

Atlantic Richfield Company

Chuck Carmel
Environmental Business Manager

RECEIVED

9:48 am, Nov 02, 2009

Alameda County
Environmental Health

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

October 26, 2009

Re: Third Quarter 2009 Semi-Annual Ground-Water Monitoring Report
Atlantic Richfield Company Service Station #2169
889 W. Grand Avenue, Oakland, California
ACEH Case #RO000072

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

Submitted by,



Chuck Carmel
Environmental Business Manager

Attachment

**Third Quarter 2009 Semi-Annual
Ground-Water Monitoring Report**
Atlantic Richfield Company Station #2169
889 W. Grand Avenue
Oakland, California

Prepared for

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

Prepared by



1324 Mangrove Avenue, Suite 212
Chico, California 95926
(530) 566-1400
www.broadbentinc.com

October 26, 2009

Project No. 06-88-621

October 26, 2009

Project No. 06-88-621

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

Attn.: Mr. Chuck Carmel

Re: Third Quarter 2009 Semi-Annual Ground-Water Monitoring Report, Atlantic Richfield Company (a BP affiliated company) Station #2169, 889 West Grand Avenue, Oakland, Alameda County, California; ACEH Case #RO000072

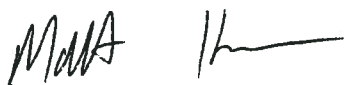
Dear Mr. Carmel:

Provided herein is the *Third Quarter 2009 Semi-Annual Ground-Water Monitoring Report* for Atlantic Richfield Company Station #2169 located at 889 West Grand Avenue, Oakland, Alameda County, California (Site). This report presents results of ground-water monitoring conducted at the Site during Third Quarter 2009.

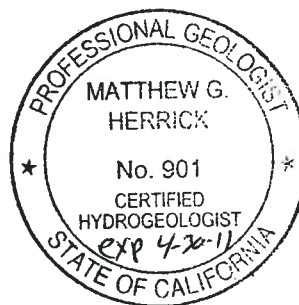
Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.



Matthew G. Herrick, P.G., C.HG.
Senior Hydrogeologist



Enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)
Electronic copy uploaded to GeoTracker

STATION #2169 SEMI-ANNUAL GROUND-WATER MONITORING REPORT

Facility: #2169	Address:	889 West Grand Avenue, Oakland
Environmental Business Manager:		Mr. Chuck Carmel
Consulting Co./Contact Persons:		Broadbent & Associates, Inc.(BAI)/Rob Miller & Matt Herrick (530) 566-1400
Consultant Project No.:		06-88-621
Primary Agency/Regulatory ID No.:		Alameda County Environmental Health (ACEH) ACEH Case #RO000072
Facility Permits/Permitting Agency:		NA

WORK PERFORMED THIS QUARTER (Third Quarter 2009):

1. Submitted *Second Quarter 2009 Status Report*. Work performed by BAI.
2. Conducted ground-water monitoring/sampling for Third Quarter 2009. Work performed on September 4, 2009 by Stratus Environmental, Inc (Stratus).
3. Attempted to acquire off-site property access in order to complete soil and ground-water investigation as proposed in the *Preferential Pathway Evaluation and Soil and Ground-Water Investigation Work Plan* submitted on April 6, 2009 and approved by ACEH in their letter dated May 1, 2009.

WORK PROPOSED FOR NEXT QUARTER (Fourth Quarter 2009):

1. Prepared and submitted Third Quarter 2009 Semi-Annual Ground-Water Monitoring Report (contained herein).
2. Continue attempts to obtain off-site property access to begin implementation of the soil and water investigation.

