-134	64-144	3	0-20	
Chlorobenzene	99	99	80-120	73-127	0	0-20	
1,2-Dibromoethane	97	95	79-121	72-128	3	0-20	
1,2-Dichlorobenzene	99	100	80-120	73-127	1	0-20	
1,1-Dichloroethene	95	101	78-126	70-134	6	0-28	
Ethylbenzene	99	102	80-120	73-127	4	0-20	
Toluene	109	90	80-120	73-127	19	0-20	
Trichloroethene	93	91	79-127	71-135	2	0-20	
Vinyl Chloride	98	102	72-132	62-142	3	0-20	
Methyl-t-Butyl Ether (MTBE)	100	97	69-123	60-132	3	0-20	
Tert-Butyl Alcohol (TBA)	110	108	63-123	53-133	2	0-20	
Diisopropyl Ether (DIPE)	98	101	59-137	46-150	3	0-37	
Ethyl-t-Butyl Ether (ETBE)	98	98	69-123	60-132	0	0-20	
Tert-Amyl-Methyl Ether (TAME)	100	95	70-120	62-128	5	0-20	
Ethanol	100	100	28-160	6-182	0	0-57	

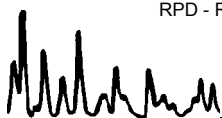
Total number of LCS compounds : 16

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

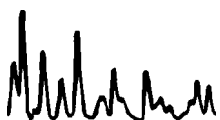




Work Order Number: 10-02-1665
 

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<u>Qualifier</u>	<u>Definition</u>
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
BZ	Sample preserved improperly.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
DU	Insufficient sample quantity for matrix spike/dup matrix spike.
ET	Sample was extracted past end of recommended max. holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GR	Internal standard recovery is outside method recovery limit.
IB	CCV recovery above limit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG,AY	LG= Surrogate recovery below the acceptance limit. AY= Matrix interference suspected.
LH,AY	LH= Surrogate recovery above the acceptance limit. AY= Matrix interference suspected.
LM,AY	LM= MS and/or MSD above acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LN,AY	LN= MS and/or MSD below acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.



<u>Qualifier</u>	<u>Definition</u>
LW	Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX	Quantitation of unknown hydrocarbon(s) in sample based on diesel.
MB	Analyte present in the method blank.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.





# Laboratory Management Program LaMP Chain of Custody Record

1665

BP/ARC Project Name: ARCO 2111

Req Due Date (mm/dd/yy): STD-TAT Rush TAT: Yes No  X

BP/ARC Facility No: 2111

Lab Work Order Number:

Lab Name: Cal science	BP/ARC Facility Address: 1156 Davis Street	Consultant/Contractor: Broadbent & Associates, Inc.
Lab Address: 7440 Lincoln Way	City, State, ZIP Code: San Leandro, CA 94577	Consultant/Contractor Project No: 06-88-615-5-822
Lab PM: Richard Villafania	Lead Regulatory Agency: ACEH	Address: 1324 Mangrove Ave. Ste. 212, Chico, CA 95926
Lab Phone: 714-895-5494 / 714-895-7501 (fax)	California Global ID No.: T0600101764	Consultant/Contractor PM: Tom Venus
Lab Shipping Acct#: 9255	Enfos Proposal No: 000TV-0006	Phone: 530-566-1400 / 530-566-1401 (fax)
Lab Bottle Order No:	Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU ___ OOC-RM ___	Email EDD To: tvenus@broadbentinc.com
Other Info:	Stage: Operate (5) Activity: Monitoring/MNA (22)	Invoice To: BP/ARC <input checked="" type="checkbox"/> Contractor ___

BP/ARC EBM: Chuck Carmel				Matrix			No. Containers / Preservative						Requested Analyses						Report Type & QC Level		
EBM Phone: 925-275-3803				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	Methanol	GRO (8015)	BTEX (8260)	5 Oxys (8260)	EDB (8260)	1,2-DCA (8260)	Ethanol (8260)	Standard <input checked="" type="checkbox"/>		
EBM Email: charles.carmel@bp.com																			Full Data Package ___		
Lab No.	Sample Description	Date	Time																	Comments	
1	MW-1	2/18/10	0955	X			6					X	X	X	X	X	X				
2	MW-2		1030	X			6					X	X	X	X	X	X				
3	MW-3		0940	X			6			X		X	X	X	X	X	X				
4	MW-4		0905	X			6				X	X	X	X	X	X	X				
5	MW-5		0920	X			6				X	X	X	X	X	X	X				
6	MW-7		1120	X			6				X	X	X	X	X	X	X				
7	MW-8		1102	X			6				X	X	X	X	X	X	X				
8	TB - 2111 - 100218	2/19/10		X			2				X										ON HOLD

Sampler's Name: Tracy Geddes	Relinquished By / Affiliation: R. Tyler / BAI		Date: 2/18/10	Time: 1500	Accepted By / Affiliation: W. Watson / ACE		Date: 2/19/10	Time: 1000
Sampler's Company: BAI	Shipment Method: GSO Ship Date: 2/18/10		Shipment Tracking No: 106470757					

Special Instructions:

THIS LINE - LAB USE ONLY: 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

Page 1 of 20

7665

DATE 2/18/10

COMPANY BAI

ADDRESS 875 Cutting Lane

ADDRESS

CITY Varadille

SENDERS NAME Eric F...

