

Atlantic Richfield Company

Chuck Carmel
Environmental Business Manager

RECEIVED

2:46 pm, Jul 30, 2010

Alameda County
Environmental Health

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

30 July 2010

Re: Second Quarter 2010 Semi-Annual Ground-Water Monitoring Report
Atlantic Richfield Company Station #2162
15135 Hesperian Boulevard, San Leandro, California
ACEH Case #RO0000190

"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,



Chuck Carmel
Environmental Business Manager

Attachment

**Second Quarter 2010 Semi-Annual
Ground-Water Monitoring Report**
Atlantic Richfield Company Station #2162
15135 Hesperian Blvd., San Leandro, California
ACEH Case #RO0000190

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 July 2010

Project No. 06-88-620

30 July 2010

Project No. 06-88-620

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

Attn.: Mr. Chuck Carmel

Re: Second Quarter 2010 Semi-Annual Ground-Water Monitoring Report, Atlantic Richfield Company Station #2162, 15135 Hesperian Boulevard, San Leandro, California; ACEH Case #RO0000190

Dear Mr. Carmel:

Provided herein is the *Second Quarter 2010 Semi-Annual Ground-Water Monitoring Report* for Atlantic Richfield Company (a BP affiliated company) Station #2162 located at 15135 Hesperian Boulevard, San Leandro, Alameda County, California (Site). This report presents results of ground-water monitoring conducted at the Site during the Second Quarter of 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 (Submitted via GeoTracker)
Electronic copy uploaded to GeoTracker

STATION #2162 SEMI-ANNUAL GROUND-WATER MONITORING REPORT

Facility: #2162	Address:	15135 Hesperian Boulevard, 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.:		06-88-620
Primary Agency/Regulatory ID No.:		Alameda County Environmental Health (ACEH) ACEH Case #RO0000190
Facility Permits/Permitting Agency:		NA

WORK PERFORMED THIS QUARTER (Second Quarter 2010):

1. Prepared and submitted *First Quarter 2010 Status Report* (BAI, 4/30/2010).
2. Conducted ground-water monitoring/sampling for Second Quarter 2010. Work performed on 4 June 2010 by BAI.

WORK PROPOSED FOR NEXT QUARTER (Third Quarter 2010):

1. Prepare and submit this *Second Quarter 2010 Semi-Annual Ground-Water Monitoring Report* (contained herein).
2. No environmental field work is presently scheduled to occur at the Site during the Third Quarter of 2010.

QUARTERLY RESULTS SUMMARY:

Current phase of project:	Ground-water monitoring/sampling
Frequency of ground-water monitoring:	Semi-Annually (2Q and 4Q): MW-1 through MW-6
Frequency of ground-water sampling:	Annually (2Q): MW-1 and MW-2 Semi-Annually (2Q and 4Q): MW-3, MW-4, MW-5, MW-6
Is free product (FP) present on-site:	No
Current remediation techniques:	NA
Depth to ground water (below TOC):	7.24 ft (MW-2) to 8.71 ft (MW-4)
General ground-water flow direction:	South-Southwest
Approximate hydraulic gradient:	0.004 ft/ft

DISCUSSION:

Second Quarter 2010 semi-annual ground-water monitoring and sampling was conducted at Station #2162 on 4 June 2010 by BAI field personnel. Water levels were gauged in each of the six wells at the Site. No irregularities were noted during water level gauging. Depth-to-water measurements ranged from 7.24 ft at MW-2 to 8.71 ft at MW-4. Resulting ground-water surface elevations ranged from 25.71 ft above datum in well MW-2 to 25.26 ft in wells MW-4 and MW-6. Water level elevations yielded a potentiometric ground-water flow direction and gradient to the south-southwest at approximately 0.004 ft/ft (see Table 3). Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. 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 the six on-site wells on 4 June 2010. No irregularities were reported during sampling. Samples were submitted under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. (Garden Grove, California), for analysis of Gasoline Range Organics (GRO, C6-C12) by EPA Method 8015B; for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and Tert-Amyl Methyl Ether (TAME), Tert-Butyl Alcohol (TBA), Di-Isopropyl Ether(DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Ethanol, Ethyl Tert-Butyl Ether (ETBE), and Methyl Tert-Butyl Ether (MTBE) by EPA Method 8260B. No 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.

Gasoline Range Organics (GRO) were detected above the laboratory reporting limit in two of the six wells sampled at a concentration of 67 micrograms per liter ($\mu\text{g/L}$) in well MW-5 and 6,200 $\mu\text{g/L}$ in well MW-6. The BTEX constituents were detected in well MW-6 at concentrations of 15 $\mu\text{g/L}$, 1.6 $\mu\text{g/L}$, 8.2 $\mu\text{g/L}$, and 1.2 $\mu\text{g/L}$, respectively. The fuel constituents TAME and TBA were detected in well MW-6 at concentrations of 17 $\mu\text{g/L}$ and 17 $\mu\text{g/L}$, respectively. MTBE was detected above the laboratory reporting limit in two of the six wells sampled at a concentration of 1.9 $\mu\text{g/L}$ in well MW-3 and 190 $\mu\text{g/L}$ in MW-6. The remaining analytes were not detected above their laboratory reporting limits in the six 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. A copy of the Laboratory Analytical Report, including chain-of-custody documentation is provided in Appendix A. Ground-water monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS:

Ground-water level elevations were between historic minimum and maximum ranges for wells MW-1 through MW-4, and after three rounds of monitoring were at historic high levels in well MW-5 and MW-6 as summarized in Table 1. The resulting potentiometric ground-water flow direction to the south-southwest at 0.004 ft/ft is consistent with the historic flow directions recorded at the Site.

Detected analyte concentrations were within the historic minimum and maximum ranges recorded for wells MW-1 through MW-5. The sample from well MW-6 had historic high concentrations of GRO, Benzene, Toluene, Ethylbenzene, Total Xylenes, MTBE, and TAME. It is possible that the higher ground-water elevations in well MW-6 are exhibiting higher concentrations of petroleum hydrocarbons due to residual contamination in the capillary fringe/water table 'smear zone' being remobilized. At this time, it is recommended that bi-annual monitoring and sampling of the wells be continued to determine the range of hydrocarbon impacts present.