QUARTERLY RESULTS SUMMARY:

Current phase of project:	Ground-water monitoring/sampling
Frequency of ground-water monitoring:	Semi-Annually (1Q & 3Q): A-1 through A-6, AR-1, AR-2, ADR-1, ADR-2
Frequency of ground-water sampling:	Semi-Annually (1Q & 3Q): Wells A-1, A-5, A-6, ADR-1 Annually (3Q): Wells A-2, AR-1, AR-2, ADR-2
Is free product (FP) present on-site:	No
FP recovered this quarter:	None
Cumulative FP recovered:	4.8 gallons: Wells ADR-1 and ADR-2
Current remediation techniques:	Soil Vapor Extraction System shut down in Dec. 2001
Depth to ground water (below TOC):	10.42 ft (A-5) to 12.57 ft (A-3)
General ground-water flow direction:	Northwest
Approximate hydraulic gradient:	0.002 ft/ft

DISCUSSION:

The semi-annual round of ground-water monitoring and sampling was conducted at Station #2169 on September 4, 2009 by Stratus. Water levels were gauged in each of the ten wells at the Site. No irregularities were noted during water level gauging. Depth to water measurements ranged from 10.42 ft at well A-5 to 12.57 ft at well A-3. Resulting ground-water surface elevations ranged from 6.55 ft above mean sea level in up-gradient well AR-2 to 5.41 ft at down-gradient well A-2. Water level elevations were between historic minimum and maximum ranges for each well gauged, as summarized in Table 1.

Water level elevations yielded a potentiometric ground-water flow direction and gradient to the northwest at approximately 0.002 ft/ft, consistent with historical data (see Table 3). Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. A Site Location Map is provided as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

Ground-water samples were collected from wells A-1, A-2, A-5, A-6, AR-1, AR-2, ADR-1 and ADR-2, consistent with the sampling schedule. 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, C6-12) by EPA Method 8015B; for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8260B; and tert-Amyl methyl ether (TAME), tert-Butyl alcohol (TBA), Di-isopropyl ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Ethanol, Ethyl tert-butyl ether (ETBE), and Methyl tert-butyl ether (MTBE) by EPA Method 8260B. No significant irregularities were encountered during laboratory analysis of the samples. Ground-water sampling field data sheets and the laboratory analytical report, including chain of custody documentation, are provided in Appendix A.

Gasoline range organics (GRO) were detected above the laboratory reporting limits in four of the eight wells sampled at concentrations up to 990 micrograms per liter ($\mu\text{g/L}$) in well A-1. Benzene was detected above the laboratory reporting limit in two of the eight wells sampled at concentrations of 19 $\mu\text{g/L}$ in well A-1 and 0.66 $\mu\text{g/L}$ in well ADR-2. Toluene was detected above the laboratory reporting limits in two of the eight wells sampled at concentrations of 2.2 $\mu\text{g/L}$ in well A-1 and 0.65 $\mu\text{g/L}$ in well ADR-1. Ethylbenzene and Total Xylenes were detected above the laboratory reporting limits in well A-1 at concentrations of 0.8 $\mu\text{g/L}$ and 1.5 $\mu\text{g/L}$, respectively. MTBE was detected above the laboratory reporting limit in three of the eight wells sampled at concentrations up to 7.4 $\mu\text{g/L}$ in well A-1. The remaining fuel additives and oxygenates were not detected above their laboratory reporting limits in the eight wells sampled this quarter.

Detected analyte concentrations were within the historic minimum and maximum ranges recorded for each well (dating back to June 2000) with the following exceptions: benzene (0.66 $\mu\text{g/L}$) and MTBE (1.9 $\mu\text{g/L}$) each reached historic minimum concentrations in well ADR-2. Historic laboratory analytical results are summarized in Table 1 and Table 2. A copy of the laboratory analytical report, including chain-of-custody documentation is provided in Appendix A. Ground-water monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation pages are provided in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS:

The Preferential Pathway Evaluation and Soil and Ground-Water Investigation Work Plan submitted on April 6, 2009 was approved by ACEH in their letter dated May 1, 2009. Off-site property access required for the implementation of the work plan has been initiated. However, the two off-site property owners have so far been unresponsive to phone calls and letters sent via mail. An email was sent to Mr. Paresh Khatri of ACEH on July 21, 2009 requesting a deadline extension for the submittal of a soil and ground-water investigation report from July 30, 2009 to 90 days following receipt of signed property access agreements. The ACEH approved this request in their July 30, 2009 email. After numerous unsuccessful attempts to contact the off-site property owners, the assistance of ACEH is requested to help acquire off-site property access.