COMPANY

ADDRESS CAL SCIENCE

ADDRESS 7440 LINCOLN WAY

ADDRESS

CITY GARDEN GROVE

INTERNAL BILLING REFERENCE WILL APPEAR ON YOUR INVOICE

STATION

STE/ROOM Room F

ZIP CODE 95681

PHONE NUMBER 775-771-4371

PHONE NUMBER

STE/ROOM

ZIP CODE 92841



1-800-322-5555

WWW.GSO.COM

SHIPPING AIR BILL

4 PACKAGE INFORMATION

LETTER (MAX 8 OZ)

PACKAGE (WT) 1.00

DECLARED VALUE \$ \_\_\_\_\_

COD AMOUNT \$ \_\_\_\_\_  
(CASH NOT ACCEPTED)

PACKAGE LABEL

5 DELIVERY SERVICE  PRIORITY OVERNIGHT BY 10:30 AM  EARLY PRIORITY BY 8:00 AM  SATURDAY DELIVERY

\*DELIVERY TIMES MAY BE LATER IN SOME AREAS - CONSULT YOUR SERVICE GUIDE OR CALL GOLDEN STATE OVERNIGHT.

6 RELEASE SIGNATURE \_\_\_\_\_  
SIGN TO AUTHORIZE DELIVERY WITHOUT OBTAINING SIGNATURE

7 \_\_\_\_\_ EXP. DATE

8 PICK UP INFORMATION \_\_\_\_\_  
TIME DRIVER # ROUTE #

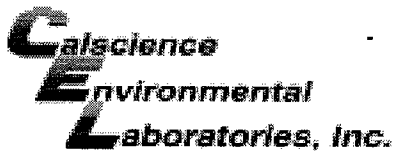
106470757

PEEL OFF HERE



106470757

9 GSO TRACKING NUMBER



WORK ORDER #: 10-02-1665

**SAMPLE RECEIPT FORM**

Cooler 1 of 1

CLIENT: BROADBENT + ASSO. INC.

DATE: 02/19/10

**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature 1.5 °C + 0.5°C (CF) = 2.0 °C  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature:  Air  Filter  Metals Only  PCBs Only Initial: WB

**CUSTODY SEALS INTACT:**

Cooler  \_\_\_\_\_  No (Not Intact)  Not Present  N/A Initial: WB

Sample  \_\_\_\_\_  No (Not Intact)  Not Present Initial: WB

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTAINER TYPE:**

**Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_)  EnCores®  TerraCores®  \_\_\_\_\_

**Water:**  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>

500AGB  500AGJ  500AGJ<sub>s</sub>  250AGB  250CGB  250CGB<sub>s</sub>  1PB  500PB  500PB<sub>na</sub>

250PB  250PB<sub>n</sub>  125PB  125PB<sub>z</sub>  100PJ  100PJ<sub>na2</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Air:**  Tedlar®  Summa® **Other:**  \_\_\_\_\_ **Trip Blank Lot#:** 100209A **Checked by:** WB

**Container:** C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** WB

**Preservative:** h: HCL n: HNO3 na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> Na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> z<sub>na</sub>: ZnAc<sub>2</sub>+NaOH f: Field-filtered **Scanned by:** WB

## BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

### A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

Field protocols have been implemented to enhance the accuracy and reliability of data collection, ground-water sample collection, transportation and laboratory analysis. Discussion of these protocols is provided below.

#### A.1.1 Water Level & Free-Product Measurement

Prior to ground-water sample collection from each monitoring well, the presence of separate-phase hydrocarbons (SPH or free product, FP) and depth to ground water shall be measured. Depth to ground water will be measured with a standard water level indicator that has been decontaminated prior to its use in accordance with procedures discussed below. Depth to groundwater will be gauged from a saw cut notch at the top of the well casing on each well head. Where FP is suspected, the initial gauging will be done with an oil-water interface probe. Once depth to water has been measured, the first retrieval of a new disposable bailer will be scrutinized for the presence of SPH/FP.

#### A.1.2 Monitoring Well Purging

Subsequent to measuring depth to ground water and prior to the collection of ground-water samples, purging of standing water within the monitoring well will be performed if called for. Consistent with the American Society for Testing and Materials (ASTM) Standard D6452-99, Section 7.1, the well will be purged of approximately three wetted-casing volumes of water, or until the well is dewatered, or until monitored field parameters indicate stabilization. The well will be purged using a pre-cleaned disposable bailer or submersible pump and disposable plastic tubing dedicated to each individual well. The well will be purged at a low flow rate to minimize the possibility of purging the well dry. So that the sample collected is representative of formation water, several field parameters will be monitored during the purging process. The sample will not be collected until these parameters (i.e. temperature, pH, and conductivity) have stabilized to within 10% of the previously measured value. If a well is purged dry, the sample should not be collected until the well has recovered to a minimum 50% of its initial volume.