CLOSURE:

The findings presented in this report are based upon: observations of BAI field personnel (see Appendix 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 (a BP affiliated 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 #2162, 15135 Hesperian Boulevard, San Leandro, California
- Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, 4 June 2010, Station #2162, 15135 Hesperian Boulevard, San Leandro, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #2162, 15135 Hesperian Boulevard, San Leandro, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #2162, 15135 Hesperian Boulevard, San Leandro, California
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #2162, 15135 Hesperian Boulevard, San Leandro, California
- Appendix A. BAI Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmation Receipts

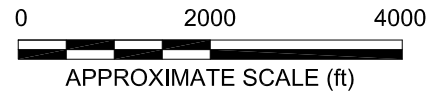
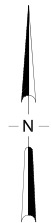
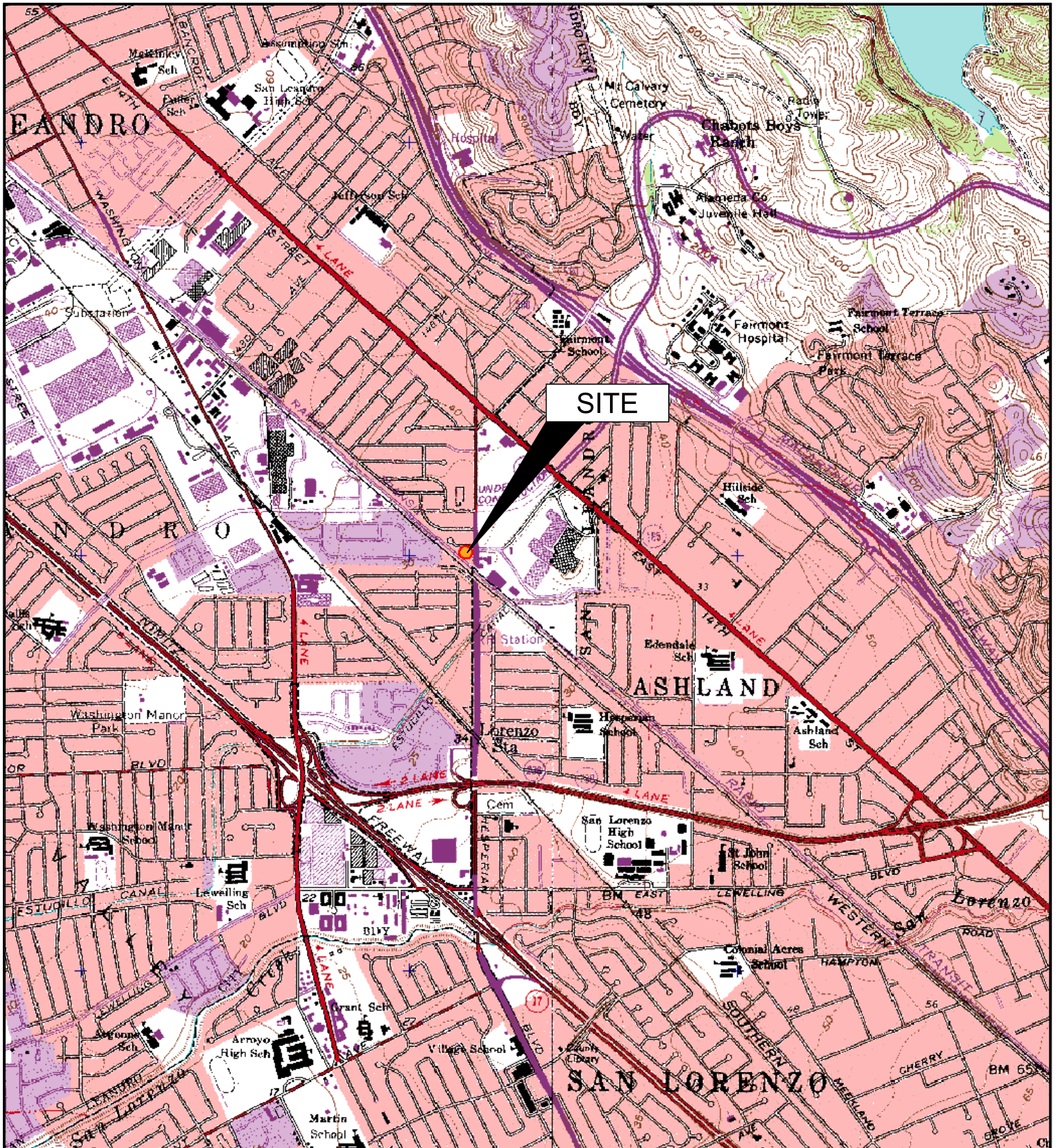


IMAGE SOURCE: USGS

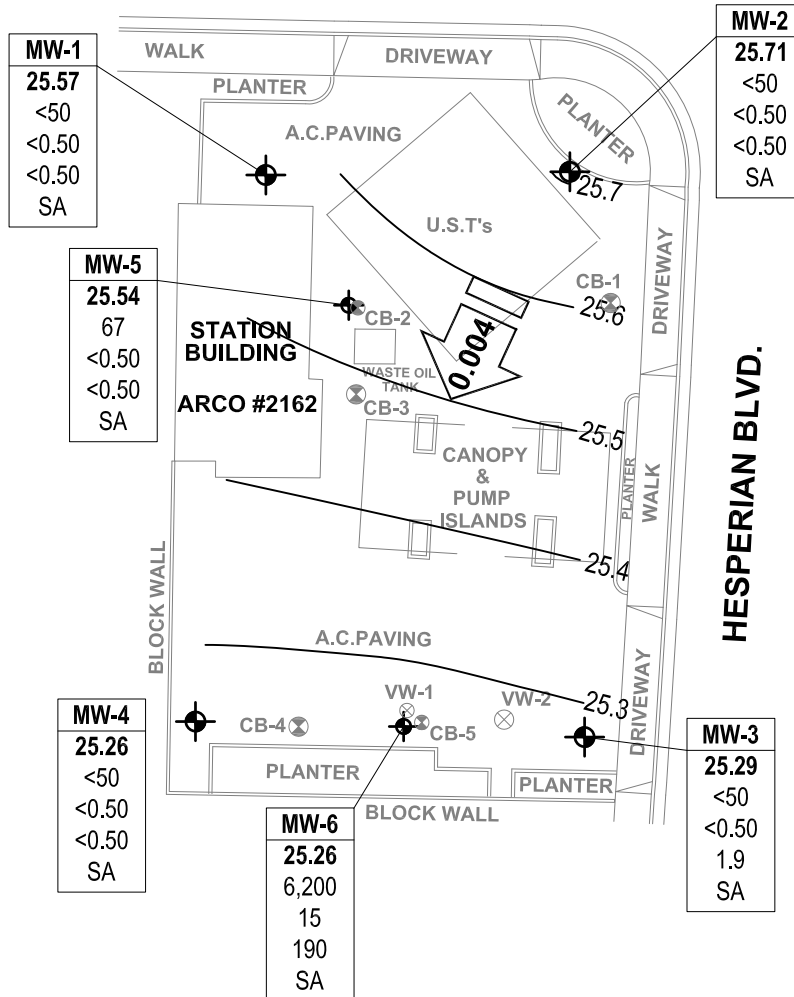
BROADBENT & ASSOCIATES, INC
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave, Suite 212, Chico, CA 95926
Project No.: 06-88-620 Date: 07/27/09

Station #2162
15135 Hesperian Boulevard
San Leandro, California

Site Location Map

Drawing
1

RUTH COURT



MW-1
25.57
<50
<0.50
<0.50
SA

MW-2
25.71
<50
<0.50
<0.50
SA

MW-5
25.54
67
<0.50
<0.50
SA

MW-4
25.26
<50
<0.50
<0.50
SA

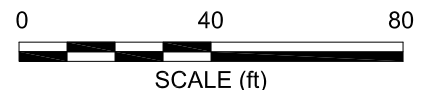
MW-6
25.26
6,200
15
190
SA

MW-3
25.29
<50
<0.50
1.9
SA

LEGEND

- GROUND-WATER MONITORING WELL
- VAPOR EXTRACTION WELL
- SOIL BORING
- 25.5 GROUND-WATER ELEVATION CONTOUR (FEET ABOVE DATUM)
- APPROXIMATE GROUND-WATER FLOW DIRECTION AND GRADIENT (FT/FT)

- | | |
|---------|---|
| Well | WELL DESIGNATION |
| ELEV | GROUND-WATER ELEVATION (FEET) |
| GRO | GRO. BENZENE & MTBE CONCENTRATIONS (µg/L) |
| Benzene | |
| MTBE | |
| A/Q/SA | SAMPLING FREQUENCY |
- < NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS
 - * DATA NOT USED FOR CONTOURING
 - SA SAMPLED SEMI-ANNUALLY



NOTE: SITE MAP ADAPTED FROM WOOD RODGERS SURVYING.

