Atlantic Richfield Company

Shannon Couch
Operations Project Manager

PO Box 1257
San Ramon, CA 94583
Phone: (925) 275-3804
Fax: (925) 275-3815
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RECEIVED

10:11 am, Apr 30, 2012

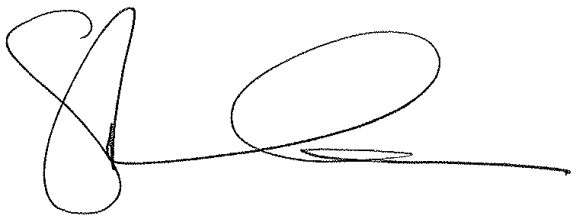
Alameda County
Environmental Health

April 30, 2012

Re: First Quarter 2012 Monitoring Report
Atlantic Richfield Company Station #2169
889 West Grand Avenue, Oakland, California
ACEH Case #RO0000072

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,



Shannon Couch
Operations Project Manager

Attachment

BROADBENT
1324 Mangrove Ave., Suite 212, Chico, CA 95926
[T] 530-566-1400 [F] 530-566-1401
broadbentinc.com

April 30, 2012

Project No. 06-88-621

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

Attn.: Ms. Shannon Couch

Re: First Quarter 2012 Monitoring Report, Atlantic Richfield Company Station #2169,
889 West Grand Avenue, Oakland, California; ACEH Case #RO0000072

Dear Ms. Couch:

Attached is the First Quarter 2012 Monitoring Report for Atlantic Richfield Company Station #2169 located at 889 West Grand Avenue, Oakland, Alameda County, California. This report presents results of groundwater sampling recently conducted and a summary of current developments at the Site through the First Quarter of 2012.

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, PE
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
THOMAS A. VENUS
No. 54698
Expires 12-31-13
CIVIL
STATE OF CALIFORNIA

Enclosures

cc: Ms. Dilan Roe, PE, Alameda County Environmental Health (submitted via ACEH ftp site)
Electronic copy uploaded to GeoTracker

FIRST QUARTER 2012
MONITORING REPORT
ARCO STATION #2169, OAKLAND, CALIFORNIA

Broadbent & Associates, Inc. (Broadbent) is pleased to present this *First Quarter 2012 Monitoring Report* on behalf of Atlantic Richfield Company (a BP affiliated company) for ARCO Station #2169 located in Oakland, Alameda County, California. Quarterly reporting is being submitted to the Alameda County Environmental Health Services Agency (ACEH) consistent with their requirements under the legal authority of the California Regional Water Quality Control Board, as codified by the California Code of Regulations Title 23, Section 2652(d). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	ARCO Station #2169 / 889 West Grand Avenue, Oakland
Client Project Manager / Title:	Ms. Shannon Couch / RM Operations Project Manager
Broadbent Contact:	Mr. Tom Venus, PE / (530) 566-1400
Broadbent Project No.:	06-88-621
Primary Regulatory Agency / ID No.:	ACEH, Case #RO0000072 (GeoTracker ID #T0600100112)
Current phase of project:	Monitoring, Offsite Assessment
List of Acronyms / Abbreviations:	See end of report text for list of acronyms/abbreviations used in report.

WORK PERFORMED THIS QUARTER (First Quarter 2012):

1. Submitted *Fourth Quarter 2011 Status Report* (Broadbent, 1/5/2012).
2. Conducted groundwater monitoring/sampling for First Quarter 2012 on February 22, 2012.

WORK SCHEDULED FOR NEXT QUARTER (Second Quarter 2012):

1. Submit *First Quarter 2012 Monitoring Report* (contained herein).
2. No environmental field work is presently scheduled at Station #2169 during Second Quarter 2012.

GROUNDWATER MONITORING PLAN SUMMARY:

Groundwater level gauging:	A-1, A-2, A-5, A-6, ADR-1, ADR-2, AR-2	(1Q & 3Q)
Groundwater sample collection:	A-1, A-5, A-6, ADR-1	(1Q & 3Q)
	A-2, ADR-2, AR-2	(3Q)
Biodegradation indicator parameter monitoring:	A-1, A-5, A-6, ADR-1	(1Q & 3Q)
	A-2, ADR-2, AR-2	(3Q)

QUARTERLY RESULTS SUMMARY:

LNAPL

LNAPL observed this quarter:	No	(yes\no)
LNAPL recovered this quarter:	None	(gal)
Cumulative LNAPL recovered:	N/A	(gal)

Groundwater Elevation and Gradient:

Depth to groundwater:	9.98 (A-5) to 11.42 (AR-2)	(ft below TOC)
Gradient direction:	Northeast	(compass direction)
Gradient magnitude:	0.001	(ft/ft)
Average change in elevation:	-0.07	(ft since last measurement)

Laboratory Analytical Data

Summary: GRO detected in five wells up to 4,700 µg/L in A-1. Benzene was detected in three wells up to 350 µg/L in A-1. MTBE was detected in four wells up to 11 µg/L in ADR-2. Toluene, Ethylbenzene, Total Xylenes, and TAME were also detected in select wells.

ACTIVITIES CONDUCTED & RESULTS:

First Quarter 2012 groundwater monitoring was conducted on February 22, 2012 by Broadbent personnel in accordance with the new monitoring plan summary detailed above. This monitoring plan comprises the wells remaining following the "raze & rebuild" renovation of ARCO Station #2169 in the second half of 2010. No irregularities were noted during water level gauging. Light, Non-Aqueous Phase Liquid (LNAPL, or free product) was not noted to be present in the wells monitored during this event. Depth to water measurements ranged from 9.98 ft at A-5 to 11.42 ft at AR-2. Resulting groundwater surface elevations ranged from 5.95 ft at ADR-2 to 6.45 ft at AR-2. Groundwater elevations are summarized in Table 1. Water level elevations yielded a potentiometric groundwater gradient to the Northeast at approximately 0.001 ft/ft. Field methods used during groundwater monitoring are provided in Appendix A. Field data sheets are included in Appendix B. A Site Location Map is presented as Drawing 1. Potentiometric groundwater elevation contours are presented in Drawing 2.

Groundwater samples were collected on February 22, 2012. Samples were collected from each of the wells consistent with the new monitoring program. 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 8015M; for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary 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 8260. No significant irregularities were encountered during analysis of the samples with exception that the laboratory flagged the GRO concentrations for A-2, A-5, ADR-1, and ADR-2 as "LW - Quantitation of unknown hydrocarbon(s) in sample based on gasoline", and flagged the EPA Method 8260 analysis results for A-2 as "BH - reporting limits raised due to high level non-target analytes" and "BZ – Sample preserved improperly" (pH greater than 2). The laboratory analytical report, including chain-of-custody documentation, is provided in Appendix C.

Hydrocarbons in the GRO range were detected above the laboratory reporting limit in five wells sampled at concentrations up to 4,700 micrograms per liter (µg/L, parts per billion, ppb) in well A-1. Benzene was detected above the laboratory reporting limit in three wells sampled at concentrations up to 350 µg/L in well A-1. Toluene was detected above the laboratory reporting limit in well A-1 at a concentration of 260 µg/L. Ethylbenzene was detected above the laboratory reporting limit in three wells sampled at concentrations up to 200 µg/L in well A-1. Total Xylenes were detected above the laboratory reporting limit in well A-1 at a concentration of 140 µg/L. MTBE was detected above the laboratory reporting limit in four wells sampled at concentrations up to 11 µg/L in well ADR-2. TAME was detected above the laboratory reporting limit in ADR-2 at a concentration of 1.7 µg/L. The remaining analytes were not detected above their laboratory reporting limits in the wells sampled this last monitoring event. Groundwater monitoring 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. Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix D.

DISCUSSION:

Groundwater levels were between historic minimum and maximum elevations for the seven wells remaining in the monitoring program. Overall, groundwater elevations decreased very slightly (-0.07 ft) since the last groundwater monitoring event on August 26, 2011. Groundwater elevations on February 22, 2012 yielded a potentiometric groundwater gradient to the Northeast at approximately 0.001 ft/ft, similar to that calculated in Third Quarter 2011 but inconsistent with earlier historic gradient data presented in Table 3. The change in gradient direction is likely from having so few wells remaining in the monitoring schedule, and that those remaining are laid out primarily in an almost straight line along Market Street. The exceptions are AR-2 and A-6, with AR-2 not even constructed like a standard monitoring well being horizontal slotted pipes

attached with a T-joint to a vertical riser in the UST basin. Adding to the reasons for potential change is the fact that a large storm water infiltration gallery was constructed in the southwest corner of the property. This gallery has the potential to influence shallow groundwater elevations with possible mounding due to the gallery's proximity to the remaining monitoring wells.

Detected analytical concentrations were within the historic minimum and maximum ranges recorded for each well during the First Quarter 2012 monitoring event with the following exception: GRO reached a historic maximum concentration within A-2. It was also noted that the laboratory flagged the GRO concentrations for A-2, A-5, ADR-1, and ADR-2 as "LW - Quantitation of unknown hydrocarbon(s) in sample based on gasoline." The laboratory also flagged the EPA Method 8260 analysis results for A-2 as "BH - reporting limits raised due to high level non-target analytes," and as "BZ – Sample preserved improperly," the latter due to the measured pH in the sample being greater than 2. Recent and historic laboratory analytical results are summarized in Table 1 and Table 2.

RECOMMENDATIONS:

Groundwater monitoring and sampling is next scheduled to be conducted at ARCO Station #2169 during Third Quarter 2012. During this next monitoring event, each of the seven wells will be purged prior to collection of samples to see if 'fresher' samples are not flagged by the laboratory with the 'LW' qualification.

It is recommended that the requested offsite groundwater boring investigation be discussed with ACEH. The *Preferential Pathway Evaluation and Soil & Groundwater Investigation Work Plan* was submitted to ACEH by Broadbent on April 6, 2009. Proposed access agreements were sent to the owners of record of the properties at 885 22nd Street and 949 West Grand Avenue. According to the Alameda County Assessor's Office, Mr. Harold Williams, Sr. (given contact address of 866 54th Street, Oakland, California 94608) is the owner of record for 885 22nd Street, also known as Alameda County Assessor's Parcel No. (APN) 3-29-15. The purpose of a single groundwater boring on this property was to assess the southern offsite extent of petroleum hydrocarbon-contaminated groundwater from ARCO Station #2169. Also according to the Alameda County Assessor's Office, Mr. Myumg S. Kim (given contact address of 2601 Telegraph Avenue, Oakland, California 94612) is the owner of record for the city block across Market Street with the address of 949 West Grand Avenue, also known as Alameda County APN 5-411-1-4. The purpose of four groundwater borings on this property was to assess the western extent of petroleum hydrocarbon-contaminated groundwater from ARCO Station #2169.

The dense network of existing underground and overhead utilities in the City of Oakland Right-of-Ways (ROWs) for Market Street and 22nd Street had originally pushed Broadbent to propose the offsite groundwater borings on the private properties. Due to the protracted stalemate obtaining access to the two private properties, Broadbent is once again looking closely for potential alternative boring locations possibly within the City of Oakland ROWs for Market Street and 22nd Street not in conflict with underground or overhead utilities. An updated utility map will be provided under separate cover for subsequent discussion.

LIMITATIONS:

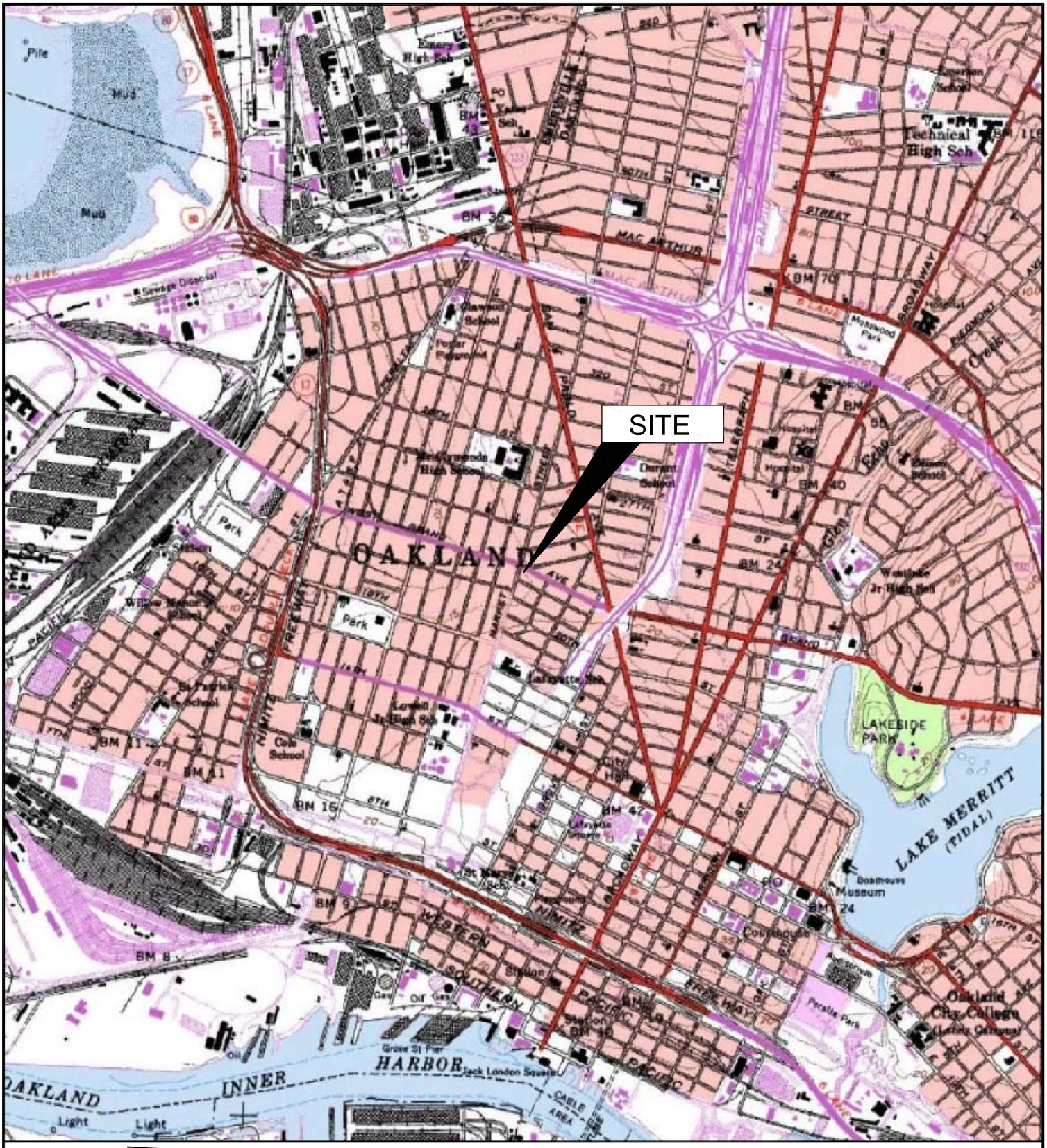
The findings presented in this report are based upon observations of field personnel, points investigated, results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California), and our understanding of ACEH requirements. Our services were performed in accordance 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 the Atlantic Richfield Company. It is possible that variations in soil or groundwater 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
Drawing 2:	Groundwater Elevation Contours and Analytical Summary Map, 22 February 2012
Table 1:	Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
Table 2:	Summary of Fuel Additives Analytical Data
Table 3:	Historical Groundwater Gradient – Direction and Magnitude
Appendix A:	Field Methods
Appendix B:	Field Data Sheets
Appendix C:	Laboratory Report and Chain-of-Custody Documentation
Appendix D:	GeoTracker Upload Confirmation Receipts