#### A.1.3 Ground-Water Sample Collection

Once the wells are satisfactorily purged, water samples will be collected from each well. Water samples for organic analyses will be collected using a pre-cleaned, new, disposable bailer and transferred into the appropriate, new, laboratory-prepared containers such that no head space or air bubbles are present in the sample container (if appropriate to the analysis). The samples will be properly labeled (i.e. sample identification, sampler initials, date/time of collection, site location, requested analyses), placed in an ice chest with bagged ice or ice substitute, and delivered to the contracted analytical laboratory.

#### A.1.4 Surface Water Sample Collection

Unless specified otherwise, surface water samples will be collected from mid-depth in the central area of the associated surface water body. Water samples will be collected into appropriate, new, laboratory-prepared containers by dipping the container into the surface water unless the container has a preservative present. If a sample preservative is present, a new, cleaned non-preserved surrogate container will be used to obtain the sample which will then be directly transferred into a new, laboratory-provided, preserved container. Samples will be properly labeled and transported as described above.

#### A.1.5 Decontamination Protocol

Prior to use in each well, re-usable ground-water sampling equipment (e.g., water level indicator, oil-interface probe, purge pump, etc.) will be decontaminated. Decontamination protocol will include thoroughly cleaning with a solution of Liquinox, rinsing with clean water, and final rinsing with control water (potable water of known quality, distilled, or de-ionized water). Pre-cleaned new disposable bailers and disposable plastic tubing will be dedicated to each individual well.

#### A.1.6 Chain of Custody Procedures

Sample identification documents will be carefully prepared so identification and chain of custody can be maintained and sample disposition can be controlled. The sample identification documents include Chain-of-Custody (COC) records and Daily Field Report forms. Chain of custody procedures are outlined below.

##### Field Custody Procedures

The field sampler is individually responsible for the care and custody of the samples collected until they are properly transferred.

Samples will have unique labels. The information on these labels will correspond to the COC which shows the identification of individual samples and the contents of the shipping container. The original COC will accompany the shipment and a copy will be retained by the field sampler.

##### Transfer of Custody and Shipment

A COC will accompany samples during transfer and shipment. When transferring samples, the individual relinquishing and the individual receiving the samples will each sign, date, and note the time on the COC. This documents the sample custody transfer.

Samples will be packaged properly for shipment and dispatched to the appropriate laboratory for analysis, with a separate COC accompanying each shipment. Shipments will be accompanied by the original COC. Samples will be delivered by BAI personnel to the laboratory, or shipped by responsible courier. When a shipping courier is utilized, the sample shipment number will be identified on the COC.

#### A.1.7 Field Records

In addition to sample identification numbers and COC records, Daily Field Report records will be maintained by field staff to provide daily records of significant events, observations, and measurements during field investigations. These documents will contain observed information such as: the personnel present, site conditions, sampling procedures, measurement procedures, calibration records, equipment used, supplies used, etc. Field measurements will be recorded on the appropriate forms. Entries on the data forms will be signed and dated. The data forms will be kept as permanent file records.

**APPENDIX B**

**GEOTRACKER UPLOAD CONFIRMATION RECEIPTS**



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STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A GEO\_WELL FILE

**SUCCESS**

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

<b><u>Submittal Type:</u></b>	<b>GEO_WELL</b>
<b><u>Submittal Title:</u></b>	<b>1Q10 GEO_WELL 2111</b>
<b><u>Facility Global ID:</u></b>	<b>T0600101764</b>
<b><u>Facility Name:</u></b>	<b>ARCO #2111</b>
<b><u>File Name:</u></b>	<b>GEO_WELL.zip</b>
<b><u>Organization Name:</u></b>	<b>Broadbent &amp; Associates, Inc.</b>
<b><u>Username:</u></b>	<b>BROADBENT-C</b>
<b><u>IP Address:</u></b>	<b>67.118.40.90</b>
<b><u>Submittal Date/Time:</u></b>	<b>3/19/2010 12:45:51 PM</b>
<b><u>Confirmation Number:</u></b>	<b>8434317350</b>

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A EDF FILE

**SUCCESS**

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

<b><u>Submittal Type:</u></b>	EDF - Monitoring Report - Quarterly
<b><u>Submittal Title:</u></b>	1Q10 GW Monitoring
<b><u>Facility Global ID:</u></b>	T0600101764
<b><u>Facility Name:</u></b>	ARCO #2111
<b><u>File Name:</u></b>	10021665.zip
<b><u>Organization Name:</u></b>	Broadbent & Associates, Inc.
<b><u>Username:</u></b>	BROADBENT-C
<b><u>IP Address:</u></b>	67.118.40.90
<b><u>Submittal Date/Time:</u></b>	3/19/2010 12:46:50 PM
<b><u>Confirmation Number:</u></b>	<b>7524100065</b>

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