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
ARCO Service Station #2162, 15135 Hesperian Blvd., 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		
MW-1															
6/20/2000	--		31.19	8.0	16.0	8.33	22.86	<50	<0.5	0.8	<0.5	<1.0	<10	--	--
9/29/2000	--		31.19	8.0	16.0	9.07	22.12	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/17/2000	--		31.19	8.0	16.0	8.69	22.50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/23/2001	--		31.19	8.0	16.0	8.19	23.00	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/20/2001	--		31.19	8.0	16.0	8.97	22.22	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/22/2001	--		31.19	8.0	16.0	9.56	21.63	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/28/2001	--		31.19	8.0	16.0	8.40	22.79	<50	<0.5	<0.5	<0.5	0.63	<2.5	--	--
3/14/2002	--		31.19	8.0	16.0	8.05	23.14	<50	<0.5	<0.5	<0.5	<0.5	170	--	--
4/18/2002	--		31.19	8.0	16.0	8.27	22.92	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
7/19/2002	NP		31.19	8.0	16.0	8.88	22.31	<50	<0.5	<0.5	<0.5	<0.5	11	1.0	8.2
10/09/02	NP	a	31.19	8.0	16.0	--	--	--	--	--	--	--	--	--	--
03/28/03	NP	a, c	31.19	8.0	16.0	--	--	--	--	--	--	--	--	--	--
4/7/2003	NP		31.19	8.0	16.0	8.28	22.91	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	6.9
7/9/2003	NP		31.19	8.0	16.0	8.62	22.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	7.2
10/08/2003	--	d, e	31.13	8.0	16.0	9.19	21.94	--	--	--	--	--	--	--	--
01/13/2004	--		31.13	8.0	16.0	8.35	22.78	--	--	--	--	--	--	--	--
04/05/2004	--		33.70	8.0	16.0	7.29	26.41	--	--	--	--	--	--	--	--
07/12/2004	NP		33.70	8.0	16.0	9.00	24.70	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	7.0
10/19/2004	--		33.70	8.0	16.0	9.47	24.23	--	--	--	--	--	--	--	--
01/11/2005	--		33.70	8.0	16.0	7.64	26.06	--	--	--	--	--	--	--	--
04/14/2005	--		33.70	8.0	16.0	7.35	26.35	--	--	--	--	--	--	--	--
08/01/2005	--		33.70	8.0	16.0	8.21	25.49	--	--	--	--	--	--	--	--
7/31/2006	--		33.70	8.0	16.0	8.10	25.60	--	--	--	--	--	--	--	--
6/12/2009	P		33.70	8.0	16.0	8.93	24.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.59	7.40
11/6/2009	--		33.70	8.0	16.0	9.18	24.52	--	--	--	--	--	--	--	--
6/4/2010	P		33.70	8.0	16.0	8.13	25.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.31	7.2
MW-2															
6/20/2000	--		30.38	8.0	16.0	7.38	23.00	--	--	--	--	--	--	--	--
9/29/2000	--		30.38	8.0	16.0	8.08	22.30	266	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/17/2000	--		30.38	8.0	16.0	7.80	22.58	175	<0.5	<0.5	0.659	<0.5	<2.5	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
ARCO Service Station #2162, 15135 Hesperian Blvd., 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		
MW-2 Cont.															
3/23/2001	--		30.38	8.0	16.0	7.23	23.15	351	<0.5	<0.5	0.912	<0.5	<2.5	--	--
6/20/2001	--		30.38	8.0	16.0	7.98	22.40	360	<0.5	<0.5	0.74	<0.5	<2.5	--	--
9/22/2001	--		30.38	8.0	16.0	8.55	21.83	190	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/28/2001	--		30.38	8.0	16.0	7.53	22.85	130	<0.5	0.93	<0.5	0.51	<2.5	--	--
3/14/2002	--		30.38	8.0	16.0	7.17	23.21	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/18/2002	--		30.38	8.0	16.0	7.31	23.07	74	<0.5	<0.5	<0.5	<0.5	--	--	--
7/19/2002	P		30.38	8.0	16.0	7.93	22.45	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.1	7.6
10/9/2002	P		30.38	8.0	16.0	8.55	21.83	<50	<0.5	<0.5	<0.5	<0.5	<2.5	0.7	7.3
03/28/03	P	c	30.38	8.0	16.0	7.30	23.08	<50	<0.50	0.83	<0.50	<0.50	<0.50	1.48	7.7
4/7/2003	P		30.38	8.0	16.0	7.36	23.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	7.0
7/9/2003	P		30.38	8.0	16.0	7.71	22.67	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.5	7.6
10/08/2003	--		30.38	8.0	16.0	8.25	22.13	--	--	--	--	--	--	--	--
01/13/2004	--		30.38	8.0	16.0	7.55	22.83	--	--	--	--	--	--	--	--
04/05/2004	--		32.97	8.0	16.0	7.29	25.68	--	--	--	--	--	--	--	--
07/12/2004	NP		32.97	8.0	16.0	8.09	24.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	7.2
10/19/2004	--		32.97	8.0	16.0	8.29	24.68	--	--	--	--	--	--	--	--
01/11/2005	--		32.97	8.0	16.0	6.81	26.16	--	--	--	--	--	--	--	--
04/14/2005	--		32.97	8.0	16.0	6.69	26.28	--	--	--	--	--	--	--	--
08/01/2005	--		32.97	8.0	16.0	7.40	25.57	--	--	--	--	--	--	--	--
7/31/2006	--		32.97	8.0	16.0	7.22	25.75	--	--	--	--	--	--	--	--
6/12/2009	P		32.95	8.0	16.0	8.18	24.77	51	<0.50	<0.50	<0.50	<0.50	<0.50	0.60	7.55
11/6/2009	--		32.95	8.0	16.0	8.32	24.63	--	--	--	--	--	--	--	--
6/4/2010	P		32.95	8.0	16.0	7.24	25.71	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.33
MW-3															
6/20/2000	--		30.30	8.0	15.0	7.75	22.55	--	--	--	--	--	--	--	--
9/29/2000	--		30.30	8.0	15.0	8.46	21.84	<50	<0.5	<0.5	<0.5	<0.5	128	--	--
12/17/2000	--		30.30	8.0	15.0	8.01	22.29	<50	<0.5	<0.5	<0.5	<0.5	46.7	--	--
3/23/2001	--		30.30	8.0	15.0	7.70	22.60	<50	<0.5	<0.5	<0.5	<0.5	26.8	--	--
6/20/2001	--		30.30	8.0	15.0	8.23	22.07	<50	<0.5	<0.5	<0.5	<0.5	30	--	--
9/22/2001	--		30.30	8.0	15.0	8.89	21.41	<50	<0.5	<0.5	<0.5	<0.5	12	--	--