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

ACEH:	Alameda County Environmental Health	ft/ft:	feet per foot
ACPWA:	Alameda County Public Works Agency	gal:	Gallons
BTEX:	Benzene, Toluene, Ethylbenzene, Total Xylenes	GRO:	Gasoline-Range Organics
1,2-DCA:	1,2-Dichloroethane	LNAPL:	Light Non-Aqueous Phase Liquid
DIPE:	Di-Isopropyl Ether	MTBE:	Methyl Tertiary Butyl Ether
DO:	Dissolved Oxygen	NO_3:	Nitrate as Nitrogen
DRO:	Diesel-Range Organics	ppb:	parts per billion
EDB:	1,2-Dibromomethane	SO_4:	Sulfate
Eh:	Oxidation Reduction Potential	TAME:	Tert-Amyl Methyl Ether
EPA:	Environmental Protection Agency	TBA:	Tertiary Butyl Ether
ETBE:	Ethyl Tertiary Butyl Ether	TOC:	Top of Casing
Fe^{2+}:	Ferrous Iron	µg/L:	micrograms per liter



N

0 2000 4000

APPROXIMATE SCALE (ft)

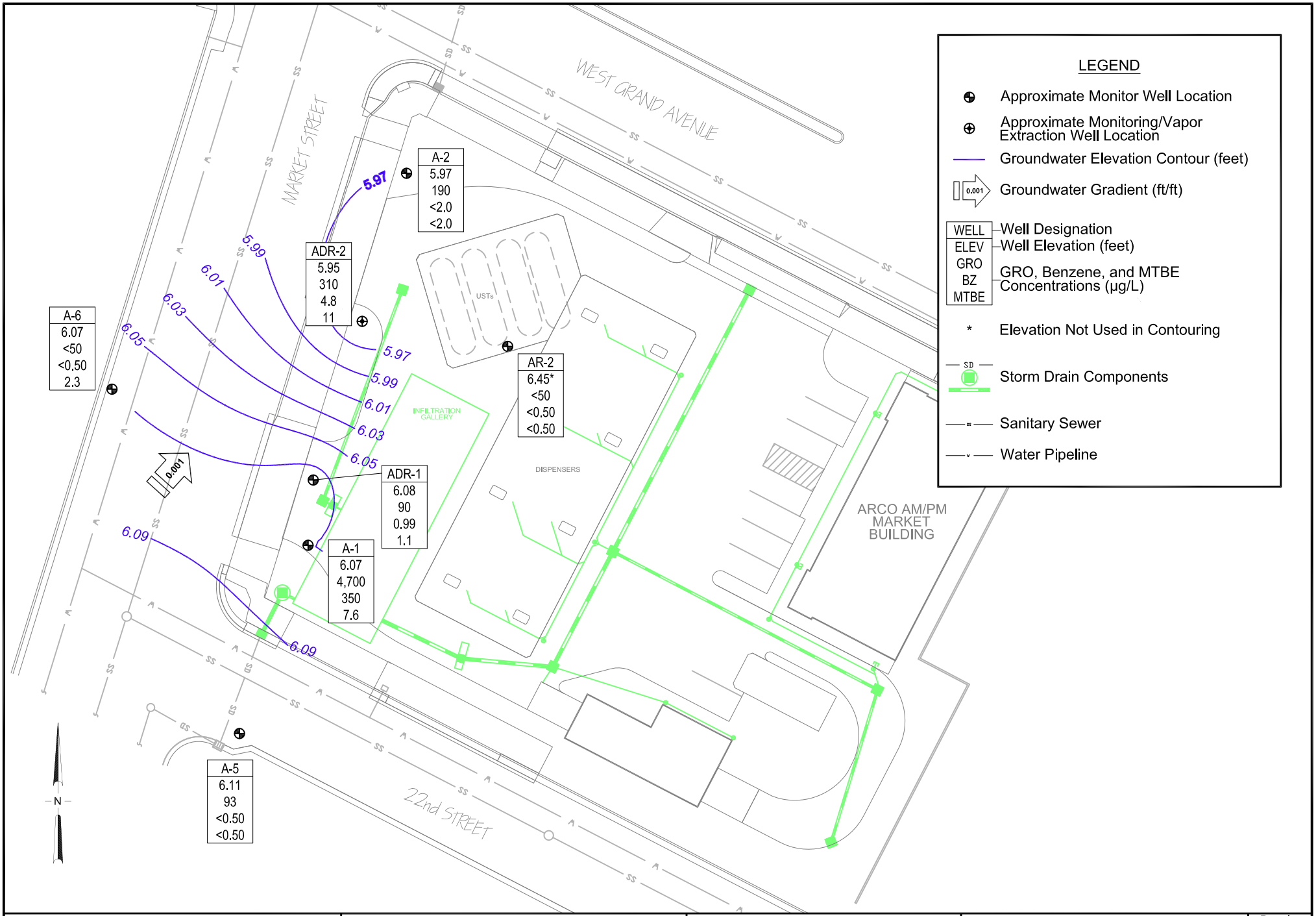
IMAGE SOURCE: USGS

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-621 Date: 9/1/09

ARCO Service Station #2169
889 West Grand Avenue
Oakland, California

Site Location Map

Drawing
1



BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California 95926
Project No.: 06-88-621 Date: 3/28/2012

ARCO Station #2169
889 West Grand Avenue
Oakland, California

Groundwater Elevation Contours and Analytical Summary Map
22 February 2012

Drawing
2

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-1															
6/26/2000	--	14.16	9.00	25.00	10.75	3.41	--	--	--	--	--	--	--	--	
7/20/2000	--		9.00	25.00	11.01	3.15	3,900	1,100	28	12	46	25	--	--	
9/19/2000	--		9.00	25.00	11.26	2.90	4,800	2,400	27	20	57	32	--	--	
12/26/2000	--		9.00	25.00	10.96	3.20	429	104	2.85	12.2	9.91	18.7	--	--	
3/20/2001	--		9.00	25.00	9.59	4.57	<500	13.9	7.12	13.9	23.2	<25	--	--	
6/12/2001	--		9.00	25.00	10.83	3.33	140	2.2	<0.5	8.7	9.2	25	--	--	
9/23/2001	--		9.00	25.00	11.43	2.73	<50	<0.50	<0.50	<0.50	<0.50	4.5	--	--	
12/28/2001	--		9.00	25.00	8.66	5.50	930	250	7.6	21	13	<25	--	--	
3/21/2002	--		9.00	25.00	8.43	5.73	<50	<0.5	<0.5	<0.5	1.2	<2.5	--	--	
4/17/2002	--		9.00	25.00	9.36	4.80	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
8/14/2002	--		9.00	25.00	11.12	3.04	170	8.4	<0.5	<0.5	1.4	4.9	5.7	7.4	b
11/27/2002	--		9.00	25.00	11.11	3.05	98	2.9	0.75	<0.5	<0.5	6.4	1.6	7.0	b
2/12/2003	--		9.00	25.00	10.10	4.06	73	9.3	<0.50	1	0.53	2.9	2.1	7.2	d
5/22/2003	--		9.00	25.00	10.18	3.98	400	88	1.6	4.6	11	4.9	1.3	7.4	
7/23/2003	--		9.00	25.00	10.85	3.31	140	3.2	<0.50	<0.50	0.56	10	10.8	7.4	
11/13/2003	P		9.00	25.00	11.35	2.81	<50	0.64	<0.50	<0.50	<0.50	4.2	4.3	7.75	f
02/16/2004	P	16.75	9.00	25.00	9.65	7.10	99	18	<0.50	1.2	0.96	3.2	7.2	7.6	f, i
05/06/2004	P		9.00	25.00	10.57	6.18	<50	0.73	<0.50	<0.50	<0.50	1.9	1.23	6.93	
09/02/2004	P		9.00	25.00	11.05	5.70	64	1.1	<0.50	<0.50	<0.50	1.7	12.1	8.7	
11/29/2004	P		9.00	25.00	10.50	6.25	<50	1.4	<0.50	<0.50	<0.50	<0.50	0.62	7.0	
02/02/2005	P		9.00	25.00	9.18	7.57	56	14	<0.50	<0.50	0.55	5.1	3.2	7.2	
05/09/2005	P		9.00	25.00	9.28	7.47	52	7.8	<0.50	0.53	0.52	2.7	2.1	7.2	
08/11/2005	P		9.00	25.00	10.70	6.05	420	61	<0.50	1.8	1.0	4.2	3.2	6.8	
02/09/2006	P		9.00	25.00	9.04	7.71	170	60	1.5	3.5	5.1	5.6	1.69	7.1	o
8/11/2006	P		9.00	25.00	10.44	6.31	200	18	<0.50	0.73	0.60	3.7	--	7.2	
2/7/2007	NP		9.00	25.00	10.34	6.41	270	5.5	<0.50	0.95	1.2	20	1.15	7.27	
8/14/2007	NP		9.00	25.00	10.43	6.32	3,500	350	21	110	68	1.8	1.32	7.46	
2/22/2008	P		9.00	25.00	8.75	8.00	2,600	160	7.2	16	11	<2.5	4.16	7.65	
8/12/2008	NP		9.00	25.00	10.30	6.45	7,400	420	28	190	170	<2.5	0.54	9.38	
1/8/2009	NP		9.00	25.00	10.07	6.68	14,000	400	130	530	790	<10	0.49	7.26	

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-1 Cont.															
9/4/2009	NP	16.75	9.00	25.00	11.22	5.53	990	19	2.2	0.80	1.5	7.4	0.48	7.25	
3/5/2010	P		9.00	25.00	7.84	8.91	800	12	1.3	5.6	3.6	3.3	0.84	7.09	
3/11/2011	NP		9.00	25.00	9.02	7.73	4900	260	68	43	380	<5.0	2.11	7.3	
8/26/2011	P		9.00	25.00	10.50	6.25	5,500	320	260	230	650	<5.0	0.63	7.1	
2/22/2012	**P**		**9.00**	**25.00**	**10.68**	**6.07**	**4,700**	**350**	**65**	**200**	**140**	**7.6**	**0.57**	**7.66**	
A-2															
6/26/2000	--	14.55	10.00	25.00	11.27	3.28	--	--	--	--	--	--	--	--	
7/20/2000	--		10.00	25.00	11.52	3.03	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
9/19/2000	--		10.00	25.00	11.63	2.92	--	--	--	--	--	--	--	--	
12/26/2000	--		10.00	25.00	11.44	3.11	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/20/2001	--		10.00	25.00	10.08	4.47	--	--	--	--	--	--	--	--	
6/12/2001	--		10.00	25.00	11.35	3.20	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
9/23/2001	--		10.00	25.00	11.92	2.63	--	--	--	--	--	--	--	--	
12/28/2001	--		10.00	25.00	9.31	5.24	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/21/2002	--		10.00	25.00	9.05	5.50	--	--	--	--	--	--	--	--	
4/17/2002	--		10.00	25.00	9.88	4.67	52	<0.5	<0.5	<0.5	<0.5	26	--	--	
8/14/2002	--		10.00	25.00	11.62	2.93	<50	<0.5	<0.5	<0.5	1.2	<2.5	3.7	7.2	c
11/27/2002	--		10.00	25.00	11.56	2.99	--	--	--	--	--	--	--	--	
2/12/2003	--		10.00	25.00	10.75	3.80	<50	<0.50	<0.50	<0.50	<0.50	12	2.9	7.1	d
5/22/2003	--		10.00	25.00	10.72	3.83	--	--	--	--	--	--	--	--	
7/23/2003	--		10.00	25.00	11.39	3.16	<50	<0.50	<0.50	<0.50	<0.50	2.6	1.3	6.8	
11/13/2003	--		10.00	25.00	11.60	2.95	--	--	--	--	--	--	--	--	
02/16/2004	--	17.18	10.00	25.00	10.27	6.91	--	--	--	--	--	--	--	--	i
05/06/2004	--		10.00	25.00	11.05	6.13	--	--	--	--	--	--	--	--	
09/02/2004	P		10.00	25.00	11.45	5.73	130	<0.50	<0.50	<0.50	<0.50	2.5	5.1	7.4	
11/29/2004	--		10.00	25.00	11.12	6.06	--	--	--	--	--	--	--	--	
02/02/2005	--		10.00	25.00	9.73	7.45	--	--	--	--	--	--	--	--	
05/09/2005	--		10.00	25.00	12.82	4.36	--	--	--	--	--	--	--	--	
08/11/2005	P		10.00	25.00	11.29	5.89	120	<0.50	<0.50	<0.50	<0.50	1.2	1.6	7.1	m
02/09/2006	--		10.00	25.00	10.43	6.75	--	--	--	--	--	--	--	--	

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-2 Cont.															
8/11/2006	P	17.18	10.00	25.00	11.12	6.06	<50	<0.50	<0.50	<0.50	<0.50	1.4	1.1	7.0	
2/7/2007	--		10.00	25.00	11.07	6.11	--	--	--	--	--	--	--	--	
8/14/2007	NP		10.00	25.00	11.28	5.90	<50	<0.50	<0.50	<0.50	<0.50	0.65	0.64	7.57	
2/22/2008	--		10.00	25.00	9.50	7.68	--	--	--	--	--	--	--	--	
8/12/2008	NP		10.00	25.00	11.28	5.90	64	<0.50	<0.50	<0.50	<0.50	0.96	0.57	9.44	
1/8/2009	--		10.00	25.00	10.90	6.28	--	--	--	--	--	--	--	--	
9/4/2009	NP		10.00	25.00	11.77	5.41	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.43	7.39	
3/5/2010	--		10.00	25.00	8.53	8.65	--	--	--	--	--	--	--	--	
3/11/2011	P		10.00	25.00	9.67	7.51	76	<0.50	<0.50	<0.50	<0.50	<0.50	0.84	7.3	p (GRO)
8/26/2011	P		10.00	25.00	11.29	5.89	100	<2.0	<2.0	<2.0	<2.0	<2.0	1.01	7.6	r (GRO), s
2/22/2012	**P**		**10.00**	**25.00**	**11.21**	**5.97**	**190**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**0.54**	**7.68**	**r (GRO), s, t**
A-3															
6/26/2000	--	15.75	9.00	29.50	11.98	3.77	--	--	--	--	--	--	--	--	
7/20/2000	--		9.00	29.50	12.21	3.54	--	--	--	--	--	--	--	--	
9/19/2000	--		9.00	29.50	12.50	3.25	--	--	--	--	--	--	--	--	
12/26/2000	--		9.00	29.50	12.17	3.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/20/2001	--		9.00	29.50	10.70	5.05	--	--	--	--	--	--	--	--	
6/12/2001	--		9.00	29.50	12.09	3.66	--	--	--	--	--	--	--	--	
9/23/2001	--		9.00	29.50	12.65	3.10	--	--	--	--	--	--	--	--	
12/28/2001	--		9.00	29.50	9.94	5.81	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/21/2002	--		9.00	29.50	9.69	6.06	--	--	--	--	--	--	--	--	
4/17/2002	--		9.00	29.50	10.61	5.14	--	--	--	--	--	--	--	--	
8/14/2002	--		9.00	29.50	12.27	3.48	--	--	--	--	--	--	--	--	
11/27/2002	--		9.00	29.50	12.22	3.53	--	--	--	--	--	--	--	--	
2/12/2003	--		9.00	29.50	11.40	4.35	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.9	d
5/22/2003	--		9.00	29.50	11.42	4.33	--	--	--	--	--	--	--	--	
7/23/2003	--		9.00	29.50	12.00	3.75	--	--	--	--	--	--	--	--	
02/16/2004	--	18.37	9.00	29.50	10.94	7.43	--	--	--	--	--	--	--	--	g, i
05/06/2004	--		9.00	29.50	11.75	6.62	--	--	--	--	--	--	--	--	
09/02/2004	--		9.00	29.50	12.15	6.22	--	--	--	--	--	--	--	--	