CLOSURE:

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

ATTACHMENTS:

- Drawing 1. Site Location Map, ARCO Service Station #2169, 889 West Grand Avenue, Oakland, California
- Drawing 2. Ground-Water Elevation Contours and Analytical Summary Map, September 4, 2009, Station #2169, 889 W. Grand Ave., Oakland, California
- Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #2169, 889 W. Grand Ave., Oakland, California
- Table 2. Summary of Fuel Additives Analytical Data, Station #2169, 889 W. Grand Ave., Oakland, California
- Table 3. Historical Ground-Water Flow Direction and Gradient, Station #2169, 889 W. Grand Ave., Oakland, California
- Appendix A. Stratus Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Report, Chain of Custody Documentation, and Field Procedures)
- Appendix B. GeoTracker Upload Confirmations

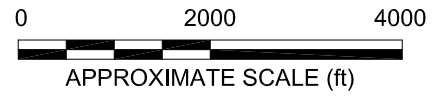
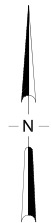
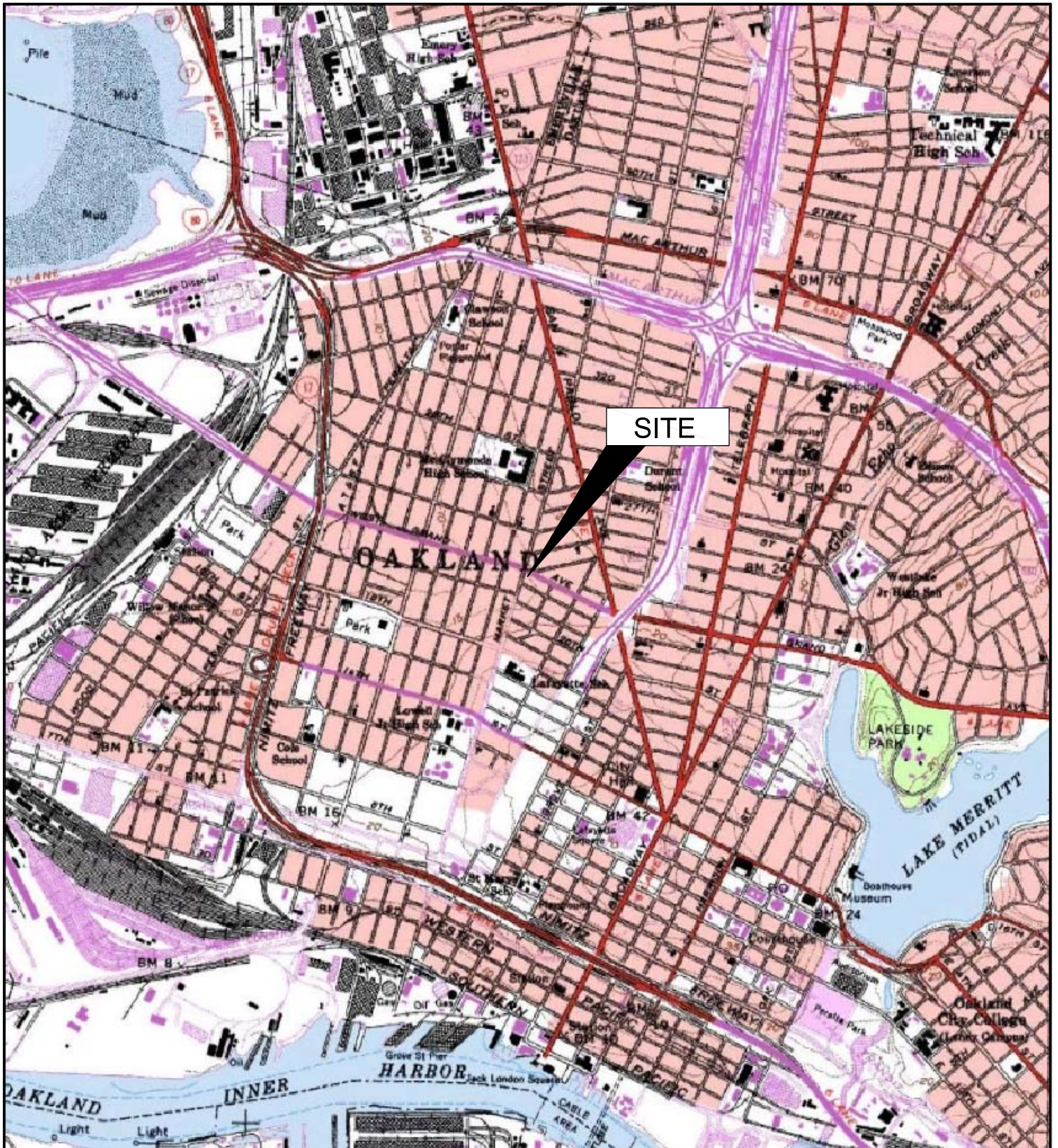
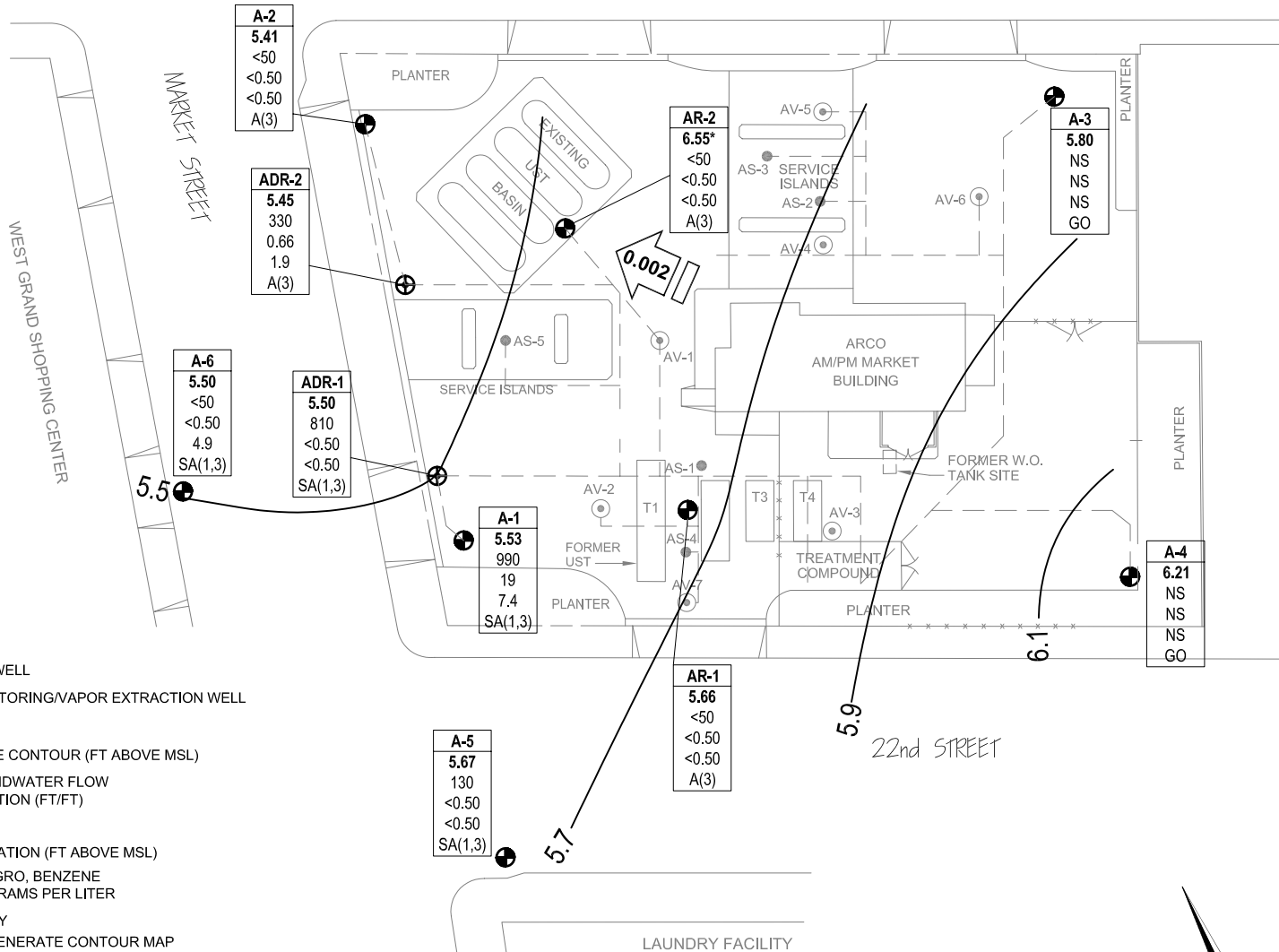