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

ARCO Service Station #2162, 15135 Hesperian Blvd., 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
MW-3 Cont.															
12/28/2001	--		30.30	8.0	15.0	7.83	22.47	<50	<0.5	<0.5	<0.5	<0.5	6.2	--	--
3/14/2002	--		30.30	8.0	15.0	7.48	22.82	<50	<0.5	<0.5	<0.5	<0.5	47	--	--
4/18/2002	--		30.30	8.0	15.0	7.62	22.68	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
7/19/2002	P	b (TPH-g)	30.30	8.0	15.0	8.23	22.07	100	<1.0	<1.0	<1.0	<1.0	330	0.9	7.6
10/9/2002	P		30.30	8.0	15.0	8.83	21.47	<50	<0.5	<0.5	<0.5	<0.5	61	0.5	7.4
03/28/03	P	c	30.30	8.0	15.0	7.85	22.45	52	<0.50	1.2	<0.50	<0.50	45	1.42	7.6
4/7/2003	P		30.30	8.0	15.0	7.71	22.59	56	<0.50	<0.50	<0.50	<0.50	56	1.1	6.8
7/9/2003	P		30.30	8.0	15.0	8.00	22.30	<500	<5.0	<5.0	<5.0	<5.0	87	1.6	7.4
10/08/2003	P		30.30	8.0	15.0	8.59	21.71	<50	<0.50	<0.50	<0.50	<0.50	25	0.9	--
01/15/2004	P		30.30	8.0	15.0	7.90	22.40	<50	<0.50	<0.50	<0.50	<0.50	9.8	2.9	7.3
04/05/2004	P		32.89	8.0	15.0	7.61	25.28	<50	<0.50	<0.50	<0.50	<0.50	15	1.5	7.0
07/12/2004	P		32.89	8.0	15.0	8.45	24.44	<50	<0.50	<0.50	<0.50	<0.50	7.3	1.6	6.9
10/19/2004	P		32.89	8.0	15.0	8.95	23.94	<50	<0.50	<0.50	<0.50	<0.50	5.0	0.96	7.1
01/11/2005	P		32.89	8.0	15.0	7.27	25.62	<50	<0.50	<0.50	<0.50	<0.50	2.3	--	7.2
04/14/2005	P		32.89	8.0	15.0	7.10	25.79	<50	<0.50	<0.50	<0.50	1.5	5.6	2.0	7.2
08/01/2005	P		32.89	8.0	15.0	7.71	25.18	<50	<0.50	<0.50	<0.50	<0.50	5.2	1.18	7.0
7/31/2006	P		32.89	8.0	15.0	7.64	25.25	<50	<0.50	<0.50	<0.50	<0.50	4.3	--	6.8
6/12/2009	P		32.88	8.0	15.0	8.36	24.52	<50	0.75	<0.50	<0.50	<0.50	0.53	0.61	7.45
11/6/2009	P		32.89	8.0	15.0	8.58	24.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.51	7.17
6/4/2010	P		32.89	8.0	15.0	7.60	25.29	<50	<0.50	<0.50	<0.50	<0.50	1.9	0.69	7.4
MW-4															
6/20/2000	--		30.39	10.0	18.0	8.87	21.52	--	--	--	--	--	--	--	--
9/29/2000	--		30.39	10.0	18.0	9.61	20.78	<50	1.02	<0.5	<0.5	<0.5	12.2	--	--
12/17/2000	--		30.39	10.0	18.0	9.17	21.22	<50	<0.5	<0.5	<0.5	<0.5	5.81	--	--
3/23/2001	--		30.39	10.0	18.0	8.70	21.69	<50	<0.5	<0.5	<0.5	<0.5	3.04	--	--
6/20/2001	--		30.39	10.0	18.0	9.51	20.88	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/22/2001	--		30.39	10.0	18.0	10.06	20.33	<50	<0.5	<0.5	<0.5	<0.5	5.2	--	--
12/28/2001	--		30.39	10.0	18.0	8.86	21.53	<50	<0.5	<0.5	<0.5	<0.5	4.3	--	--
3/14/2002	--		30.39	10.0	18.0	8.52	21.87	<50	<0.5	<0.5	<0.5	<0.5	5.1	--	--
4/18/2002	--		30.39	10.0	18.0	8.76	21.63	<50	<0.5	<0.5	<0.5	<0.5	--	--	--

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

ARCO Service Station #2162, 15135 Hesperian Blvd., 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		
MW-4 Cont.															
7/19/2002	NP		30.39	10.0	18.0	9.39	21.00	<50	<0.5	<0.5	<0.5	<0.5	30	1.8	7.8
10/9/2002	NP		30.39	10.0	18.0	10.08	20.31	<50	<0.5	<0.5	<0.5	<0.5	28	1.0	8.0
03/28/03	NP	c	30.39	10.0	18.0	8.88	21.51	<50	<0.50	1.3	<0.50	<0.50	4.4	0.98	7.2
4/7/2003	NP		30.39	10.0	18.0	8.78	21.61	<50	<0.50	<0.50	<0.50	<0.50	14	1.1	7.0
7/9/2003	NP		30.39	10.0	18.0	9.14	21.25	<50	<0.50	<0.50	<0.50	<0.50	1.8	1.6	7.4
10/08/2003	NP		30.39	10.0	18.0	9.77	20.62	<50	<0.50	<0.50	<0.50	<0.50	3.1	2.6	6.4
01/15/2004	P		30.39	10.0	18.0	8.68	21.71	<50	1.4	0.84	<0.50	1.5	6.6	2.9	7.1
04/05/2004	NP		33.97	10.0	18.0	8.77	25.20	<50	<0.50	<0.50	<0.50	<0.50	1.3	1.2	7.0
07/12/2004	NP		33.97	10.0	18.0	9.46	24.51	<50	<0.50	<0.50	<0.50	<0.50	1.0	2.5	6.6
10/19/2004	NP		33.97	10.0	18.0	9.91	24.06	<50	<0.50	<0.50	<0.50	<0.50	4.4	1.21	7.9
01/11/2005	P		33.97	10.0	18.0	7.80	26.17	59	2.0	<0.50	<0.50	<0.50	11	0.9	7.1
04/14/2005	NP		33.97	10.0	18.0	8.07	25.90	<50	<0.50	<0.50	<0.50	<0.50	0.64	2.8	7.4
08/01/2005	NP		33.97	10.0	18.0	8.58	25.39	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.48	5.7
7/31/2006	P		33.97	10.0	18.0	8.75	25.22	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.7
6/12/2009	P		33.97	10.0	18.0	9.51	24.46	<50	0.68	<0.50	<0.50	<0.50	<0.50	0.70	7.51
11/6/2009	P		33.97	10.0	18.0	9.74	24.23	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	7.15
6/4/2010	P		33.97	10.0	18.0	8.71	25.26	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.70	7.24
MW-5															
6/12/2009	NP		33.96	8.0	16.0	9.25	24.71	85	<0.50	<0.50	<0.50	<0.50	<0.50	0.59	7.50
11/6/2009	P		33.96	8.0	16.0	9.49	24.47	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.56	7.1
6/4/2010	NP		33.96	8.0	16.0	8.42	25.54	67	<0.50	<0.50	<0.50	<0.50	<0.50	1.24	7.65
MW-6															
6/12/2009	NP		33.48	8.0	16.0	9.02	24.46	1,800	4.9	<0.50	2.8	<0.50	59	0.68	7.39
11/6/2009	P		33.48	8.0	16.0	9.21	24.27	880	1.7	<0.50	0.77	<0.50	37	0.43	6.9
6/4/2010	NP		33.48	8.0	16.0	8.22	25.26	6,200	15	1.6	8.2	1.2	190	0.87	7.16