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-3 Cont.															
11/29/2004	--	18.37	9.00	29.50	11.87	6.50	--	--	--	--	--	--	--	--	
02/02/2005	--		9.00	29.50	10.42	7.95	--	--	--	--	--	--	--	--	
05/09/2005	--		9.00	29.50	10.49	7.88	--	--	--	--	--	--	--	--	
08/11/2005	--		9.00	29.50	12.02	6.35	--	--	--	--	--	--	--	--	
02/09/2006	--		9.00	29.50	11.27	7.10	--	--	--	--	--	--	--	--	
8/11/2006	--		9.00	29.50	11.83	6.54	--	--	--	--	--	--	--	--	
2/7/2007	--		9.00	29.50	11.82	6.55	--	--	--	--	--	--	--	--	
8/14/2007	--		9.00	29.50	12.06	6.31	--	--	--	--	--	--	--	--	
2/22/2008	--		9.00	29.50	10.25	8.12	--	--	--	--	--	--	--	--	
8/12/2008	--		9.00	29.50	12.10	6.27	--	--	--	--	--	--	--	--	
1/8/2009	--		9.00	29.50	11.71	6.66	--	--	--	--	--	--	--	--	
9/4/2009	--		9.00	29.50	12.57	5.80	--	--	--	--	--	--	--	--	
3/5/2010	--		9.00	29.50	9.13	9.24	--	--	--	--	--	--	--	--	
3/11/2011	--		9.00	29.50	--	--	--	--	--	--	--	--	--	--	q
A-4															
6/26/2000	--	15.25	8.00	28.00	10.99	4.26	--	--	--	--	--	--	--	--	
7/20/2000	--		8.00	28.00	11.16	4.09	--	--	--	--	--	--	--	--	
9/19/2000	--		8.00	28.00	11.97	3.28	--	--	--	--	--	--	--	--	
12/26/2000	--		8.00	28.00	11.19	4.06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/20/2001	--		8.00	28.00	9.81	5.44	--	--	--	--	--	--	--	--	
6/12/2001	--		8.00	28.00	11.12	4.13	--	--	--	--	--	--	--	--	
9/23/2001	--		8.00	28.00	11.63	3.62	--	--	--	--	--	--	--	--	
12/28/2001	--		8.00	28.00	8.41	6.84	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/21/2002	--		8.00	28.00	8.63	6.62	--	--	--	--	--	--	--	--	
4/17/2002	--		8.00	28.00	9.68	5.57	--	--	--	--	--	--	--	--	
8/14/2002	--		8.00	28.00	11.31	3.94	--	--	--	--	--	--	--	--	
11/27/2002	--		8.00	28.00	11.25	4.00	--	--	--	--	--	--	--	--	
2/12/2003	--		8.00	28.00	10.37	4.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.9	7.1	d
5/22/2003	--		8.00	28.00	10.42	4.83	--	--	--	--	--	--	--	--	
7/23/2003	--		8.00	28.00	11.02	4.23	--	--	--	--	--	--	--	--	

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-4 Cont.															
02/16/2004	--	18.01	8.00	28.00	9.65	8.36	--	--	--	--	--	--	--	--	g, i
05/06/2004	--		8.00	28.00	10.68	7.33	--	--	--	--	--	--	--	--	
09/02/2004	--		8.00	28.00	10.83	7.18	--	--	--	--	--	--	--	--	
11/29/2004	--		8.00	28.00	10.50	7.51	--	--	--	--	--	--	--	--	
02/02/2005	--		8.00	28.00	9.22	8.79	--	--	--	--	--	--	--	--	
05/09/2005	--		8.00	28.00	8.98	9.03	--	--	--	--	--	--	--	--	
08/11/2005	--		8.00	28.00	10.99	7.02	--	--	--	--	--	--	--	--	
02/09/2006	--		8.00	28.00	10.15	7.86	--	--	--	--	--	--	--	--	
8/11/2006	--		8.00	28.00	10.30	7.71	--	--	--	--	--	--	--	--	
2/7/2007	--		8.00	28.00	10.63	7.38	--	--	--	--	--	--	--	--	
8/14/2007	--		8.00	28.00	10.70	7.31	--	--	--	--	--	--	--	--	
2/22/2008	--		8.00	28.00	8.90	9.11	--	--	--	--	--	--	--	--	
8/12/2008	--		8.00	28.00	10.60	7.41	--	--	--	--	--	--	--	--	
1/8/2009	--		8.00	28.00	10.90	7.11	--	--	--	--	--	--	--	--	
9/4/2009	--		8.00	28.00	11.80	6.21	--	--	--	--	--	--	--	--	
3/5/2010	--		8.00	28.00	7.64	10.37	--	--	--	--	--	--	--	--	
3/11/2011	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	q
A-5															
6/26/2000	--	13.51	8.00	30.00	10.04	3.47	--	--	--	--	--	--	--	--	
7/20/2000	--		8.00	30.00	10.31	3.20	730	140	11	<0.5	8.9	3	--	--	
9/19/2000	--		8.00	30.00	10.55	2.96	160	13	<0.5	2.8	1.9	<3	--	--	
12/26/2000	--		8.00	30.00	10.37	3.14	8,120	465	108	659	1,450	<250	--	--	
3/20/2001	--		8.00	30.00	8.81	4.70	7,990	1,110	473	611	1,580	<250	--	--	
6/12/2001	--		8.00	30.00	10.13	3.38	450	91	18	35	95	<5.0	--	--	
9/23/2001	--		8.00	30.00	10.80	2.71	110	20	<0.5	5	5	2.7	--	--	
12/28/2001	--		8.00	30.00	8.17	5.34	320	24	2	20	27	5	--	--	
3/21/2002	--		8.00	30.00	7.78	5.73	2,500	420	85	130	350	31	--	--	
4/17/2002	--		8.00	30.00	8.68	4.83	1,300	190	36	67	210	<25	--	--	
8/14/2002	--		8.00	30.00	10.41	3.10	840	150	<5.0	68	41	<25	1.4	6.8	b
11/27/2002	--		8.00	30.00	10.50	3.01	300	26	2.3	17	6	<0.5	1.16	7.2	b

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-5 Cont.															
2/12/2003	--	13.51	8.00	30.00	10.81	2.70	<500	74	7	34	45	<5.0	1.0	7.3	d
5/22/2003	--		8.00	30.00	9.46	4.05	500	100	9	28	47	<5.0	1.0	7.6	
7/23/2003	--		8.00	30.00	10.29	3.22	900	100	5.7	65	57	<5.0	4.5	8.4	
11/13/2003	NP		8.00	30.00	11.24	2.27	1,800	210	5.1	190	140	<5.0	4.3	7.32	f
02/16/2004	NP	16.09	8.00	30.00	9.45	6.64	680	52	15	50	77	<0.50	5.0	7.8	h, i
05/06/2004	P		8.00	30.00	10.28	5.81	1,500	140	13	72	110	<2.5	1.03	6.93	
09/02/2004	NP		8.00	30.00	10.78	5.31	690	69	1.3	42	35	<1.0	1.3	7.1	
11/29/2004	NP		8.00	30.00	10.05	6.04	<5,000	360	<50	190	290	<50	1.0	7.0	
02/02/2005	NP		8.00	30.00	8.37	7.72	220	31	2.3	10	13	<0.50	0.6	7.4	
05/09/2005	NP		8.00	30.00	8.45	7.64	110	1.7	<0.50	1.4	1.1	<0.50	2.5	7.6	
08/11/2005	NP		8.00	30.00	10.11	5.98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	7.3	
02/09/2006	NP		8.00	30.00	9.02	7.07	<50	0.62	<0.50	<0.50	<0.50	<0.50	0.89	7.3	o
8/11/2006	NP		8.00	30.00	9.77	6.32	400	13	3.4	8.0	58	<0.50	2.16	7.2	
2/7/2007	P		8.00	30.00	9.90	6.19	10,000	670	120	1,100	3,100	<10	2.12	7.03	
8/14/2007	NP		8.00	30.00	9.70	6.39	28,000	260	68	3,000	7,800	<10	1.37	7.80	
2/22/2008	NP		8.00	30.00	8.02	8.07	27,000	410	98	2,600	4,400	<50	1.36	7.42	
8/12/2008	NP		8.00	30.00	9.50	6.59	31,000	140	<50	1,800	3,900	<50	0.62	9.70	
1/8/2009	NP		8.00	30.00	9.29	6.80	39,000	300	53	2,400	5,400	<50	0.67	7.59	
9/4/2009	NP		8.00	30.00	10.42	5.67	130	<0.50	<0.50	<0.50	<0.50	<0.50	0.46	7.19	
3/5/2010	P		8.00	30.00	7.55	8.54	110	1.4	<0.50	6.1	7.3	<0.50	0.59	7.18	
3/11/2011	NP		8.00	30.00	8.30	7.79	190	7.4	<0.50	15	10	<0.50	2.33	7.6	p (GRO)
8/26/2011	P		8.00	30.00	9.81	6.28	1,900	36	1.4	190	52	<0.50	0.57	7.0	
2/22/2012	**P**		**8.00**	**30.00**	**9.98**	**6.11**	**93**	**<0.50**	**<0.50**	**1.0**	**<0.50**	**<0.50**	**0.66**	**7.51**	**r (GRO)**
A-6															
6/26/2000	--	13.51	8.00	28.50	10.09	3.42	--	--	--	--	--	--	--	--	
7/20/2000	--		8.00	28.50	10.91	2.60	170	<0.5	<0.5	0.6	2	6	--	--	
9/19/2000	--		8.00	28.50	11.27	2.24	<50	<0.5	<0.5	<0.5	<1.0	6	--	--	
12/26/2000	--		8.00	28.50	10.65	2.86	56.2	<0.5	<0.5	<0.5	<0.5	8.17	--	--	
3/20/2001	--		8.00	28.50	8.72	4.79	216	<0.5	<0.5	<0.5	1.8	19.9	--	--	
6/12/2001	--		8.00	28.50	10.80	2.71	80	0.62	<0.5	<0.5	<0.5	15	--	--	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-6 Cont.															
9/23/2001	--	13.51	8.00	28.50	10.79	2.72	450	1.7	1.9	2.3	3.3	53	--	--	
12/28/2001	--		8.00	28.50	8.05	5.46	270	0.98	3.5	0.77	1.4	26	--	--	
3/21/2002	--		8.00	28.50	7.83	5.68	130	<0.5	<0.5	<0.5	<0.5	19	--	--	
4/17/2002	--		8.00	28.50	8.73	4.78	<50	<0.5	<0.5	<0.5	<0.5	16	--	--	
8/14/2002	--		8.00	28.50	10.43	3.08	980	4.8	2.6	2	4.9	75	1.5	7.1	b
11/27/2002	--		8.00	28.50	10.47	3.04	280	<0.5	0.74	<0.5	<0.5	16	0.9	6.9	b
2/12/2003	--		8.00	28.50	10.44	3.07	51	<0.50	<0.50	<0.50	<0.50	9.9	0.8	7.1	d
5/22/2003	--		8.00	28.50	9.43	4.08	<50	<0.50	<0.50	<0.50	<0.50	11	1.2	8.2	
7/23/2003	--		8.00	28.50	10.27	3.24	120	<0.50	<0.50	<0.50	<0.50	14	>20	9.6	
11/13/2003	NP		8.00	28.50	11.20	2.31	<50	<0.50	<0.50	<0.50	<0.50	2.3	6.2	9.0	f
02/16/2004	NP	16.10	8.00	28.50	9.76	6.34	50	<0.50	<0.50	<0.50	<0.50	3.9	6.5	8.3	h, i
05/06/2004	P		8.00	28.50	10.03	6.07	110	<0.50	<0.50	<0.50	<0.50	7.1	1.01	7.02	
09/02/2004	NP		8.00	28.50	10.47	5.63	56	<0.50	<0.50	<0.50	<0.50	4.4	3.2	7.4	
11/29/2004	NP		8.00	28.50	9.99	6.11	<50	<0.50	<0.50	<0.50	<0.50	2.9	0.92	6.9	
02/02/2005	NP		8.00	28.50	8.46	7.64	150	<0.50	<0.50	<0.50	<0.50	14	0.5	7.4	
05/09/2005	NP		8.00	28.50	8.55	7.55	93	<0.50	<0.50	<0.50	<0.50	12	3.0	7.2	
08/11/2005	NP		8.00	28.50	10.13	5.97	780	<0.50	<0.50	<0.50	<0.50	14	1.0	6.9	
02/09/2006	NP		8.00	28.50	9.23	6.87	210	<0.50	<0.50	<0.50	<0.50	17	1.27	6.8	o
8/11/2006	NP		8.00	28.50	9.95	6.15	920	<0.50	<0.50	<0.50	<0.50	21	1.6	7.0	
2/7/2007	P		8.00	28.50	9.72	6.38	170	<0.50	<0.50	<0.50	1.4	7.1	2.18	7.24	
8/14/2007	NP		8.00	28.50	9.82	6.28	<50	<0.50	<0.50	<0.50	<0.50	2.3	1.72	8.22	
2/22/2008	NP		8.00	28.50	8.07	8.03	350	<0.50	<0.50	<0.50	<0.50	11	0.79	7.48	
8/12/2008	NP		8.00	28.50	9.70	6.40	<50	<0.50	<0.50	<0.50	<0.50	2.4	0.58	9.58	
1/8/2009	NP		8.00	28.50	9.45	6.65	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.61	7.32	
9/4/2009	NP		8.00	28.50	10.60	5.50	<50	<0.50	<0.50	<0.50	<0.50	4.9	0.51	7.18	
3/5/2010	P		8.00	28.50	7.27	8.83	320	<0.50	<0.50	<0.50	<0.50	4.1	0.65	7.11	
3/11/2011	NP		8.00	28.50	8.37	7.73	160	<0.50	<0.50	<0.50	<0.50	5.7	1.56	7.7	p (GRO)
8/26/2011	P		8.00	28.50	9.90	6.20	70	<0.50	<0.50	<0.50	<0.50	2.2	1.22	7.3	
2/22/2012	**P**		**8.00**	**28.50**	**10.03**	**6.07**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**2.3**	**0.69**	**7.45**	
ADR-1															