IMAGE SOURCE: USGS

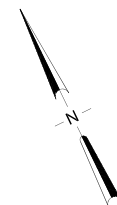
WEST GRAND AVENUE



LEGEND

- MONITORING WELL
 - VAPOR EXTRACTION WELL
 - GROUNDWATER MONITORING/VAPOR EXTRACTION WELL
 - AIR SPARGING WELL
 - 5.5 GROUNDWATER TABLE CONTOUR (FT ABOVE MSL)
 - APPROXIMATE GROUNDWATER FLOW GRADIENT AND DIRECTION (FT/FT)
- | Well | WELL DESIGNATION |
|---------|--|
| ELEV | GROUNDWATER ELEVATION (FT ABOVE MSL) |
| GRO | CONCENTRATION OF GRO, BENZENE AND MTBE IN MICROGRAMS PER LITER |
| Benzene | |
| MTBE | |
| A/Q | SAMPLING FREQUENCY |
- * WELL NOT USED TO GENERATE CONTOUR MAP
 - < NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
 - NS NOT SAMPLED
 - A(3) SAMPLED ANNUALLY, 3RD QUARTER
 - SA SAMPLED SEMI-ANNUALLY, 1ST & 3RD QUARTERS
 - GO GAUGE ONLY
 - — REMEDIATION PIPING

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California 95926
Project No.: 06-88-621 Date: 10/13/09

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

Ground-Water Elevation Contour
and Analytical Summary Map
4 September 2009

Drawing

2

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								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	--		14.16	9.00	25.00	11.01	3.15	3,900	1,100	28	12	46	25	--	--
9/19/2000	--		14.16	9.00	25.00	11.26	2.90	4,800	2,400	27	20	57	32	--	--
12/26/2000	--		14.16	9.00	25.00	10.96	3.20	429	104	2.85	12.2	9.91	18.7	--	--
3/20/2001	--		14.16	9.00	25.00	9.59	4.57	<500	13.9	7.12	13.9	23.2	<25	--	--
6/12/2001	--		14.16	9.00	25.00	10.83	3.33	140	2.2	<0.5	8.7	9.2	25	--	--
9/23/2001	--		14.16	9.00	25.00	11.43	2.73	<50	<0.50	<0.50	<0.50	<0.50	4.5	--	--
12/28/2001	--		14.16	9.00	25.00	8.66	5.50	930	250	7.6	21	13	<25	--	--
3/21/2002	--		14.16	9.00	25.00	8.43	5.73	<50	<0.5	<0.5	<0.5	1.2	<2.5	--	--
4/17/2002	--		14.16	9.00	25.00	9.36	4.80	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/14/2002	--	b	14.16	9.00	25.00	11.12	3.04	170	8.4	<0.5	<0.5	1.4	4.9	5.7	7.4
11/27/2002	--	b	14.16	9.00	25.00	11.11	3.05	98	2.9	0.75	<0.5	<0.5	6.4	1.6	7.0
2/12/2003	--	d	14.16	9.00	25.00	10.10	4.06	73	9.3	<0.50	1	0.53	2.9	2.1	7.2
5/22/2003	--		14.16	9.00	25.00	10.18	3.98	400	88	1.6	4.6	11	4.9	1.3	7.4
7/23/2003	--		14.16	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	f	14.16	9.00	25.00	11.35	2.81	<50	0.64	<0.50	<0.50	<0.50	4.2	4.3	7.75
02/16/2004	P	f, i	16.75	9.00	25.00	9.65	7.10	99	18	<0.50	1.2	0.96	3.2	7.2	7.6
05/06/2004	P		16.75	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		16.75	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		16.75	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		16.75	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		16.75	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		16.75	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	o	16.75	9.00	25.00	9.04	7.71	170	60	1.5	3.5	5.1	5.6	1.69	7.1
8/11/2006	P		16.75	9.00	25.00	10.44	6.31	200	18	<0.50	0.73	0.60	3.7	--	7.2
2/7/2007	NP		16.75	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		16.75	9.00	25.00	10.43	6.32	3,500	350	21	110	68	1.8	1.32	7.46
2/22/2008	P		16.75	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		16.75	9.00	25.00	10.30	6.45	7,400	420	28	190	170	<2.5	0.54	9.38
1/8/2009	NP		16.75	9.00	25.00	10.07	6.68	14,000	400	130	530	790	<10	0.49	7.26
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