SYMBOLS AND ABBREVIATIONS:

--- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
DO = Dissolved oxygen
DTW = Depth to water in feet below ground surface
ft bgs = feet below ground surface
GRO = Gasoline Range Organics, range C4-C12
GWE = Groundwater elevation measured in feet
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 measured in feet above mean sea level
TPH-g = Total petroleum hydrocarbons as gasoline
ug/L = Micrograms per liter

FOOTNOTES:

a = Well not accessible - car parked over.
b = Hydrocarbon pattern is present in the requested fuel quantitation range but does not represent the pattern of the requested fuel
c =TPH-g, BTEX and MTBE analyzed by EPA method 8260 beginning on 1st Quarter 2003 sampling event (3/28/03)
d = Guaged with stinger in well
e = Well casing lowered 0.06 feet during well repairs on 9/17/2003

NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPHg was changed to GRO. The resulting data may be impacted by the potential of non-TPHg 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.

Wells were originally surveyed to NAVD'88 datum by URS Corporation on February 23, 2004.
Wells were resurveyed to NAVD'88 datum by Wood Rodgers Surveying on May 11, 2009.

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
ARCO Service Station #2162, 15135 Hesperian Blvd., San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
4/7/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/9/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/12/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-2									
3/28/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
4/7/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/9/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/12/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-3									
3/28/2003	<100	<20	45	<0.50	<0.50	0.73	<0.50	<0.50	
4/7/2003	<100	<20	56	<0.50	<0.50	0.72	<0.50	<0.50	
7/9/2003	<1,000	<200	87	<5.0	<5.0	<5.0	<5.0	<5.0	
10/08/2003	<100	<20	25	<0.50	<0.50	<0.50	<0.50	<0.50	
01/15/2004	<100	<20	9.8	<0.50	<0.50	<0.50	<0.50	<0.50	a (TBA and EDB)
04/05/2004	<100	<20	15	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/2004	<100	<20	7.3	<0.50	<0.50	<0.50	<0.50	<0.50	
10/19/2004	<100	<20	5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
01/11/2005	<100	<20	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	b
04/14/2005	<100	<20	5.6	<0.50	<0.50	<0.50	<0.50	<0.50	
08/01/2005	<100	<20	5.2	<0.50	<0.50	<0.50	<0.50	<0.50	b
7/31/2006	<300	<20	4.3	<0.50	<0.50	<0.50	<0.50	<0.50	c
6/12/2009	<300	<10	0.53	<0.50	<0.50	<0.50	<0.50	<0.50	
11/6/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	<10	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4									
3/28/2003	<100	<20	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data
ARCO Service Station #2162, 15135 Hesperian Blvd., San Leandro, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-4 Cont.									
4/7/2003	<100	<20	14	<0.50	<0.50	<0.50	<0.50	<0.50	
7/9/2003	<100	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	
10/08/2003	<100	<20	3.1	<0.50	<0.50	<0.50	<0.50	<0.50	
01/15/2004	<100	<20	6.6	<0.50	<0.50	<0.50	<0.50	<0.50	a (TBA and EDB)
04/05/2004	<100	<20	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	
07/12/2004	<100	<20	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	
10/19/2004	<100	<20	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
01/11/2005	<100	<20	11	<0.50	<0.50	<0.50	<0.50	<0.50	b
04/14/2005	<100	<20	0.64	<0.50	<0.50	<0.50	<0.50	<0.50	
08/01/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
7/31/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	c
6/12/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/6/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-5									
6/12/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/6/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-6									
6/12/2009	<300	<10	59	<0.50	<0.50	5.2	<0.50	<0.50	
11/6/2009	<300	24	37	<0.50	<0.50	<0.50	<0.50	<0.50	
6/4/2010	<300	17	190	<0.50	<0.50	17	<0.50	<0.50	

SYMBOLS AND ABBREVIATIONS:

< = Not detected at or above specified laboratory reporting limit

--- = Not analyzed/applicable/measured/available

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

ug/L = Micrograms per liter

FOOTNOTES:

a = The result was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.

b = The calibration verification for ethanol was within method limits but outside contract limits.

c = LCS rec. above meth. control limits. Analyte ND. Data not impacted.

NOTES:

All fuel oxygenate 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
ARCO Service Station #2162, 15135 Hesperian Blvd., San Leandro, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
3/23/2001	Southwest	0.011
6/20/2001	Southwest	0.013
9/22/2001	Southwest	0.012
12/28/2001	Southwest	0.010
3/14/2002	Southwest	0.011
4/18/2002	Southwest	0.012
7/19/2002	Southwest	0.012
10/9/2002	Southwest	0.013
3/28/2003	Southwest	0.013
4/7/2003	Southwest	0.011
7/9/2003	Southwest	0.010
10/8/2003	Southwest	0.010
1/15/2004	Southwest	0.008
4/5/2004	South-Southwest	0.004
7/12/2004	South and Southwest	0.003 and 0.005
10/19/2004	Southwest	0.004
1/11/2005	Southwest (a) to Southeast (b)	0.005 to 0.004
4/14/2005	Southeast	0.004
8/1/2005	Southwest	0.002
7/31/2006	South-Southwest	0.003
6/12/2009	South	0.003
11/6/2009	South-Southwest	0.003
6/4/2010	South-Southwest	0.004

FOOTNOTES:

a = Direction at underground storage tanks

b = Direction at dispensers

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.

APPENDIX A

BAI GROUND-WATER SAMPLING DATA PACKAGE

(Includes Field Data Sheets, Laboratory Analytical Report with Chain-Of-Custody Documentation, and Field Procedures)

DATE: 6/9/10
PERSONNEL:
WEATHER:

PROJECT NO.: 2162
COMMENTS:

Equip:	Geosquirt	Tubing	Ballers	DO	wli	Ec/pH

Well ID	Time	MEASURING POINT	DTW (FT)	PRODUCT THICKNESS	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	1048		8.13									
mw-2	0956		7.24									
mw-3	0916		7.60									
mw-4	0935		8.71									
mw-5	1050		8.42									
mw-6	0903		8.22									



Groundwater Sampling Data Sheet

Well I.D.: MW-2
 Project Name/Location: 2162 Project #: 06-88-620
 Sampler's Name: SB & EF Date: 6/4/10
 Purging Equipment: bailer
 Sampling Equipment: bailer

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 116.00 feet
 Depth to Water: 92.13 feet
 Water Column Thickness: = 2.87 feet
 Unit Casing Volume*: x 0.68 gallon / foot
 Casing Water Volume: = 5.1 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 15.3 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	1050	1.31	-36	-	866.3	75.4	7.6	
3	1053	X	X	X	870.0	71.4	7.2	
5	1055	X	X	X	865.2	69.8	7.2	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 5.0 gallons

Depth to Water at Sample Collection: _____ feet

Sample Collection Time: 1100

Purged Dry? (Y/N)