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ADR-1 Cont.															
6/26/2000	--	13.95	5.00	22.00	10.55	3.40	--	--	--	--	--	--	--	--	
7/20/2000	--		5.00	22.00	10.85	3.10	180	29	<0.5	0.8	<1.0	22	--	--	
9/19/2000	--		5.00	22.00	11.08	2.87	120	7.4	<0.5	1.2	<1.0	22	--	--	
12/26/2000	--		5.00	22.00	10.93	3.02	<50	1.29	<0.5	<0.5	<0.5	14.7	--	--	
3/20/2001	--		5.00	22.00	9.32	4.63	225	23.4	<0.5	8.71	4.13	10.8	--	--	
6/12/2001	--		5.00	22.00	10.65	3.30	250	23	0.5	13	4.2	7.5	--	--	
9/23/2001	--		5.00	22.00	11.25	2.70	<50	1.4	<0.5	<0.5	0.57	2.8	--	--	
12/28/2001	--		5.00	22.00	8.43	5.52	250	16	<0.5	1.2	4.1	6.8	--	--	
3/21/2002	--		5.00	22.00	8.27	5.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
4/17/2002	--		5.00	22.00	9.17	4.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
8/14/2002	--		5.00	22.00	11.88	2.07	<50	1.1	<0.5	<0.5	<0.5	<2.5	3.4	6.7	
11/27/2002	--		5.00	22.00	10.91	3.04	<50	0.54	<0.5	<0.5	<0.5	1.1	1.8	6.8	
2/12/2003	--		5.00	22.00	9.95	4.00	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.9	7.2	d
5/22/2003	--		5.00	22.00	9.86	4.09	<50	0.96	<0.50	<0.50	<0.50	3.5	1.2	7.3	
7/23/2003	--		5.00	22.00	10.59	3.36	<50	2.5	<0.50	0.56	<0.50	4	>20	9.4	
11/13/2003	--		5.00	22.00	11.15	2.80	<50	0.60	<0.50	<0.50	<0.50	1.6	8.5	8.2	f
02/16/2004	NP	16.56	5.00	22.00	9.43	7.13	<50	<0.50	<0.50	<0.50	<0.50	1.6	5.5	9.6	f, i
05/07/2004	NP		5.00	22.00	10.41	6.15	<500	5.3	<5.0	<5.0	<5.0	<5.0	1.72	7.0	
09/02/2004	NP		5.00	22.00	10.73	5.83	<50	<0.50	<0.50	<0.50	<0.50	0.84	18.1	8.4	
11/29/2004	NP		5.00	22.00	10.30	6.26	<50	3.0	<0.50	<0.50	<0.50	<0.50	0.77	6.9	
02/02/2005	NP		5.00	22.00	9.02	7.54	<50	<0.50	<0.50	<0.50	<0.50	3.4	0.5	7.5	
05/09/2005	NP		5.00	22.00	8.92	7.64	<50	<0.50	<0.50	<0.50	<0.50	2.6	2.9	7.3	
08/11/2005	NP		5.00	22.00	10.57	5.99	67	2.8	<0.50	<0.50	<0.50	4.0	0.6	6.0	
02/09/2006	NP		5.00	22.00	10.05	6.51	<50	<0.50	<0.50	<0.50	<0.50	2.9	1.09	7.0	o
8/11/2006	NP		5.00	22.00	10.20	6.36	76	<0.50	<0.50	<0.50	<0.50	2.2	1.06	7.1	
2/7/2007	NP		5.00	22.00	10.15	6.41	<50	<0.50	<0.50	<0.50	<0.50	3.8	0.64	7.33	
8/14/2007	NP		5.00	22.00	10.30	6.26	560	11	1.7	12	2.5	3.6	0.94	7.38	
2/22/2008	NP		5.00	22.00	8.55	8.01	120	<0.50	<0.50	<0.50	<0.50	3.9	1.52	6.95	
8/12/2008	NP		5.00	22.00	10.20	6.36	1,400	46	7.7	13	19	6.5	0.50	9.32	
1/8/2009	NP		5.00	22.00	9.95	6.61	740	<0.50	0.94	<0.50	0.58	2.4	0.47	7.36	

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

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ADR-1 Cont.															
9/4/2009	NP	16.56	5.00	22.00	11.06	5.50	810	<0.50	0.65	<0.50	<0.50	<0.50	0.61	7.17	
3/5/2010	NP		5.00	22.00	7.62	8.94	62	<0.50	<0.50	<0.50	<0.50	0.92	1.33	7.01	
3/11/2011	NP		5.00	22.00	8.88	7.68	<50	<0.50	<0.50	<0.50	<0.50	1.4	1.60	7.3	
8/26/2011	P		5.00	22.00	10.42	6.14	840	54	2.7	13	48	1.7	0.46	7.0	
2/22/2012	**P**		**5.00**	**22.00**	**10.48**	**6.08**	**90**	**0.99**	**<0.50**	**<0.50**	**<0.50**	**1.1**	**0.70**	**7.64**	**r (GRO)**
ADR-2															
6/26/2000	--	14.64	5.00	22.00	11.22	3.42	--	--	--	--	--	--	--	--	
7/20/2000	--		5.00	22.00	11.60	3.04	12,000	410	2.5	540	720	23	--	--	
9/19/2000	--		5.00	22.00	11.81	2.83	1,400	530	5	680	740	34	--	--	
12/26/2000	--		5.00	22.00	11.52	3.12	901	26.6	<5.0	21.4	32.5	32.8	--	--	
3/20/2001	--		5.00	22.00	10.10	4.54	--	--	--	--	--	--	--	--	j
6/12/2001	--		5.00	22.00	11.41	3.23	--	--	--	--	--	--	--	--	j
9/23/2001	--		5.00	22.00	11.98	2.66	5,300	370	<5.0	550	96	60	--	--	
12/28/2001	--		5.00	22.00	9.48	5.16	2,600	190	<5.0	160	29	61	--	--	
3/21/2002	--		5.00	22.00	9.10	5.54	180	6	<0.5	4.5	3.2	15	--	--	
4/17/2002	--		5.00	22.00	9.93	4.71	730	86	<0.5	13	<0.5	<25	--	--	
8/14/2002	--		5.00	22.00	12.09	2.55	1,300	170	<10	100	47	<50	0.9	7.0	b
11/27/2002	--		5.00	22.00	11.66	2.98	1,800	240	3.1	120	14	74	0.6	6.9	b
2/12/2003	--		5.00	22.00	10.74	3.90	760	120	<5.0	15	5.2	22	1.3	7.1	d
5/22/2003	--		5.00	22.00	10.67	3.97	520	110	<5.0	7.1	<5.0	9.7	0.7	7.6	
7/23/2003	--		5.00	22.00	11.38	3.26	140	2.8	<0.50	5	0.98	8.4	>20	9.4	
02/16/2004	--	17.24	5.00	22.00	10.26	6.98	--	--	--	--	--	--	--	--	f, i
05/06/2004	--		5.00	22.00	11.05	6.19	--	--	--	--	--	--	--	--	
09/02/2004	P		5.00	22.00	11.50	5.74	<500	67	<5.0	71	12	5.6	0.7	7.4	
11/29/2004	--		5.00	22.00	11.20	6.04	--	--	--	--	--	--	--	--	
02/02/2005	--		5.00	22.00	9.76	7.48	--	--	--	--	--	--	--	--	
05/09/2005	--		5.00	22.00	11.18	6.06	--	--	--	--	--	--	--	--	
08/11/2005	NP		5.00	22.00	11.30	5.94	1,900	200	<2.5	160	9.6	9.0	0.6	6.6	
02/09/2006	--		5.00	22.00	9.60	7.64	--	--	--	--	--	--	--	--	
8/11/2006	NP		5.00	22.00	11.13	6.11	570	54	<1.0	2.2	<1.0	4.6	0.8	7.1	

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ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	P/NP	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	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ADR-2 Cont.															
2/7/2007	--	17.24	5.00	22.00	11.08	6.16	--	--	--	--	--	--	--	--	
8/14/2007	NP		5.00	22.00	11.28	5.96	520	5.4	<0.50	3.6	<0.50	5.3	0.65	7.37	
2/22/2008	--		5.00	22.00	9.47	7.77	--	--	--	--	--	--	--	--	
8/12/2008	NP		5.00	22.00	11.27	5.97	560	0.92	<0.50	0.80	<0.50	4.2	0.71	9.40	
1/8/2009	--		5.00	22.00	10.88	6.36	--	--	--	--	--	--	--	--	
9/4/2009	NP		5.00	22.00	11.79	5.45	330	0.66	<0.50	<0.50	<0.50	1.9	0.55	7.38	
3/5/2010	--		5.00	22.00	8.55	8.69	--	--	--	--	--	--	--	--	
3/11/2011	NP		5.00	22.00	9.65	7.59	230	0.55	<0.50	0.56	<0.50	1.9	1.27	7.6	p (GRO)
8/26/2011	P		5.00	22.00	11.27	5.97	1,900	6.7	<0.50	7.1	<0.50	40	1.18	7.3	j
2/22/2012	**P**		**5.00**	**22.00**	**11.29**	**5.95**	**310**	**4.8**	**<0.50**	**1.4**	**<0.50**	**11**	**0.34**	**7.72**	**r (GRO)**
AR-1															
6/26/2000	--	15.61	8.00	28.00	11.59	4.02	--	--	--	--	--	--	--	--	
7/20/2000	--		8.00	28.00	12.06	3.55	<50	<0.5	<0.5	<0.5	<1.0	6	--	--	
9/19/2000	--		8.00	28.00	11.89	3.72	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
12/26/2000	--		8.00	28.00	11.95	3.66	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
03/20/2001	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	a
6/12/2001	--		8.00	28.00	11.87	3.74	<50	<0.5	<0.5	<0.5	<0.5	17	--	--	
9/23/2001	--		8.00	28.00	12.42	3.19	--	--	--	--	--	--	--	--	
12/28/2001	--		8.00	28.00	7.62	7.99	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/21/2002	--		8.00	28.00	9.37	6.24	--	--	--	--	--	--	--	--	
4/17/2002	--		8.00	28.00	10.43	5.18	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
8/14/2002	--		8.00	28.00	12.08	3.53	<50	<0.5	<0.5	<0.5	1.3	<2.5	2.2	7.9	
11/27/2002	--		8.00	28.00	12.00	3.61	--	--	--	--	--	--	--	--	
2/12/2003	--		8.00	28.00	10.89	4.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	7.9	d
5/22/2003	--		8.00	28.00	11.18	4.43	--	--	--	--	--	--	--	--	
7/23/2003	--		8.00	28.00	11.73	3.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	7.7	
11/13/2003	--		8.00	28.00	12.05	3.56	--	--	--	--	--	--	--	--	
02/16/2004	--	18.18	8.00	28.00	10.35	7.83	--	--	--	--	--	--	--	--	
05/06/2004	--		8.00	28.00	11.60	6.58	--	--	--	--	--	--	--	--	
09/02/2004	P		8.00	28.00	11.88	6.30	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.8	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
AR-1 Cont.															
11/29/2004	--	18.18	8.00	28.00	11.55	6.63	--	--	--	--	--	--	--	--	
02/02/2005	--		8.00	28.00	9.92	8.26	--	--	--	--	--	--	--	--	
05/09/2005	--		8.00	28.00	10.19	7.99	--	--	--	--	--	--	--	--	
08/11/2005	P		8.00	28.00	11.80	6.38	<50	<0.50	<0.50	<0.50	<0.50	<0.50	7.4	7.6	n
02/09/2006	--		8.00	28.00	10.49	7.69	--	--	--	--	--	--	--	--	
8/11/2006	P		8.00	28.00	11.48	6.70	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.42	8.1	
2/7/2007	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	e
8/14/2007	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	e
2/22/2008	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	e
8/12/2008	NP		8.00	28.00	11.57	6.61	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.42	9.51	
1/8/2009	--		8.00	28.00	11.43	6.75	--	--	--	--	--	--	--	--	
9/4/2009	NP		8.00	28.00	12.52	5.66	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.62	7.61	
3/5/2010	--		8.00	28.00	8.66	9.52	--	--	--	--	--	--	--	--	
3/11/2011	--		8.00	28.00	--	--	--	--	--	--	--	--	--	--	q
AR-2															
6/26/2000	--	15.28	8.50	28.50	11.79	3.49	--	--	--	--	--	--	--	--	
7/20/2000	--		8.50	28.50	12.07	3.21	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
9/19/2000	--		8.50	28.50	12.08	3.20	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
12/26/2000	--		8.50	28.50	11.95	3.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/20/2001	--		8.50	28.50	10.50	4.78	--	--	--	--	--	--	--	--	
6/12/2001	--		8.50	28.50	11.73	3.55	<50	<0.5	<0.5	<0.5	<0.5	82	--	--	
9/23/2001	--		8.50	28.50	12.43	2.85	--	--	--	--	--	--	--	--	
12/28/2001	--		8.50	28.50	8.60	6.68	<50	<0.5	<0.5	<0.5	<0.5	30	--	--	
3/21/2002	--		8.50	28.50	9.49	5.79	--	--	--	--	--	--	--	--	
4/17/2002	--		8.50	28.50	10.37	4.91	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--	
8/14/2002	--		8.50	28.50	12.13	3.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	7.9	
11/27/2002	--		8.50	28.50	12.08	3.20	--	--	--	--	--	--	--	--	
2/12/2003	--		8.50	28.50	11.15	4.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.5	d
5/22/2003	--		8.50	28.50	11.18	4.10	--	--	--	--	--	--	--	--	
7/23/2003	--		8.50	28.50	11.85	3.43	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	8.2	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
AR-2 Cont.															
11/13/2003	--	15.28	8.50	28.50	11.98	3.30	--	--	--	--	--	--	--	--	f
02/16/2004	--	17.87	8.50	28.50	10.69	7.18	--	--	--	--	--	--	--	--	f, i
05/06/2004	--		8.50	28.50	11.55	6.32	--	--	--	--	--	--	--	--	
09/02/2004	--		8.50	28.50	--	--	--	--	--	--	--	--	--	--	k
09/20/2004	NP		8.50	28.50	11.98	5.89	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	10.4	
11/29/2004	--		8.50	28.50	12.62	5.25	--	--	--	--	--	--	--	--	
02/02/2005	--		8.50	28.50	10.12	7.75	--	--	--	--	--	--	--	--	
05/09/2005	--		8.50	28.50	10.13	7.74	--	--	--	--	--	--	--	--	
08/11/2005	NP		8.50	28.50	11.73	6.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	7.3	
02/09/2006	--		8.50	28.50	10.03	7.84	--	--	--	--	--	--	--	--	
8/11/2006	NP		8.50	28.50	11.61	6.26	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	7.4	
2/7/2007	--		8.50	28.50	11.52	6.35	--	--	--	--	--	--	--	--	
8/14/2007	NP		8.50	28.50	11.75	6.12	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.86	7.41	
2/22/2008	--		8.50	28.50	9.82	8.05	--	--	--	--	--	--	--	--	
8/12/2008	NP		8.50	28.50	11.78	6.09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.37	9.13	
1/8/2009	--		8.50	28.50	11.40	6.47	--	--	--	--	--	--	--	--	
9/4/2009	NP		8.50	28.50	11.32	6.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.53	7.56	
3/5/2010	--		8.50	28.50	9.04	8.83	--	--	--	--	--	--	--	--	
3/11/2011	NP		8.50	28.50	9.80	8.07	150	<0.50	<0.50	<0.50	<0.50	<0.50	2.40	8.6	p (GRO)
8/26/2011	P		8.50	28.50	11.39	6.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.03	8.4	
2/22/2012	**P**		**8.50**	**28.50**	**11.42**	**6.45**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.38**	**8.69**	

Symbols & 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 measured in ft MSL
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether analyzed by EPA Method 8021B unless otherwise noted
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing measured in ft MSL
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter

Footnotes:
a = Well was covered by stockpiled soil and not accessible
b = GRO/TPH-g chromatogram pattern: Gasoline C6-C10
c = Primary and confirmation results for xylene varied by greater than 40% RPD. The values may still be useful for their intended purpose
d = TPH-g, BTEX, and MTBE analyzed using EPA Method 8260B starting first quarter 2003
e = Well inaccessible
f = ORC sock in well
g = Well removed from annual sampling schedule
h = ORC sock removed prior to gauging
i = Site re-survey to NAV'88 datum on January 30, 2004
j = Sheen in well
k = Car parked over well AR-2 during monitoring event on 9/2/04. Well was sampled 9/20/04
m = Hydrocarbon result partly due to individual peak(s) in quant. range
n = Possible low bias for GRO due to CCV falling outside acceptance criteria
o = Initial analysis within holding time but failed QA/QC criteria
p = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
q = Well decommissioned 6/16/2010
r = Quantitated against gasoline
s = Reporting limits raised due to high level of non-target analytes
t = Sample preserved improperly

Notes:
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

Top and bottom of screen depths for wells ADR-1 and ADR-2 are estimated from EMCON sampling sheets

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

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 #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-1									
7/20/2000	--	--	25	--	--	--	--	--	
9/19/2000	--	--	32	--	--	--	--	--	
12/26/2000	--	--	18.7	--	--	--	--	--	
3/20/2001	--	--	<25	--	--	--	--	--	
6/12/2001	--	--	25	--	--	--	--	--	
9/23/2001	--	--	4.5	--	--	--	--	--	
12/28/2001	--	--	<25	--	--	--	--	--	
3/21/2002	--	--	<2.5	--	--	--	--	--	
4/17/2002	--	--	<2.5	--	--	--	--	--	
8/14/2002	--	--	4.9	--	--	--	--	--	
11/27/2002	--	--	6.4	--	--	--	--	--	
2/12/2003	<40	<20	2.9	<0.50	<0.50	<0.50	--	--	
5/22/2003	<100	<20	4.9	<0.50	<0.50	<0.50	--	--	
7/23/2003	<100	<20	10	<0.50	<0.50	<0.50	<0.50	<0.50	
11/13/2003	<100	<20	4.2	<0.50	<0.50	<0.50	--	--	
02/16/2004	<100	<20	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	
05/06/2004	<100	<20	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<100	<20	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	
11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/02/2005	<100	<20	5.1	<0.50	<0.50	<0.50	<0.50	<0.50	a
05/09/2005	<100	<20	2.7	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	4.2	<0.50	<0.50	<0.50	<0.50	<0.50	a
02/09/2006	<300	<20	5.6	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/11/2006	<300	<20	3.7	<0.50	<0.50	<0.50	<0.50	<0.50	
2/7/2007	<300	<20	20	<0.50	<0.50	<0.50	<0.50	<0.50	
8/14/2007	<300	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)
2/22/2008	<1,500	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
8/12/2008	<1,500	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
1/8/2009	<6,000	<200	<10	<10	<10	<10	<10	<10	
9/4/2009	<300	<10	7.4	<0.50	<0.50	<0.50	<0.50	<0.50	
3/5/2010	<300	<10	3.3	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<3,000	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-1 Cont.									
8/26/2011	<3,000	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
2/22/2012	**<3,000**	**<100**	**7.6**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	
A-2									
7/20/2000	--	--	<3	--	--	--	--	--	
12/26/2000	--	--	<2.5	--	--	--	--	--	
6/12/2001	--	--	<2.5	--	--	--	--	--	
12/28/2001	--	--	<2.5	--	--	--	--	--	
4/17/2002	--	--	26	--	--	--	--	--	
8/14/2002	--	--	<2.5	--	--	--	--	--	
2/12/2003	<40	<20	12	<0.50	<0.50	<0.50	--	--	
7/23/2003	<100	<20	2.6	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<100	<20	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	a
8/11/2006	<300	<20	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	
8/14/2007	<300	<20	0.65	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)
8/12/2008	<300	<10	0.96	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/26/2011	<1,200	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
2/22/2012	**<1,200**	**<40**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	
A-3									
12/26/2000	--	--	<2.5	--	--	--	--	--	
12/28/2001	--	--	<2.5	--	--	--	--	--	
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
A-4									
12/26/2000	--	--	<2.5	--	--	--	--	--	
12/28/2001	--	--	<2.5	--	--	--	--	--	
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
A-5									

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-5 Cont.									
7/20/2000	--	--	3	--	--	--	--	--	
9/19/2000	--	--	<3	--	--	--	--	--	
12/26/2000	--	--	<250	--	--	--	--	--	
3/20/2001	--	--	<250	--	--	--	--	--	
6/12/2001	--	--	<5.0	--	--	--	--	--	
9/23/2001	--	--	2.7	--	--	--	--	--	
12/28/2001	--	--	5	--	--	--	--	--	
3/21/2002	--	--	31	--	--	--	--	--	
4/17/2002	--	--	<25	--	--	--	--	--	
8/14/2002	--	--	<25	--	--	--	--	--	
11/27/2002	--	--	<0.5	--	--	--	--	--	
2/12/2003	<400	<200	<5.0	<5.0	<5.0	<5.0	--	--	
5/22/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	--	--	
7/23/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
11/13/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	--	--	
02/16/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
05/06/2004	<500	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
09/02/2004	<200	<40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
11/29/2004	<10,000	<2,000	<50	<50	<50	<50	<50	<50	
02/02/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
05/09/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
02/09/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/11/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/7/2007	<6,000	<400	<10	<10	<10	<10	<10	<10	
8/14/2007	<6,000	<400	<10	<10	<10	<10	<10	<10	d (1,2-DCA)
2/22/2008	<30,000	<1,000	<50	<50	<50	<50	<50	<50	
8/12/2008	<30,000	<1,000	<50	<50	<50	<50	<50	<50	
1/8/2009	<30,000	<1,000	<50	<50	<50	<50	<50	<50	
9/4/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/5/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-5 Cont.									
8/26/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2012	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
A-6									
7/20/2000	--	--	6	--	--	--	--	--	
9/19/2000	--	--	6	--	--	--	--	--	
12/26/2000	--	--	8.17	--	--	--	--	--	
3/20/2001	--	--	19.9	--	--	--	--	--	
6/12/2001	--	--	15	--	--	--	--	--	
9/23/2001	--	--	53	--	--	--	--	--	
12/28/2001	--	--	26	--	--	--	--	--	
3/21/2002	--	--	19	--	--	--	--	--	
4/17/2002	--	--	16	--	--	--	--	--	
8/14/2002	--	--	75	--	--	--	--	--	
11/27/2002	--	--	16	--	--	--	--	--	
2/12/2003	<40	<20	9.9	<0.50	<0.50	<0.50	--	--	
5/22/2003	<100	<20	11	<0.50	<0.50	0.6	--	--	
7/23/2003	<100	<20	14	<0.50	<0.50	0.54	<0.50	<0.50	
11/13/2003	<100	<20	2.3	<0.50	<0.50	<0.50	--	--	
02/16/2004	<100	<20	3.9	<0.50	<0.50	<0.50	<0.50	<0.50	
05/06/2004	<100	<20	7.1	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<100	<20	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
11/29/2004	<100	<20	2.9	<0.50	<0.50	<0.50	<0.50	<0.50	
02/02/2005	<100	<20	14	<0.50	<0.50	0.91	<0.50	<0.50	a
05/09/2005	<100	<20	12	<0.50	<0.50	0.66	<0.50	<0.50	
08/11/2005	<100	<20	14	<0.50	<0.50	2.2	<0.50	<0.50	a
02/09/2006	<300	<20	17	<0.50	<0.50	1.2	<0.50	<0.50	b
8/11/2006	<300	<20	21	<0.50	<0.50	<0.50	<0.50	<0.50	
2/7/2007	<300	<20	7.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/14/2007	<300	<20	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)
2/22/2008	<300	<10	11	<0.50	<0.50	0.89	<0.50	<0.50	
8/12/2008	<300	<10	2.4	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-6 Cont.									
1/8/2009	<300	<10	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
3/5/2010	<300	<10	4.1	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	5.7	<0.50	<0.50	<0.50	<0.50	<0.50	
8/26/2011	<300	<10	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2012	**<300**	**<10**	**2.3**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
ADR-1									
7/20/2000	--	--	22	--	--	--	--	--	
9/19/2000	--	--	22	--	--	--	--	--	
12/26/2000	--	--	14.7	--	--	--	--	--	
3/20/2001	--	--	10.8	--	--	--	--	--	
6/12/2001	--	--	7.5	--	--	--	--	--	
9/23/2001	--	--	2.8	--	--	--	--	--	
12/28/2001	--	--	6.8	--	--	--	--	--	
3/21/2002	--	--	<2.5	--	--	--	--	--	
4/17/2002	--	--	<2.5	--	--	--	--	--	
8/14/2002	--	--	<2.5	--	--	--	--	--	
11/27/2002	--	--	1.1	--	--	--	--	--	
2/12/2003	<40	<20	0.73	<0.50	<0.50	<0.50	--	--	
5/22/2003	<100	<20	3.5	<0.50	<0.50	<0.50	--	--	
7/23/2003	<100	<20	4	<0.50	<0.50	<0.50	<0.50	<0.50	
11/13/2003	<100	<20	1.6	<0.50	<0.50	<0.50	--	--	
02/16/2004	<100	<20	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
05/07/2004	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
09/02/2004	<100	<20	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	
11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/02/2005	<100	<20	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	a
05/09/2005	<100	<20	2.6	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	4.0	<0.50	<0.50	<0.50	<0.50	<0.50	a
02/09/2006	<300	<20	2.9	<0.50	<0.50	<0.50	<0.50	<0.50	b
8/11/2006	<300	<20	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ADR-1 Cont.									
2/7/2007	<300	<20	3.8	<0.50	<0.50	<0.50	<0.50	<0.50	
8/14/2007	<300	<20	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)
2/22/2008	<300	<10	3.9	<0.50	<0.50	<0.50	<0.50	<0.50	
8/12/2008	<600	<20	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	
1/8/2009	<300	<10	2.4	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/5/2010	<300	<10	0.92	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	
8/26/2011	<300	<10	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2012	**<300**	**<10**	**1.1**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
ADR-2									
7/20/2000	--	--	23	--	--	--	--	--	
9/19/2000	--	--	34	--	--	--	--	--	
12/26/2000	--	--	32.8	--	--	--	--	--	
9/23/2001	--	--	60	--	--	--	--	--	
12/28/2001	--	--	61	--	--	--	--	--	
3/21/2002	--	--	15	--	--	--	--	--	
4/17/2002	--	--	<25	--	--	--	--	--	
8/14/2002	--	--	<50	--	--	--	--	--	
11/27/2002	--	--	74	--	--	--	--	--	
2/12/2003	<400	<200	22	<5.0	<5.0	<5.0	--	--	
5/22/2003	<1,000	<200	9.7	<5.0	<5.0	<5.0	--	--	
7/23/2003	<100	<20	8.4	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<1,000	<200	5.6	<5.0	<5.0	<5.0	<5.0	<5.0	
08/11/2005	<500	<100	9.0	<2.5	<2.5	<2.5	<2.5	<2.5	a
8/11/2006	<600	<40	4.6	<1.0	<1.0	<1.0	<1.0	<1.0	a, c
8/14/2007	<300	<20	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)
8/12/2008	<300	<10	4.2	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
8/26/2011	<300	11	40	<0.50	<0.50	14	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ADR-2 Cont.									
2/22/2012	**<300**	**<10**	**11**	**<0.50**	**<0.50**	**1.7**	**<0.50**	**<0.50**	
AR-1									
7/20/2000	--	--	6	--	--	--	--	--	
9/19/2000	--	--	<3	--	--	--	--	--	
12/26/2000	--	--	<2.5	--	--	--	--	--	
6/12/2001	--	--	17	--	--	--	--	--	
12/28/2001	--	--	<2.5	--	--	--	--	--	
4/17/2002	--	--	<2.5	--	--	--	--	--	
8/14/2002	--	--	<2.5	--	--	--	--	--	
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
7/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/11/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/12/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
AR-2									
7/20/2000	--	--	<3	--	--	--	--	--	
9/19/2000	--	--	<3	--	--	--	--	--	
12/26/2000	--	--	<2.5	--	--	--	--	--	
6/12/2001	--	--	82	--	--	--	--	--	
12/28/2001	--	--	30	--	--	--	--	--	
4/17/2002	--	--	3.2	--	--	--	--	--	
8/14/2002	--	--	<2.5	--	--	--	--	--	
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
7/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
09/20/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
8/11/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/14/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	d (1,2-DCA)

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
AR-2 Cont.									
8/12/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/11/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/26/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2012	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

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

Footnotes:
a = Calibration verification was within method limits but outside contract limits for ethanol
b = Initial analysis within holding time but failed QA/QC criteria
c = Possible high bias due to CCV failing outside acceptance criteria for TBA.
d = CCV recovery above limit; analyte not detected

Notes:
All volatile organic compounds analyzed using EPA Method 8260B

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 Groundwater Gradient - Direction and Magnitude

ARCO Service Station #2169, 889 W. Grand Ave., Oakland, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
7/20/2000	Northwest	0.004
9/19/2000	West-Northwest	0.003
12/26/2000	Northwest	0.004
3/20/2001	Northwest	0.003
6/12/2001	Northwest	0.004
9/23/2001	Northwest	0.004
12/28/2001	Variable	Variable
3/21/2002	Northwest	0.004
4/17/2002	Northwest	0.003
8/14/2002	West	0.003
11/27/2002	West	0.003
2/12/2003	South	0.005
5/22/2003	West to Northwest	0.002 to 0.003
7/23/2003	Southwest to Northwest	0.005 to 0.004
11/13/2003	Southwest	0.009
2/16/2004	Southwest	0.009
5/6/2004	Southwest	0.004
9/2/2004	West-Northwest	0.005
11/29/2004	West to Southwest	0.005 to 0.006
2/2/2005	Northwest to Southwest	0.005
5/9/2005	Northwest	0.01
8/11/2005	West	0.004
2/9/2006	West	0.003
8/11/2006	Northwest*	0.005
2/7/2007	North-Northwest*	0.004
8/14/2007	Northwest	0.005
2/22/2008	North-Northwest	0.005
8/12/2008	North-Northwest	0.005
1/8/2009	North-Northwest	0.003
9/4/2009	Northwest	0.002
3/5/2010	West-Northwest	0.006
3/11/2011	Northeast	0.002
8/26/2011	Northeast	0.003
2/22/2012	**Northeast**	**0.001**

Symbols & Abbreviations:
* = Base map provided to Broadbent & Associates, Inc. incorrectly oriented north arrow 47° east of true north. Flow directions from Broadbent & Associates, Inc. reports for Third Quarter 2006 and First Quarter 2007 corrected in table above

Notes:
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

FIELD METHODS

QUALITY ASSURANCE/QUALITY CONTROL
FIELD METHODS

Field methods discussed herein were implemented to provide for accuracy and reliability of field activities, data collection, sample collection, and handling. Discussion of these methods is provided below.

1.0 EQUIPMENT CALIBRATION

Equipment calibration was performed per equipment manufacturer specifications before use.

2.0 DEPTH TO GROUNDWATER AND LIGHT NON-AQUEOUS PHASE LIQUID MEASUREMENT

Depth to groundwater was measured in wells identified for gauging in the scope of work using a decontaminated water level indicator. The depth to water measurement was taken from a cut notch or permanent mark at the top of the well casing to which the well head elevation was originally surveyed.