Comments:



Groundwater Sampling Data Sheet

Well I.D.: MW-4
 Project Name/Location: BP 2162 Project #: 06-88-628
 Sampler's Name: E. Ferrer S. Barkala Date: 6/5/10
 Purging Equipment: Barker
 Sampling Equipment: Barker

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 18.00 feet
 Depth to Water: 8.71 feet
 Water Column Thickness: 9.29 feet
 Unit Casing Volume*: x 0.65 gallon / foot
 Casing Water Volume: = 6.03 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 18.1 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	0937	0.78	-25		893.5	70.0	7.50	
2.5	0940	X	X	X	897.3	69.1	7.31	
5.5	0943	X	X	X	906.2	68.6	7.24	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 5.5 gallons
 Depth to Water at Sample Collection: 8.73 feet
 Sample Collection Time: 0945

Purged Dry? (Y/N) (N)

Comments:

Groundwater Sampling Data Sheet

Well I.D.: MW-3
 Project Name/Location: 2142 Project #: 06-88-620
 Sampler's Name: SBS & EF Date: 6/4/10
 Purging Equipment: boiler
 Sampling Equipment: boiler

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 15.00 feet
 Depth to Water: 7.60 feet
 Water Column Thickness: 7.40 feet
 Unit Casing Volume*: 0.65 gallon / foot
 Casing Water Volume: 4.8 gallons
 Casing Volume: 3 each
 Estimated Purge Volume: 14.4 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	0919	0.69	-113	-	824.9	71.8	7.7	
3	0921	X	X	X	820.3	71.4	7.4	
5	0923	X	X	X	832.6	70.7	7.4	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 5.0 gallons
 Depth to Water at Sample Collection: 7.75 feet
 Sample Collection Time: 0925

Purged Dry? (Y/N)

Comments:

Groundwater Sampling Data Sheet

Well I.D.: MW-6
 Project Name/Location: BP2162 Project #: _____
 Sampler's Name: _____ Date: 6/5/10
 Purging Equipment: _____
 Sampling Equipment: _____
 Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: _____ feet
 Depth to Water: 8.22 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	09:05	0.87	-199		1024	71.8	7.16	
		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: 8.22 feet

Sample Collection Time: 0910

Purged Dry? (Y/N) (Y)

Comments: NP

Groundwater Sampling Data Sheet

Well I.D.: MW-2
 Project Name/Location: BP 2162 Project #: 06-88-020
 Sampler's Name: E. Farver S. Burkholz Date: 6/5/10
 Purging Equipment: Bur
 Sampling Equipment: Bar

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 18 feet
 Depth to Water: 7.24 feet
 Water Column Thickness: 8.76 feet
 Unit Casing Volume*: x 0.65 gallon / foot
 Casing Water Volume: = 5.69 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 17.08 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	1000		-32		647.3	63.7	7.59	
2.5	1003	X	X	X	696.8	68.6	7.40	
5.5	1010	X	X	X	727.8	69.8	7.33	
6.5	1012	X	X	X	793.1	68.1	7.33	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 6.5 gallons
 Depth to Water at Sample Collection: 7.39 feet
 Sample Collection Time: 1014

Purged Dry? (Y/N) (N)

Comments:

Groundwater Sampling Data Sheet

Well I.D.: MW-5
 Project Name/Location: BD 2162 Project #: 06-88-620
 Sampler's Name: E. Ferris S. Borklyn Date: 6/15/10
 Purging Equipment: B
 Sampling Equipment: BATE

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: _____ feet
 Depth to Water: 8.42 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.

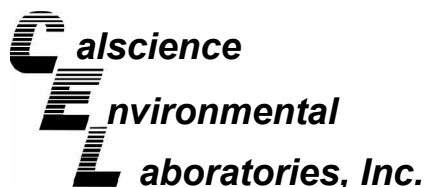
Free product measurement (if present): _____

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
<u>C</u>	<u>1035</u>	<u>1.24</u>	<u>-65</u>		<u>808.4</u>	<u>73.7</u>	<u>7.65</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: 8.42 feet
 Sample Collection Time: 1035

Purged Dry? (Y/N) (N)

Comments: NP



June 17, 2010

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

Subject: **CalScience Work Order No.: 10-06-0458**
Client Reference: BP 2162

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/5/2010 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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 2162

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	10-06-0458-1-E	06/04/10 11:00	Aqueous	GC 11	06/09/10	06/09/10 21:38	100609B01

<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	98	38-134			

MW-2	10-06-0458-2-E	06/04/10 10:14	Aqueous	GC 11	06/09/10	06/09/10 22:12	100609B01
-------------	-----------------------	---------------------------	----------------	--------------	-----------------	---------------------------	------------------

<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	96	38-134			

MW-3	10-06-0458-3-E	06/04/10 09:25	Aqueous	GC 11	06/09/10	06/09/10 19:23	100609B01
-------------	-----------------------	---------------------------	----------------	--------------	-----------------	---------------------------	------------------

<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	97	38-134			

MW-4	10-06-0458-4-E	06/04/10 09:45	Aqueous	GC 11	06/09/10	06/09/10 22:46	100609B01
-------------	-----------------------	---------------------------	----------------	--------------	-----------------	---------------------------	------------------

<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	95	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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 2162

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	10-06-0458-5-E	06/04/10 10:35	Aqueous	GC 11	06/09/10	06/09/10 23:19	100609B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	67	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	98	38-134			

MW-6	10-06-0458-6-E	06/04/10 09:10	Aqueous	GC 11	06/09/10	06/09/10 23:53	100609B01
-------------	-----------------------	---------------------------	----------------	--------------	-----------------	---------------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	6200	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	303	38-134		LH,AY	

Method Blank	099-12-695-844	N/A	Aqueous	GC 11	06/09/10	06/09/10 17:42	100609B01
---------------------	-----------------------	------------	----------------	--------------	-----------------	---------------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	93	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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2162

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	10-06-0458-1-A	06/04/10 11:00	Aqueous	GC/MS WW	06/10/10	06/10/10 19:35	100610L01

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	102	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	96	68-120		

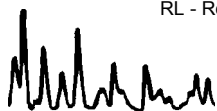
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	10-06-0458-2-A	06/04/10 10:14	Aqueous	GC/MS WW	06/10/10	06/10/10 20:02	100610L01

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	102	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	100	80-120			1,4-Bromofluorobenzene	97	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	10-06-0458-3-A	06/04/10 09:25	Aqueous	GC/MS WW	06/10/10	06/10/10 20:29	100610L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	1.9	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	104	80-128			Dibromofluoromethane	103	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	98	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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2162

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	10-06-0458-4-A	06/04/10 09:45	Aqueous	GC/MS WW	06/10/10	06/10/10 20:57	100610L01

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	106	80-128			Dibromofluoromethane	104	80-127		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	99	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	10-06-0458-5-A	06/04/10 10:35	Aqueous	GC/MS WW	06/10/10	06/10/10 21:24	100610L01

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	105	80-127		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	98	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-6	10-06-0458-6-A	06/04/10 09:10	Aqueous	GC/MS WW	06/10/10	06/10/10 21:52	100610L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	15	0.50	1		Methyl-t-Butyl Ether (MTBE)	190	5.0	10	
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	8.2	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	1.6	0.50	1		Tert-Amyl-Methyl Ether (TAME)	17	0.50	1	
Xylenes (total)	1.2	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	106	80-128			Dibromofluoromethane	106	80-127		
Toluene-d8	102	80-120			1,4-Bromofluorobenzene	101	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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2162