Once depth to water was measured, an oil/water interface meter or a new disposable bailer was utilized to evaluate the presence and, if present, to measure the "apparent" thickness of light non-aqueous phase liquid (LNAPL) in the well. If LNAPL was present in the well, groundwater purging and sampling were not performed, unless sampling procedures in the scope of work specified collection of samples in the presence of LNAPL. Otherwise, time allowing, LNAPL was bailed from the well using either a new disposable bailer, or the disposal bailer previously used for initial LNAPL assessment. Bailing of LNAPL continued until the thickness of LNAPL (or volume) stabilized in each bailer pulled from the well, or LNAPL was no longer present. After LNAPL thickness either stabilized or was eliminated, periodic depth to water and depth to LNAPL measurements were collected as product came back into the well to evaluate product recovery rate and to aid in further assessment of LNAPL in the subsurface. LNAPL thickness measurements were recorded as "apparent." If a bailer was used for LNAPL thickness measurement, the field sampler noted the bailer entry diameter and chamber diameter to enable correction of thickness measurements. Recovered LNAPL was stored on-site in a labeled steel drum(s) or other appropriate container(s) prior to disposal.

3.0 WELL PURGING AND GROUNDWATER SAMPLE COLLECTION

Well purging and groundwater sampling were performed in wells specified in the scope of work after measuring depth to groundwater and evaluating the presence of LNAPL. Purging and sampling were performed using one of the methods detailed below. The method used was noted in the field records. Purge water was stored on-site in labeled steel drum(s) or other appropriate container(s) prior to disposal or on-site treatment (in cases where treatment using an on-site system is authorized).

3.1 Purging a Predetermined Well Volume

Purging a predetermined well volume is performed per ASTM International (ASTM) D4448-01. This purging method has the objective of removing a predetermined

volume of stagnant water from the well prior to sampling. The volume of stagnant water is defined as either the volume of water contained within the well casing, or the volume within the well casing and sand/gravel in the annulus if natural flow through these is deemed insufficient to keep them flushed out.

This purging method involves removal of a minimum of three stagnant water volumes from the well using a decontaminated pump with new disposable plastic discharge or suction tubing, dedicated well tubing, or using a new disposable or decontaminated reusable bailer. If a new disposable bailer was used for assessment of LNAPL, that bailer may be used for purging. The withdrawal rate used is one that minimizes drawdown while satisfying time constraints.

To evaluate when purging is complete, one or more groundwater stabilization parameters are monitored and recorded during purging activities until stabilization is achieved. Most commonly, stabilization parameters include temperature, conductivity, and pH, but field procedures detailed in the scope of work may also include monitoring of dissolved oxygen concentrations, oxidation reduction potential, and/or turbidity[1]. Parameters are considered stable when two (2) consecutive readings recorded three (3) minutes apart fall within ranges provided below in Table 1. In the event that the parameters have not stabilized and five (5) well casing volumes have been removed, purging activities will cease and be considered complete. Once the well is purged, a groundwater sample(s) is collected from the well using a new disposable bailer. If a new disposable bailer was used for purging, that bailer may be used to collect the sample(s). A sample is not collected if the well is inadvertently purged dry.

Table 1. Criteria for Defining Stabilization of Water-Quality Indicator Parameters

Parameter	Stabilization Criterion
Temperature	± 0.2ºC (± 0.36ºF)
pH	± 0.1 standard units
Conductivity	± 3%
Dissolved oxygen	± 10%
Oxidation reduction potential	± 10 mV
Turbidity[1]	± 10% or 1.0 NTU (whichever is greater)

3.2 Low-Flow Purging and Sampling

“Low-Flow”, “Minimal Drawdown”, or "Low-Stress” purging is performed per ASTM D6771-02. It is a method of groundwater removal from within a well’s screened interval that is intended to minimize drawdown and mixing of the water column in the well casing. This is accomplished by pumping the well using a decontaminated pump with new disposable plastic discharge or suction tubing or dedicated well tubing at a low flow rate while evaluating the groundwater elevation during pumping.

The low flow pumping rate is well specific and is generally established at a volume that is less than or equal to the natural recovery rate of the well. A pump with adjustable flow rate control is positioned with the intake at or near the mid-point of the

[1] As stated in ASTM D6771-02, turbidity is not a chemical parameter and not indicative of when formation-quality water is being purged; however, turbidity may be helpful in evaluating stress on the formation during purging. Turbidity measurements are taken at the same time that stabilization parameter measurements are made, or, at a minimum, once when purging is initiated and again just prior to sample collection, after stabilization parameters have stabilized. To avoid artifacts in sample analysis, turbidity should be as low as possible when samples are collected. If turbidity values are persistently high, the withdrawal rate is lowered until turbidity decreases. If high turbidity persists even after lowering the withdrawal rate, the purging is stopped for a period of time until turbidity settles, and the purging process is then restarted. If this fails to solve the problem, the purging/sampling process for the well is ceased, and well maintenance or redevelopment is considered.

submerged well screen. The pumping rate used during low-flow purging is low enough to minimize mobilization of particulate matter and drawdown (stress) of the water column. Low-flow purging rates will vary based on the individual well characteristics; however, the purge rate should not exceed 1.0 Liter per minute (L/min) or 0.25 gallon per minute (gal/min). Low-flow purging should begin at a rate of approximately 0.1 L/min (0.03 gal/min)[2], or the lowest rate possible, and be adjusted based on an evaluation of drawdown. Water level measurements should be recorded at approximate one (1) to two (2) minute intervals until the low-flow rate has been established, and drawdown is minimized. As a general rule, drawdown should not exceed 25% of the distance between the top of the water column and the pump in-take.

To evaluate when purging is complete, one or more groundwater stabilization parameters are monitored and recorded during purging activities until stabilization is achieved. Most commonly, stabilization parameters include temperature, conductivity, and pH, but field procedures detailed in the scope of work may also include monitoring of dissolved oxygen concentrations, oxidation reduction potential, and/or turbidity[1]. The frequency between measurements will be at an interval of one (1) to three (3) minutes; however, if a flow cell is used, the frequency will be determined based on the time required to evacuate one cell volume. Stabilization is defined as three (3) consecutive readings recorded several minutes apart falling within ranges provided in Table 1. Samples will be collected by filling appropriate containers from the pump discharge tubing at a rate not to exceed the established pumping rate.

3.3 Minimal Purge, Discrete Depth, and Passive Sampling

In accordance with ASTM D4448-01, sampling techniques that do not rely on purging, or require only minimal purging, may be used if a particular zone within a screened interval is to be sampled or if a well is not capable of yielding sufficient groundwater for purging. To properly use these sampling techniques, a water sample is collected within the screened interval with little or no mixing of the water column within the casing. These techniques include minimal purge sampling which uses a dedicated sampling pump capable of pumping rates of less than 0.1 L/min (0.03 gal/min)[2], discrete depth sampling using a bailer that allows groundwater entry at a controlled depth (e.g. differential pressure bailer), or passive (diffusion) sampling. These techniques are based on certain studies referenced in ASTM D4448-01 that indicate that under certain conditions, natural groundwater flow is laminar and horizontal with little or no mixing within the well screen.

4.0 DECONTAMINATION

Reusable groundwater sampling equipment were cleaned using a solution of Alconox or other acceptable detergent, rinsed with tap water, and finally rinsed with distilled water prior to use in each well. Decontamination water was stored on-site in labeled steel drum(s) or other appropriate container(s) prior to disposal.

[2] According to ASTM D4448-01, studies have indicated that at flow rates of 0.1 L/min, low-density polyethylene (LDPE) and plasticized polypropylene tubing materials are prone to sorption. Therefore, TFE-fluorocarbon or other appropriate tubing material is used, particularly when tubing lengths of 50 feet or longer are used.

5.0 SAMPLE CONTAINERS, LABELING, AND STORAGE

Samples were collected in laboratory prepared containers with appropriate preservative (if preservative was required). Samples were labeled (site name, sample I.D., sampler initials, date, and time of collection) and stored chilled (refrigerator or ice chest with ice) until delivery to a certified laboratory, under chain of custody procedures.

6.0 CHAIN OF CUSTODY RECORD AND PROCEDURE

The field sampler was personally responsible for care and custody of the samples collected until they were properly transferred to another party. To document custody and transfer of samples, a Chain of Custody Record was prepared. The Chain of Custody Record provided identification of the samples corresponding to sample labels and specified analyses to be performed by the laboratory. The original Chain of Custody Record accompanied the shipment, and a copy of the record was stored in the project file. When the samples were transferred, the individuals relinquishing and receiving them signed, dated, and noted the time of transfer on the record.

7.0 FIELD RECORDS

Daily Report and data forms were completed by staff personnel to provide daily record of significant events, observations, and measurements. Field records were signed, dated, and stored in the project file.

APPENDIX B

FIELD DATA SHEETS

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

DAILY REPORT

Project: BP-2169 Project No.: 06-88-621

Field Representative(s): J. Ramos / A. Martinez Day: Wednesday Date: 2/22/12

Time Onsite: From: 0815 To: 1445; From: _____ To: _____; From: _____ To: _____

X Signed HASP X Safety Glasses X Hard Hat X Steel Toe Boots ___ Safety Vest

X UST Emergency System Shut-off Switches Located X Proper Gloves

X Proper Level of Barricading ___ Other PPE (describe) _____

Weather: Sunny

Equipment In Use: Peristaltic pump, water level meter, ultrameter, DO meter

Visitors: None

TIME:	WORK DESCRIPTION:
0815	Arrived onsite and conducted Broadbent tailgate
0900	Statewide arrived onsite and conducted tailgate
0930	Completed tailgate and prepared to set up monitoring on first street wall location at A-6
0940	Set up for monitoring @ A-6
1010	Set up @ A-5
1050	Set up @ A-1
1130	Set up @ ADR-1
1205	Broke for Lunch
1235	Set up @ A-2
1320	Set up @ AR-2
1400	Set up @ ADR-2
1445	Completed monitoring, clean up and offsite

Signature: _____

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

GROUNDWATER MONITORING SITE SHEET

Project: BP-2169 Project No.: 06-88-621 Date: 2/22/12

Field Representative: J. Ramos/A. Martinez Elevation: _____

Formation recharge rate is historically: High Low *(circle one)*

W. L. Indicator ID #: _____ Oil/Water Interface ID #: _____ *(List #s of all equip used.)*

WELL ID RECORD					WELL GAUGING RECORD					LAB ANALYSES					
Well ID	Well Sampling Order	As-Built Well Diameter (inches)	As-Built Well Screen Interval (ft)	Previous Depth to Water (ft)	Time (24:00)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)*	Depth to Water (ft)	Well Total Depth (ft)						
A-1					1102			10.68	23.70						
A-2					1251			11.21	24.65						
A-5					1021			9.98	24.18						
A-6					0944			10.03	26.95						
AR-2					1336			11.42	28.65						
ADR-1					1406			11.29	20.56						
ADR-2					1137			10.48	25.86						

* Device used to measure LNAPL thickness: Bailer Oil/Water Interface Meter *(circle one)*

If bailer used, note bailer dimensions (inches): Entry Diameter _____ Chamber Diameter _____

Signature: James Ramos

Revision: 8/19/11

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP-2169 Project No.: 06-88-621 Date: 2/22/12

Field Representative: J. Ramos/A. Martinez

Well ID: A-1 Start Time: 1050 End Time: 1123 Total Time (minutes): 33

PURGE EQUIPMENT ___ Disp. Bailer ___ 120V Pump ___ Flow Cell ___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:
Good Improvement Needed *(circle one)*

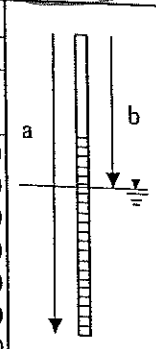
PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other: *(circle one)*

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other: ___" | (___)
4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81)

Total Well Depth (a): _____ (ft)
Initial Depth to Water (b): _____ (ft)
Water Column Height (WCH) = (a - b): _____ (ft)
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)
Three Casing Volumes = WCV x 3: _____ (gal)
Five Casing Volumes = WCV x 5: _____ (gal)
Pump Depth (if pump used): _____ (ft)



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): 23.70 (ft)
Initial Depth to Water (b): 10.68 (ft)
Pump In-take Depth = b + (a-b)/2: 17.19 (ft)
Maximum Allowable Drawdown = (a-b)/8: 1.62 (ft)
Low-Flow Purge Rate: _____ (gpm)*
Comments: 13.02 12.30

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	NOTES ORP — Odor, color, sheen, turbidity, or other
1105	0.6	18.9	7.37	870	0.69	32
1111	0.5	19.0	7.34	873	0.47	57
1114	1.0	19.0	7.67	874	0.37	50
1117	1.5	19.1	7.66	875	0.57	48
						HC Odor (grss)
Previous Stabilized Parameters						

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes ___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing X Disp. Pump Tubing Other:
Sample ID: A-1 Sample Collection Time: 1120 (24:00)
Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: ___ ___ Other: ___
___ Other: ___ ___ Other: ___

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1117	0.57
Ferrous Iron (mg/L)		
Redox Potential (mV)	1117	48
Alkalinity (mg/L)		
Other:		
Other:		

Signature: James Ramos

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP- 2169 Project No.: 06-38-621 Date: 2/22/12

Field Representative: J. Ramos / A. Martinez

Well ID: A-2 Start Time: 1235 End Time: 1314 Total Time (minutes): 39

PURGE EQUIPMENT

___ Disp. Bailer ___ 120V Pump ___ Flow Cell
___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

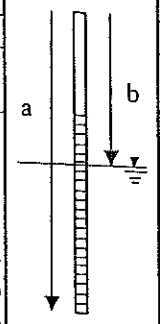
PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other: *(circle one)*

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other:
4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81) ___" | (___)

Total Well Depth (a): ___(ft)
Initial Depth to Water (b): ___(ft)
Water Column Height (WCH) = (a - b): ___(ft)
Water Column Volume (WCV) = WCH x Unit Volume: ___(gal)
Three Casing Volumes = WCV x 3: ___(gal)
Five Casing Volumes = WCV x 5: ___(gal)
Pump Depth (if pump used): ___(ft)



LOW-FLOW

Previous Low-Flow Purge Rate: ___(gpm)
Total Well Depth (a): 24.65 (ft)
Initial Depth to Water (b): 11.21 (ft)
Pump In-take Depth = b + (a-b)/2: 17.93 (ft)
Maximum Allowable Drawdown = (a-b)/8: 1.68 (ft)
Low-Flow Purge Rate: ___(gpm)*
Comments: 13.44 12.89

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	NOTES ORP Odor, color, sheen, turbidity, or other
1256	0.0	21.0	7.88	913	1.69	120
1259	0.5	20.0	7.78	909	1.30	132
1302	1.0	19.8	7.74	911	0.85	138
1305	1.5	19.7	7.66	908	0.67	144
1308	2.0	19.7	7.68	909	0.54	147
Previous Stabilized Parameters						

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes
___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: ___(ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:
Sample ID: A-2 Sample Collection Time: 1311 (24:00)
Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: ___ Other:
___ Other: ___ Other:

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1308	0.54
Ferrous Iron (mg/L)		
Redox Potential (mV)	1308	147
Alkalinity (mg/L)		
Other:		
Other:		

Signature:

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP-2169 Project No.: 06-88-621 Date: 2/22/12

Field Representative: J. Ramos / A. Martinez

Well ID: A-5 Start Time: 1010 End Time: 1040 Total Time (minutes): 30

PURGE EQUIPMENT ___ Disp. Bailer ___ 120V Pump ___ Flow Cell ___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other: *(circle one)*

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other: ___" | (___)

4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81)

Total Well Depth (a): _____(ft)

Initial Depth to Water (b): _____(ft)