Page 3 of 3

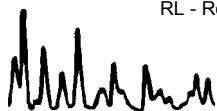
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-1,363	N/A	Aqueous	GC/MS WW	06/10/10	06/10/10 13:04	100610L01

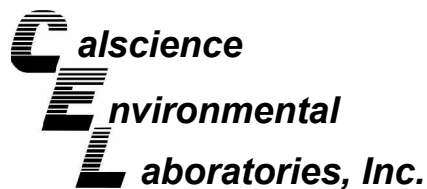
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	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	108	80-127		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	94	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-1,367	N/A	Aqueous	GC/MS WW	06/11/10	06/12/10 02:24	100611L02

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	106	80-128			Dibromofluoromethane	103	80-127		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	93	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

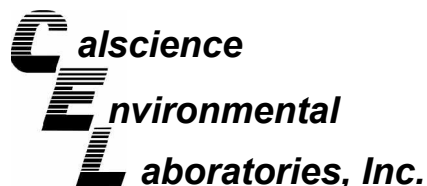
Date Received: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-3	Aqueous	GC 11	06/09/10	06/09/10	100609S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	103	102	38-134	1	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

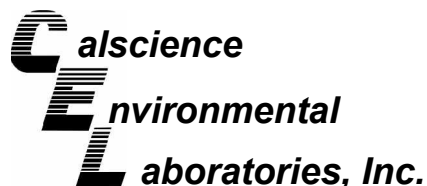
Date Received: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-06-0360-13	Aqueous	GC/MS WW	06/10/10	06/10/10	100610S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	94	94	76-124	0	0-20	
Carbon Tetrachloride	103	101	74-134	2	0-20	
Chlorobenzene	95	95	80-120	0	0-20	
1,2-Dibromoethane	97	101	80-120	4	0-20	
1,2-Dichlorobenzene	94	95	80-120	2	0-20	
1,2-Dichloroethane	97	101	80-120	4	0-20	
Ethylbenzene	89	88	78-126	1	0-20	
Toluene	90	91	80-120	1	0-20	
Trichloroethene	94	94	77-120	1	0-20	
Methyl-t-Butyl Ether (MTBE)	95	101	67-121	6	0-49	
Tert-Butyl Alcohol (TBA)	96	93	36-162	3	0-30	
Diisopropyl Ether (DIPE)	101	103	60-138	1	0-45	
Ethyl-t-Butyl Ether (ETBE)	94	97	69-123	3	0-30	
Tert-Amyl-Methyl Ether (TAME)	93	97	65-120	5	0-20	
Ethanol	120	113	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: 06/05/10
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B

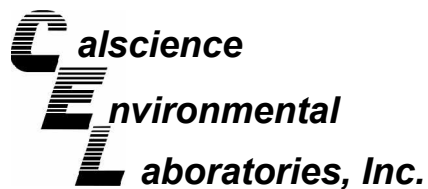
Project BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-06-0466-6	Aqueous	GC/MS WW	06/11/10	06/12/10	100611S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	100	76-124	1	0-20	
Carbon Tetrachloride	99	101	74-134	2	0-20	
Chlorobenzene	98	99	80-120	1	0-20	
1,2-Dibromoethane	97	99	80-120	1	0-20	
1,2-Dichlorobenzene	98	98	80-120	0	0-20	
1,2-Dichloroethane	97	100	80-120	2	0-20	
Ethylbenzene	99	100	78-126	1	0-20	
Toluene	100	101	80-120	1	0-20	
Trichloroethene	99	99	77-120	1	0-20	
Methyl-t-Butyl Ether (MTBE)	86	106	67-121	4	0-49	
Tert-Butyl Alcohol (TBA)	111	112	36-162	1	0-30	
Diisopropyl Ether (DIPE)	101	102	60-138	1	0-45	
Ethyl-t-Butyl Ether (ETBE)	97	98	69-123	2	0-30	
Tert-Amyl-Methyl Ether (TAME)	98	100	65-120	2	0-20	
Ethanol	142	111	30-180	25	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

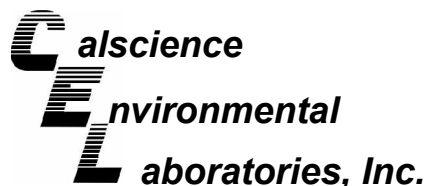
Date Received: N/A
Work Order No: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-844	Aqueous	GC 11	06/09/10	06/09/10	100609B01

<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)	107	107	78-120	0	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: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,363	Aqueous	GC/MS WW	06/10/10	06/10/10	100610L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	95	96	80-120	73-127	0	0-20	
Carbon Tetrachloride	104	104	74-134	64-144	0	0-20	
Chlorobenzene	96	96	80-120	73-127	0	0-20	
1,2-Dibromoethane	96	94	79-121	72-128	2	0-20	
1,2-Dichlorobenzene	95	96	80-120	73-127	1	0-20	
1,2-Dichloroethane	98	97	80-120	73-127	1	0-20	
Ethylbenzene	97	97	80-120	73-127	0	0-20	
Toluene	96	95	80-120	73-127	1	0-20	
Trichloroethene	97	97	79-127	71-135	1	0-20	
Methyl-t-Butyl Ether (MTBE)	90	93	69-123	60-132	3	0-20	
Tert-Butyl Alcohol (TBA)	93	87	63-123	53-133	6	0-20	
Diisopropyl Ether (DIPE)	102	102	59-137	46-150	1	0-37	
Ethyl-t-Butyl Ether (ETBE)	92	94	69-123	60-132	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	92	91	70-120	62-128	1	0-20	
Ethanol	146	114	28-160	6-182	24	0-57	

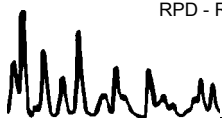
Total number of LCS compounds : 15

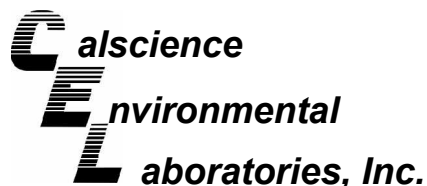
Total number of ME compounds : 0

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: 10-06-0458
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 2162

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,367	Aqueous	GC/MS WW	06/11/10	06/12/10	100611L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	96	100	80-120	73-127	4	0-20	
Carbon Tetrachloride	91	94	74-134	64-144	4	0-20	
Chlorobenzene	96	99	80-120	73-127	3	0-20	
1,2-Dibromoethane	101	103	79-121	72-128	2	0-20	
1,2-Dichlorobenzene	94	97	80-120	73-127	3	0-20	
1,2-Dichloroethane	98	102	80-120	73-127	3	0-20	
Ethylbenzene	95	99	80-120	73-127	4	0-20	
Toluene	95	99	80-120	73-127	4	0-20	
Trichloroethene	94	100	79-127	71-135	6	0-20	
Methyl-t-Butyl Ether (MTBE)	98	103	69-123	60-132	6	0-20	
Tert-Butyl Alcohol (TBA)	104	99	63-123	53-133	6	0-20	
Diisopropyl Ether (DIPE)	99	103	59-137	46-150	4	0-37	
Ethyl-t-Butyl Ether (ETBE)	98	103	69-123	60-132	6	0-20	
Tert-Amyl-Methyl Ether (TAME)	97	103	70-120	62-128	6	0-20	
Ethanol	116	104	28-160	6-182	11	0-57	