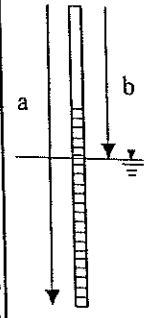
Water Column Height (WCH) = (a - b): _____(ft)

Water Column Volume (WCV) = WCH x Unit Volume: _____(gal)

Three Casing Volumes = WCV x 3: _____(gal)

Five Casing Volumes = WCV x 5: _____(gal)

Pump Depth (if pump used): _____(ft)



LOW-FLOW

Previous Low-Flow Purge Rate: _____(gpm)

Total Well Depth (a): 24.18 (ft)

Initial Depth to Water (b): 9.98 (ft)

Pump In-take Depth = b + (a-b)/2: 11.98 (ft)

Maximum Allowable Drawdown = (a-b)/8: 1.75 (ft)

Low-Flow Purge Rate: _____(gpm)*

Comments: 14.20 16.76

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	ORP	NOTES Odor, color, sheen, turbidity, or other
1025	0.0	18.1	7.69	966	0.72	112	
1028	0.5	18.0	7.65	968	0.64	113	
1031	1.0	17.9	7.66	965	0.61	111	
1034	1.5	17.8	7.51	963	0.66	88	
Previous Stabilized Parameters							

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes ___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____(ft)

Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing X Disp. Pump Tubing Other:

Sample ID: A-5 Sample Collection Time: 1037 (24:00)

Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber

___ Other: _____ ___ Other: _____

___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1034	0.66
Ferrous Iron (mg/L)		
Redox Potential (mV)	1034	88
Alkalinity (mg/L)		
Other:		
Other:		

Signature: _____

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP- 2169 Project No.: 06-38-621 Date: 2/22/12

Field Representative: J. Ramos / A. Martinez

Well ID: A-6 Start Time: 0940 End Time: 1008 Total Time (minutes): 28

PURGE EQUIPMENT ___ Disp. Bailer ___ 120V Pump ___ Flow Cell ___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

PURGING/SAMPLING METHOD Predetermined Well Volume Low-Flow Other: *(circle one)*

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other: ___" | (___)

4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81)

Total Well Depth (a): _____ (ft)

Initial Depth to Water (b): _____ (ft)

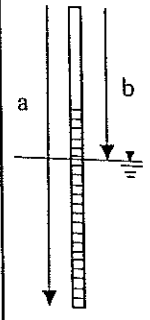
Water Column Height (WCH) = (a - b): _____ (ft)

Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)

Three Casing Volumes = WCV x 3: _____ (gal)

Five Casing Volumes = WCV x 5: _____ (gal)

Pump Depth (if pump used): _____ (ft)



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)

Total Well Depth (a): 26.95 (ft)

Initial Depth to Water (b): 10.03 (ft)

Pump In-take Depth = b + (a-b)/2: 18.99 (ft)

Maximum Allowable Drawdown = (a-b)/8: 2.12 (ft)

Low-Flow Purge Rate: _____ (gpm)*

Comments: 16.92 12.15

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	NOTES: Odor, color, sheen, turbidity, or other
0950	0.0	19.6	7.98	719	2.78	165
0953	0.5	19.8	7.66	720	1.36	162
0956	1.0	19.9	7.55	721	1.02	150
0959	1.5	20.0	7.43	719	0.82	139
1002	2.0	20.1	7.45	712	0.69	129
Previous Stabilized Parameters						

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes ___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)

Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing X Disp. Pump Tubing Other:

Sample ID: A-6 Sample Collection Time: 1005 (24:00)

Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber

___ Other: ___ ___ Other: ___

___ Other: ___ ___ Other: ___

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1002	0.69
Ferrous Iron (mg/L)		
Redox Potential (mV)	1002	129
Alkalinity (mg/L)		
Other:		
Other:		

Signature:

Revision: 8/19/11

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP- 2169 Project No.: 06-88-621 Date: 2/22/12

Field Representative: J. Ramos/A. Martinez

Well ID: ~~AR-1~~ AR-2 Start Time: 1320 End Time: 1358 Total Time (minutes): 38

PURGE EQUIPMENT

___ Disp. Bailer ___ 120V Pump ___ Flow Cell
___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

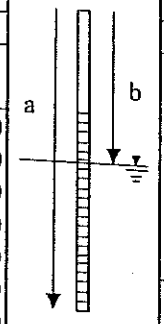
PURGING/SAMPLING METHOD Predetennined Well Volume Low-Flow Other: *(circle one)*

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other:
4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81) ___" | (___)

Total Well Depth (a): _____ (ft)
Initial Depth to Water (b): _____ (ft)
Water Column Height (WCH) = (a - b): _____ (ft)
Water Column Volume (WCV) = WCH x Unit Volume: _____ (gal)
Three Casing Volumes = WCV x 3: _____ (gal)
Five Casing Volumes = WCV x 5: _____ (gal)
Pump Depth (if pump used): _____ (ft)



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): 28.65 (ft)
Initial Depth to Water (b): 11.42 (ft)
Pump In-take Depth = b + (a-b)/2: 20.04 (ft)
Maximum Allowable Drawdown = (a-b)/8: 2.15 (ft)
Low-Flow Purge Rate: _____ (gpm)*
Comments: 17.23 13.57

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	NOTES Odor, color, sheen, turbidity, or other
1343	0.0	18.3	8.74	723	0.72	029
1346	0.5	18.2	8.72	726	0.51	119
1349	1.0	18.2	8.70	725	0.43	124
1352	1.5	18.1	8.69	725	0.38	127
						130
Previous Stabilized Parameters						

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes
___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:
Sample ID: AR-2 Sample Collection Time: 1355 (24:00)
Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: _____ ___ Other: _____
___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1352	0.38
Ferrous Iron (mg/L)		
Redox Potential (mV)	1352	130
Alkalinity (mg/L)		
Other:		
Other:		

Signature: Jaime Ramos

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP - 2169 Project No.: 06-98-621 Date: 2/22/12

Field Representative: J. Ramos / A. Martinez

Well ID: MW-1 Start Time: 1130 End Time: 1159 Total Time (minutes): 29

PURGE EQUIPMENT

___ Disp. Bailer ___ 120V Pump ___ Flow Cell
___ Disp. Tubing ___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

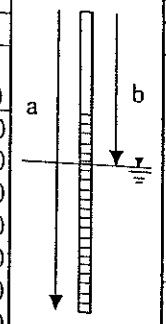
PURGING/SAMPLING METHOD Predetennined Well Volume (Low-Flow) Other:

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other:
4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81) ___" | (___)

Total Well Depth (a): ___(ft)
Initial Depth to Water (b): ___(ft)
Water Column Height (WCH) = (a - b): ___(ft)
Water Column Volume (WCV) = WCH x Unit Volume: ___(gal)
Three Casing Volumes = WCV x 3: ___(gal)
Five Casing Volumes = WCV x 5: ___(gal)
Pump Depth (if pump used): ___(ft)



LOW-FLOW

(circle one)

Previous Low-Flow Purge Rate: ___(gpm)
Total Well Depth (a): 20.56 (ft)
Initial Depth to Water (b): 10.48 (ft)
Pump In-take Depth = b + (a-b)/2: 15.52 (ft)
Maximum Allowable Drawdown = (a-b)/8: 1.26 (ft)
Low-Flow Purge Rate: ___(gpm)*
Comments: 10.03 11.74

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	ORP	NOTES Odor, color, sheen, turbidity, or other
1143	0.0	20.0	7.86	853	1.18	90	
1146	0.5	19.9	7.70	854	1.01	77	
1149	1.0	19.9	7.66	856	0.76	71	
1152	1.5	19.8	7.64	855	0.70	72	
Previous Stabilized Parameters							

PURGE COMPLETION RECORD X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes
___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: ___(ft)

Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:

Sample ID: ADR-1 Sample Collection Time: 1155 (24:00)

Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: ___ Other:
___ Other: ___ Other:

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1152	0.70
Ferrous Iron (mg/L)		
Redox Potential (mV)	1152	72
Alkalinity (mg/L)		
Other:		
Other:		

Signature:

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

GROUNDWATER SAMPLING DATA SHEET

Project: BP-2169 Project No.: 06-88-621 Date: 2/22/12

Field Representative: J. Ramos / A. Martinez

Well ID: ADE-2 Start Time: 1400 End Time: 1426 Total Time (minutes): 26

PURGE EQUIPMENT

___ Disp. Tubing ___ Disp. Bailer ___ 120V Pump ___ Flow Cell
___ 12V Pump X Peristaltic Pump Other/ID#:

WELL HEAD INTEGRITY (cap, lock, vault, etc.) Comments:

Good Improvement Needed *(circle one)*

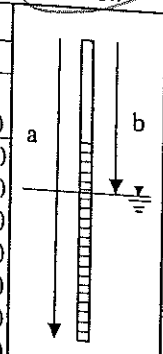
PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other:

PREDETERMINED WELL VOLUME

Casing Diameter | Unit Volume (gal/ft) *(circle one)*

1" | (0.04) 1.25" | (0.08) 2" | (0.17) 3" | (0.38) Other:
4" | (0.66) 6" | (1.50) 8" | (2.60) 12" | (5.81) ___" | (___)

Total Well Depth (a): ___ (ft)
Initial Depth to Water (b): ___ (ft)
Water Column Height (WCH) = (a - b): ___ (ft)
Water Column Volume (WCV) = WCH x Unit Volume: ___ (gal)
Three Casing Volumes = WCV x 3: ___ (gal)
Five Casing Volumes = WCV x 5: ___ (gal)
Pump Depth (if pump used): ___ (ft)



LOW-FLOW *(circle one)*

Previous Low-Flow Purge Rate: ___ (gpm)
Total Well Depth (a): 25.86 (ft)
Initial Depth to Water (b): 11.29 (ft)
Pump In-take Depth = b + (a-b)/2: 18.58 (ft)
Maximum Allowable Drawdown = (a-b)/8: 1.82 (ft)
Low-Flow Purge Rate: ___ (gpm)*
Comments: 14.57 13.11

**Low-flow purge rate should be within range of instruments used but should not exceed 0.25 gpm. Drawdown should not exceed Maximum Allowable Drawdown.*

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	ORP	NOTES Odor, color, sheen, turbidity, or other
1411	0.0	20.2	8.16	874	0.51	86	
1414	0.5	20.2	7.91	873	0.33	70	
1417	1.0	20.2	7.78	876	0.33	67	
1420	1.5	20.2	7.72	877	0.34	62	
							Slight odor (gas)
Previous Stabilized Parameters							

PURGE COMPLETION RECORD

X Low Flow & Parameters Stable ___ 3 Casing Volumes & Parameters Stable ___ 5 Casing Volumes
___ Other:

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: ___ (ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:
Sample ID: ADE-2 Sample Collection Time: 1423 (24:00)
Containers (#): 6 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: ___ Other:
___ Other: ___ Other:

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1420	0.34
Ferrous Iron (mg/L)		
Redox Potential (mV)	1420	62
Alkalinity (mg/L)	↯	
Other:		
Other:		

Signature: Jam Ra

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP-2169 **Req Due Date (mm/dd/yy):** STD-TAT **Rush TAT:** Yes ___ No ___

BP/ARC Facility No: 2169 **Lab Work Order Number:**

Lab Name:	Cal Science	BP/ARC Facility Address:	889 W. Grand Ave	Consultant/Contractor:	Broadbent
Lab Address:	7440 Lincoln Way	City, State, ZIP Code:	Oakland, CA 94607	Consultant/Contractor Project No:	06-88-621
Lab PM:	Richard Villafania	Lead Regulatory Agency:	ACEH	Address:	1324 Mangrove Ave., Suite 212, Chico CA 95926
Lab Phone:	714-895-5494 / 714-894-7501 (fax)	California Global ID No.:	T0600100112	Consultant/Contractor PM:	Tom Venus
Lab Shipping Accnt:	9255	Enfos Proposal No:	0060C-0002/WR245683	Phone:	530-566-1400 / 530-566-1401 (fax)
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	tvenus@broadbentinc.com
Other Info:		Stage:	Execute (4) Activity: Project Spend (80)	Invoice To:	BP/ARC x Contractor ___
BP/ARC EBM:	Shannon Couch				
EBM Phone:	925-275-3804				
EBM Email:	shannon.couch@bp.com				

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol		Requested Analyses: GRO (8015)	BTEX (8260)	5-Oxys (8260)	1,2-DCA (8260)	EDB (8260)	Ethanol (8260)					Report Type & QC Level
	A-1	2/22/12	1120		x			6				x			x	x	x	x	x	x					
	A-2		1311		x			6				x			x	x	x	x	x	x					
	A-5		1037		x			6				x			x	x	x	x	x	x					
	A-6		1005		x			6				x			x	x	x	x	x	x					
	AR-2		1355		x			6				x			x	x	x	x	x	x					
	ADR-1		1155		x			6				x			x	x	x	x	x	x					
	ADR-2	↓	1423		x			6				x			x	x	x	x	x	x					
	TB-2169-02222012	2/22/12	—		x			1				x													ON HOLD

Standard X

Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name:	Alex Martinez	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Broadbent	Alex Martinez Broadbent	2/23/12	1000			
Shipment Method:	GSO	Ship Date: 2/23/12					
Shipment Tracking No:	106840426						

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

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

NO. 689941

NON-HAZARDOUS WASTE DATA FORM

BESI #

GENERATOR

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-2169
889 W. Grand Ave
Oakland, CA 94607

Generator's Phone: 949-460-5200

Container type removed from site:

☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck

☐ Other _____

Quantity 3

Container type transported to receiving facility:

☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck

☐ Other _____

Quantity _____ Volume 3 gallons

WASTE DESCRIPTION NON-HAZARDOUS WATER

GENERATING PROCESS WELL PURGING / DECON WATER

COMPONENTS OF WASTE	PPM	%
1. WATER		99-100%
2. TPH		<1%

COMPONENTS OF WASTE	PPM	%
3.		
4.		

Waste Profile _____ PROPERTIES: pH 7-10 ☐ SOLID ☒ LIQUID ☐ SLUDGE ☐ SLURRY ☐ OTHER _____

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.
well purging/decon water

Generator Printed/Typed Name: Alex Martinez | Signature: Alex Martinez | Month 02 Day 23 Year 12

The Generator certifies that the waste as described is 100% non-hazardous

TRANSPORTER

Transporter 1 Company Name: BROADBENT & ASSOCIATES, INC> | Phone#: 530-566-1400

Transporter 1 Printed/Typed Name: Alex Martinez | Signature: Alex Martinez | Month 02 Day 23 Year 12

Transporter Acknowledgment of Receipt of Materials

Transporter 2 Company Name: | Phone#:

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

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address

INSTRAT, INC.
1105 AIRPORT RD.
RIO VISTA, CA 94571

Phone#: 530-753-1829

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

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

APPENDIX C

LABORATORY REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 12-02-1471

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Broadbent & Associates, Inc.

Client Project Name: BP 2169

Attention: Tom Venus
1324 Mangrove Ave, Ste 212
Chico, CA 95926-2642

Approved for release on 03/8/2012 by:
Richard Villafania
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, 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. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 2169

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-1	**12-02-1471-1-E**	**02/22/12 11:20**	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12 22:06**	**120301B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	4700	250	5		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	99	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-2	**12-02-1471-2-E**	**02/22/12 13:11**	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12 22:41**	**120301B01**

Comment(s): -LW Quantitated against Gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	190	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	84	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-5	**12-02-1471-3-E**	**02/22/12 10:37**	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12 23:16**	**120301B01**

Comment(s): -LW Quantitated against Gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	93	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	87	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-6	**12-02-1471-4-E**	**02/22/12 10:05**	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12 23:51**	**120301B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	86	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 2169

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
AR-2	**12-02-1471-5-E**	**02/22/12 13:55**	**Aqueous**	**GC 42**	**03/01/12**	**03/02/12 00:26**	**120301B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	83	38-134	

ADR-1	**12-02-1471-6-E**	**02/22/12 11:55**	**Aqueous**	**GC 42**	**03/01/12**	**03/02/12 01:01**	**120301B01**

Comment(s): -LW Quantitated against Gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	90	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	86	38-134	

ADR-2	**12-02-1471-7-E**	**02/22/12 14:23**	**Aqueous**	**GC 42**	**03/01/12**	**03/02/12 01:36**	**120301B01**

Comment(s): -LW Quantitated against Gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	310	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	88	38-134	

Method Blank	**099-12-695-1,282**	**N/A**	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12 12:41**	**120301B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	83	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-1	**12-02-1471-1-A**	**02/22/12 11:20**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 16:26**	**120301L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	350	5.0	10		Methyl-t-Butyl Ether (MTBE)	7.6	5.0	10	
1,2-Dibromoethane	ND	5.0	10		Tert-Butyl Alcohol (TBA)	ND	100	10	
1,2-Dichloroethane	ND	5.0	10		Diisopropyl Ether (DIPE)	ND	5.0	10	
Ethylbenzene	200	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Toluene	65	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	
Xylenes (total)	140	5.0	10		Ethanol	ND	3000	10	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	68-120			Dibromofluoromethane	94	80-127		
1,2-Dichloroethane-d4	97	80-128			Toluene-d8	97	80-120		

A-2	**12-02-1471-2-B**	**02/22/12 13:11**	**Aqueous**	**GC/MS L**	**03/02/12**	**03/02/12 21:44**	**120302L01**

Comment(s): -BH Reporting limits raised due to high level of non-target analytes.
-BZ Sample preserved improperly.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	2.0	4		Methyl-t-Butyl Ether (MTBE)	ND	2.0	4	
1,2-Dibromoethane	ND	2.0	4		Tert-Butyl Alcohol (TBA)	ND	40	4	
1,2-Dichloroethane	ND	2.0	4		Diisopropyl Ether (DIPE)	ND	2.0	4	
Ethylbenzene	ND	2.0	4		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	4	
Toluene	ND	2.0	4		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	4	
Xylenes (total)	ND	2.0	4		Ethanol	ND	1200	4	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	91	68-120			Dibromofluoromethane	98	80-127		
1,2-Dichloroethane-d4	101	80-128			Toluene-d8	89	80-120		

A-5	**12-02-1471-3-B**	**02/22/12 10:37**	**Aqueous**	**GC/MS L**	**03/02/12**	**03/02/12 13:02**	**120302L01**

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	1.0	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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	95	68-120			Dibromofluoromethane	106	80-127		
1,2-Dichloroethane-d4	95	80-128			Toluene-d8	101	80-120		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-6	**12-02-1471-4-A**	**02/22/12 10:05**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 13:14**	**120301L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	2.3	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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	93	68-120			Dibromofluoromethane	94	80-127		
1,2-Dichloroethane-d4	93	80-128			Toluene-d8	91	80-120		

AR-2	**12-02-1471-5-A**	**02/22/12 13:55**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 13:41**	**120301L01**

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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	89	68-120			Dibromofluoromethane	96	80-127		
1,2-Dichloroethane-d4	97	80-128			Toluene-d8	101	80-120		

ADR-1	**12-02-1471-6-A**	**02/22/12 11:55**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 17:48**	**120301L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.99	0.50	1		Methyl-t-Butyl Ether (MTBE)	1.1	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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	93	68-120			Dibromofluoromethane	98	80-127		
1,2-Dichloroethane-d4	98	80-128			Toluene-d8	92	80-120		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ADR-2	**12-02-1471-7-A**	**02/22/12 14:23**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 14:36**	**120301L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	4.8	0.50	1		Methyl-t-Butyl Ether (MTBE)	11	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	1.4	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	1.7	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	68-120			Dibromofluoromethane	105	80-127		
1,2-Dichloroethane-d4	100	80-128			Toluene-d8	89	80-120		

Method Blank	**099-12-703-2,052**	**N/A**	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12 12:22**	**120301L01**

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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	90	68-120			Dibromofluoromethane	95	80-127		
1,2-Dichloroethane-d4	97	80-128			Toluene-d8	92	80-120		

Method Blank	**099-12-703-2,055**	**N/A**	**Aqueous**	**GC/MS L**	**03/02/12**	**03/02/12 12:34**	**120302L01**

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	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	92	68-120			Dibromofluoromethane	94	80-127		
1,2-Dichloroethane-d4	98	80-128			Toluene-d8	90	80-120		

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-02-1473-1	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12**	**120301S01**

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	2000	76	92	38-134	19	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
A-6	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12**	**120301S01**

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	10.00	107	105	76-124	2	0-20	
Carbon Tetrachloride	10.00	111	107	74-134	3	0-20	
Chlorobenzene	10.00	101	105	80-120	4	0-20	
1,2-Dibromoethane	10.00	102	110	80-120	8	0-20	
1,2-Dichlorobenzene	10.00	102	102	80-120	1	0-20	
1,2-Dichloroethane	10.00	123	111	80-120	10	0-20	LM.AY
Ethylbenzene	10.00	102	103	78-126	1	0-20	
Toluene	10.00	100	103	80-120	3	0-20	
Trichloroethene	10.00	100	104	77-120	4	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	124	103	67-121	16	0-49	LM.AY
Tert-Butyl Alcohol (TBA)	50.00	160	301	36-162	61	0-30	LM,BA,AY
Diisopropyl Ether (DIPE)	10.00	114	105	60-138	8	0-45	
Ethyl-t-Butyl Ether (ETBE)	10.00	102	97	69-123	5	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	108	105	65-120	3	0-20	
Ethanol	100.0	93	112	30-180	19	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 02/24/12
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
A-5	**Aqueous**	**GC/MS L**	**03/02/12**	**03/02/12**	**120302S01**

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	10.00	106	112	76-124	5	0-20	
Carbon Tetrachloride	10.00	104	111	74-134	6	0-20	
Chlorobenzene	10.00	103	107	80-120	4	0-20	
1,2-Dibromoethane	10.00	103	106	80-120	2	0-20	
1,2-Dichlorobenzene	10.00	97	106	80-120	8	0-20	
1,2-Dichloroethane	10.00	105	107	80-120	2	0-20	
Ethylbenzene	10.00	100	111	78-126	9	0-20	
Toluene	10.00	97	101	80-120	4	0-20	
Trichloroethene	10.00	102	102	77-120	0	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	93	103	67-121	9	0-49	
Tert-Butyl Alcohol (TBA)	50.00	145	124	36-162	16	0-30	
Diisopropyl Ether (DIPE)	10.00	95	102	60-138	7	0-45	
Ethyl-t-Butyl Ether (ETBE)	10.00	89	96	69-123	8	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	98	101	65-120	3	0-20	
Ethanol	100.0	121	112	30-180	7	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Broadbent & Associates, Inc.	Date Received:	N/A
1324 Mangrove Ave, Ste 212	Work Order No:	12-02-1471
Chico, CA 95926-2642	Preparation:	EPA 5030C
	Method:	EPA 8015B (M)

Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-1,282	**Aqueous**	**GC 42**	**03/01/12**	**03/01/12**	**120301B01**

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	2000	78	95	78-120	20	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: N/A
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B

Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-2,052	**Aqueous**	**GC/MS L**	**03/01/12**	**03/01/12**	**120301L01**

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	10.00	93	102	80-120	73-127	9	0-20	
Carbon Tetrachloride	10.00	101	109	74-134	64-144	7	0-20	
Chlorobenzene	10.00	88	94	80-120	73-127	6	0-20	
1,2-Dibromoethane	10.00	95	100	79-121	72-128	5	0-20	
1,2-Dichlorobenzene	10.00	87	90	80-120	73-127	4	0-20	
1,2-Dichloroethane	10.00	107	107	80-120	73-127	0	0-20	
Ethylbenzene	10.00	95	99	80-120	73-127	4	0-20	
Toluene	10.00	98	109	80-120	73-127	10	0-20	
Trichloroethene	10.00	96	101	79-127	71-135	4	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	123	113	69-123	60-132	8	0-20	
Tert-Butyl Alcohol (TBA)	50.00	94	111	63-123	53-133	16	0-20	
Diisopropyl Ether (DIPE)	10.00	117	113	59-137	46-150	4	0-37	
Ethyl-t-Butyl Ether (ETBE)	10.00	113	100	69-123	60-132	13	0-20	
Tert-Amyl-Methyl Ether (TAME)	10.00	95	97	70-120	62-128	1	0-20	
Ethanol	100.0	99	107	28-160	6-182	8	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

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 12-02-1471
Preparation: EPA 5030C
Method: EPA 8260B

Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-2,055	**Aqueous**	**GC/MS L**	**03/02/12**	**03/02/12**	**120302L01**

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	10.00	101	102	80-120	73-127	1	0-20	
Carbon Tetrachloride	10.00	99	100	74-134	64-144	2	0-20	
Chlorobenzene	10.00	102	99	80-120	73-127	3	0-20	
1,2-Dibromoethane	10.00	105	107	79-121	72-128	1	0-20	
1,2-Dichlorobenzene	10.00	97	96	80-120	73-127	1	0-20	
1,2-Dichloroethane	10.00	106	106	80-120	73-127	0	0-20	
Ethylbenzene	10.00	97	97	80-120	73-127	1	0-20	
Toluene	10.00	93	94	80-120	73-127	1	0-20	
Trichloroethene	10.00	99	98	79-127	71-135	1	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	95	100	69-123	60-132	6	0-20	
Tert-Butyl Alcohol (TBA)	50.00	99	95	63-123	53-133	5	0-20	
Diisopropyl Ether (DIPE)	10.00	100	101	59-137	46-150	1	0-37	
Ethyl-t-Butyl Ether (ETBE)	10.00	93	97	69-123	60-132	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	10.00	99	99	70-120	62-128	1	0-20	
Ethanol	100.0	100	118	28-160	6-182	16	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

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Number: 12-02-1471

Qualifier	Definition
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.
ET	Sample was extracted past end of recommended maximum 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 abovelimit; 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.
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/LCSD Recovery Percentage is within Marginal Exceedance (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.

Qualifier	Definition
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	MPN - Most Probable Number

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP-2169 **Req Due Date (mm/dd/yy):** STD-TAT **Rush TAT:** Yes ___ No X

BP/ARC Facility No: 2169 **Lab Work Order Number:** 12-02-1471

Lab Name:	Cal Science	BP/ARC Facility Address:	889 W. Grand Ave	Consultant/Contractor:	Broadbent
Lab Address:	7440 Lincoln Way	City, State, ZIP Code:	Oakland, CA 94607	Consultant/Contractor Project No:	06-88-621
Lab PM:	Richard Villafania	Lead Regulatory Agency:	ACEH	Address:	1324 Mangrove Ave., Suite 212, Chico CA 95926
Lab Phone:	714-895-5494 / 714-894-7501 (fax)	California Global ID No.:	T0600100112	Consultant/Contractor PM:	Tom Venus
Lab Shipping Accnt:	9255	Enfos Proposal No:	0060C-0002/WR245683	Phone:	530-566-1400 / 530-566-1401 (fax)
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	tvenus@broadbentinc.com
Other Info:		Stage:	Execute (4) Activity: Project Spend (80)	Invoice To:	BP/ARC x Contractor ___

BP/ARC EBM: Shannon Couch
EBM Phone: 925-275-3804
EBM Email: shannon.couch@bp.com

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	Requested Analyses: GRO (8015)	BTEX (8260)	5-Oxys (8260)	1,2-DCA (8260)	EDB (8260)	Ethanol (8260)					Report Type & QC Level / Comments
1	A-1	2/22/12	1120		x			6				x		x	x	x	x	x	x					
2	A-2		1311		x			6				x		x	x	x	x	x	x					
3	A-5		1037		x			6				x		x	x	x	x	x	x					
4	A-6		1005		x			6				x		x	x	x	x	x	x					
5	AR-2		1355		x			6				x		x	x	x	x	x	x					
6	ADR-1		1155		x			6				x		x	x	x	x	x	x					
7	ADR-2	↓	1423		x			6				x		x	x	x	x	x	x					
8	TB-2169-02222012	2/22/12	—		x			1				x												ON HOLD

Standard X
Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

		Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name:	Alex Martinez						
Sampler's Company:	Broadbent	Alex ~~Martinez~~ Broadbent	2/23/12	1000	Preey L. Ga	2/24/12	10:00
Shipment Method:	GSO Ship Date: 2/23/12						
Shipment Tracking No:	106840426						

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

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

ORDER #
9284

SHIPPERS GSO ACCOUNT NO.

roadbent

75 Cotting Lane

STE/ ROOM 6

aville CA ZIP CODE 95688

x Martinez PHONE NUMBER 707-455-7290

NCE

PHONE NUMBER 714) 895-5494

OLN WAY

STE/ ROOM

GROVE ZIP CODE 92841

LING PPEAR

GSO
GOLDEN STATE OVERNIGHT

1-800-322-5555

WWW.GSO.COM

SHIPPING AIR BILL

SHIPPERS COPY

4 PACKAGE INFORMATION

☐ LETTER (MAX 8 OZ)

☐ PACKAGE (WT) _____

☐ DECLARED VALUE $_____

☐ COD AMOUNT $_____ (CASH NOT ACCEPTED)

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 CREDIT CARD ☐ M/C ☐ VISA ☐ AM.EX CREDIT CARD NUMBER EXP. DATE

8 PICK UP INFORMATION Rmt 4469632 TIME DRIVER # ROUTE #

ON PLY 3 LIFT TAB AND REMOVE FOR YOUR RECORD

106840426

9 GSO TRACKING NUMBER

Order from BAY CITIES PRINTING & Graphics (650) 872-1477

1471

5

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-02-1571

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: BROADBENT DATE: 02/24/12

TEMPERATURE: Thermometer ID: SC3 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 1.4 °C - 0.3 °C (CF) = 1.1 °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 Initial: RS

CUSTODY SEALS INTACT:

☑ Cooler	☐_____	☐ No (Not Intact)	☐ Not Present	☐ N/A	Initial: RS
☐ Sample	☐_____	☐ No (Not Intact)	☑ Not Present		Initial: PT

SAMPLE CONDITION:	Yes	No	N/A
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.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
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 / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☑VOA**h** (6) ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:** 120126A **Labeled/Checked by:** PT

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

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** _____

APPENDIX D

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!

Submittal Type:	**GEO_WELL**
Submittal Title:	**1Q12 GEO_WELL 2169**
Facility Global ID:	**T0600100112**
Facility Name:	**ARCO #02169**
File Name:	**GEO_WELL.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**3/22/2012 4:39:26 PM**
Confirmation Number:	**9086868226**

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!

Submittal Type:	**EDF - Monitoring Report - Semi-Annually**
Submittal Title:	**1Q12 GW Monitoring**
Facility Global ID:	**T0600100112**
Facility Name:	**ARCO #02169**
File Name:	**12021471.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**3/22/2012 4:37:23 PM**
Confirmation Number:	**6925445497**

VIEW QC REPORT

VIEW DETECTIONS REPORT