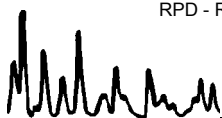
Total number of LCS compounds : 15

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



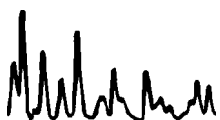
Work Order Number: 10-06-0458

<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.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
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

BP/ARC Project Name: BP 2162
 BP/ARC Facility No: 2162

Req Due Date (mm/dd/yy):
 Rush TAT: Yes No X
 Lab Work Order Number: 10-06-0458

Lab Name: Calscience	BP/ARC Facility Address: 3310 Park Blvd.	Consultant/Contractor: Broadbent & Associates, Inc.
Lab Address: 7440 Lincoln Way	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No: 06-88-620-5-822
Lab PM: Richard Villafania	Lead Regulatory Agency: ACEH	Address: 1324 Mangrove Ave. Ste. 212, Chico, CA 95926
Lab Phone: 714-895-5494	California Global ID No.: T0600100084	Consultant/Contractor PM: Tom Venus
Lab Shipping Acct: 9225	Enfos Proposal No: 000WD-0014	Phone: 530-566-1400
Lab Bottle Order No:	Accounting Mode: Provision <u>X</u> OOC-BU OOC-RM	Email EDD To: tvenus@broadbentinc.com
Other Info:	Stage: Operate (5) Activity: Monitoring/MNA (22)	Invoice To: BP/ARC <u>X</u> Contractor


BP/ARC EBM: Chuck Carmel				Matrix			No. Containers / Preservative						Requested Analyses						Report Type & QC Level	
EBM Phone:				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO (8015)	BTEX (8260)	5 Oxys (8260)	EDB (8260)	1,2-DCA (8260)	Ethanol (8260)	Standard <u>X</u>	
EBM Email:																			Full Data Package	
Lab No.	Sample Description	Date	Time																Comments	
1	MW-1	6/1/10	1100	X			6				X	X	X	X	X	X				
2	MW-2	6/1/10	1014	X			6				X	X	X	X	X	X				
3	MW-3	6/1/10	0925	X			6				X	X	X	X	X	X				
4	MW-4	6/1/10	0945	X			6				X	X	X	X	X	X				
5	MW-5	6/1/10	1035	X			6				X	X	X	X	X	X				
6	MW-6	6/1/10	0910	X			6				X	X	X	X	X	X				
7	TB - 2162 - 100605																			

Sampler's Name: Eric F...	Relinquished By / Affiliation: [Signature]	Date: 6/1/10	Time: 1210	Accepted By / Affiliation: [Signature]	Date: 6-4-10	Time: 1730
Sampler's Company: BAI				CEL	6-4-10	1210
Shipment Method: Vapor	Ship Date: —			CEL	6-5-10	0850
Shipment Tracking No:						

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

0458

	<p>< WebShip > > > ></p> <p>800-322-5555 www.gso.com</p>
---	--

Ship From:
 ALAN KEMP
 CAL SCIENCE- CONCORD
 5063 COMMERCIAL CIRCLE #H
 CONCORD, CA 94520

Ship To:
 SAMPLE RECEIVING
 CEL
 7440 LINCOLN WAY
 GARDEN GROVE, CA 92841

COD:
 \$0.00

Reference:
 ETIC, BROADBAND & ASSOCIATES

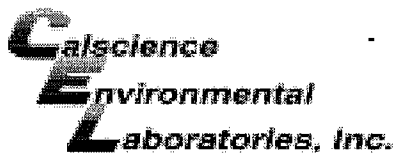
Delivery Instructions:

Signature Type:
 SIGNATURE REQUIRED

Tracking #: 514291751 	<p>SDS</p>
<p>ORC</p> <p>D</p> <p>GARDEN GROVE</p>	
<p>D92843A</p>  82151507	

Print Date : 06/04/10 16:20 PM

Package 1 of 1



WORK ORDER #: 10-06-0458

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Broadbent & Assco.

DATE: 06/5/10

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

Temperature 2.8°C + 0.5°C (CF) = 3.3°C [X] 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: YL

CUSTODY SEALS INTACT:

- [] Cooler [] _____ [] No (Not Intact) [X] Not Present [] N/A
[] Sample [] _____ [] No (Not Intact) [X] Not Present

Initial: YL

Initial: WSC

SAMPLE CONDITION:

Table with 4 columns: Yes, No, N/A. Rows include Chain-Of-Custody (COC) document(s) received with samples, COC document(s) received complete, Collection date/time, matrix, and/or # of containers logged in based on sample labels, Sampler's name indicated on COC, Sample container label(s) consistent with COC, Sample container(s) intact and good condition, Proper containers and sufficient volume for analyses requested, Analyses received within holding time, pH / Residual Chlorine / Dissolved Sulfide received within 24 hours, Proper preservation noted on COC or sample container, Volatile analysis container(s) free of headspace, Tedlar bag(s) free of condensation.

CONTAINER TYPE:

- Solid: [] 4ozCGJ [] 8ozCGJ [] 16ozCGJ [] Sleeve (____) [] EnCores® [] TerraCores® [] _____
Water: [] VOA [X] VOAh [] VOAna2 [] 125AGB [] 125AGBh [] 125AGBp [] 1AGB [] 1AGBna2 [] 1AGBs
[] 500AGB [] 500AGJ [] 500AGJs [] 250AGB [] 250CGB [] 250CGBs [] 1PB [] 500PB [] 500PBna
[] 250PB [] 250PBn [] 125PB [] 125PBzanna [] 100PJ [] 100PJna2 [] _____ [] _____ [] _____

Air: [] Tedlar® [] Summa® Other: [] _____ Trip Blank Lot#: 102517A Labeled/Checked by: WSC

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

Preservative: h: HCL n: HNO3 na2: Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 zanna: ZnAc2+NaOH f: Field-filtered Scanned by: WSC

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

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!

<u>Submittal Type:</u>	GEO_WELL
<u>Submittal Title:</u>	2Q10 GEO_WELL 2162
<u>Facility Global ID:</u>	T0600100084
<u>Facility Name:</u>	ARCO #2162
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	Broadbent & Associates, Inc.
<u>Username:</u>	BROADBENT-C
<u>IP Address:</u>	67.118.40.90
<u>Submittal Date/Time:</u>	7/6/2010 10:09:47 AM
<u>Confirmation Number:</u>	2417313575

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!

<u>Submittal Type:</u>	EDF - Monitoring Report - Quarterly
<u>Submittal Title:</u>	2Q10 GW Monitoring
<u>Facility Global ID:</u>	T0600100084
<u>Facility Name:</u>	ARCO #2162
<u>File Name:</u>	10060458.zip
<u>Organization Name:</u>	Broadbent & Associates, Inc.
<u>Username:</u>	BROADBENT-C
<u>IP Address:</u>	67.118.40.90
<u>Submittal Date/Time:</u>	7/6/2010 10:10:50 AM
<u>Confirmation Number:</u>	1767541468

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)