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-1															
A-2															
6/26/2000	--		14.55	10.00	25.00	11.27	3.28	--	--	--	--	--	--	--	--
7/20/2000	--		14.55	10.00	25.00	11.52	3.03	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
9/19/2000	--		14.55	10.00	25.00	11.63	2.92	--	--	--	--	--	--	--	--
12/26/2000	--		14.55	10.00	25.00	11.44	3.11	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		14.55	10.00	25.00	10.08	4.47	--	--	--	--	--	--	--	--
6/12/2001	--		14.55	10.00	25.00	11.35	3.20	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
9/23/2001	--		14.55	10.00	25.00	11.92	2.63	--	--	--	--	--	--	--	--
12/28/2001	--		14.55	10.00	25.00	9.31	5.24	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		14.55	10.00	25.00	9.05	5.50	--	--	--	--	--	--	--	--
4/17/2002	--		14.55	10.00	25.00	9.88	4.67	52	<0.5	<0.5	<0.5	<0.5	26	--	--
8/14/2002	--	c	14.55	10.00	25.00	11.62	2.93	<50	<0.5	<0.5	<0.5	1.2	<2.5	3.7	7.2
11/27/2002	--		14.55	10.00	25.00	11.56	2.99	--	--	--	--	--	--	--	--
2/12/2003	--	d	14.55	10.00	25.00	10.75	3.80	<50	<0.50	<0.50	<0.50	<0.50	12	2.9	7.1
5/22/2003	--		14.55	10.00	25.00	10.72	3.83	--	--	--	--	--	--	--	--
7/23/2003	--		14.55	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	--		14.55	10.00	25.00	11.60	2.95	--	--	--	--	--	--	--	--
02/16/2004	--	i	17.18	10.00	25.00	10.27	6.91	--	--	--	--	--	--	--	--
05/06/2004	--		17.18	10.00	25.00	11.05	6.13	--	--	--	--	--	--	--	--
09/02/2004	P		17.18	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	--		17.18	10.00	25.00	11.12	6.06	--	--	--	--	--	--	--	--
02/02/2005	--		17.18	10.00	25.00	9.73	7.45	--	--	--	--	--	--	--	--
05/09/2005	--		17.18	10.00	25.00	12.82	4.36	--	--	--	--	--	--	--	--
08/11/2005	P	m	17.18	10.00	25.00	11.29	5.89	120	<0.50	<0.50	<0.50	<0.50	1.2	1.6	7.1
02/09/2006	--		17.18	10.00	25.00	10.43	6.75	--	--	--	--	--	--	--	--
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	--		17.18	10.00	25.00	11.07	6.11	--	--	--	--	--	--	--	--
8/14/2007	NP		17.18	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	--		17.18	10.00	25.00	9.50	7.68	--	--	--	--	--	--	--	--
8/12/2008	NP		17.18	10.00	25.00	11.28	5.90	64	<0.50	<0.50	<0.50	<0.50	0.96	0.57	9.44

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-2 Cont.															
1/8/2009	--		17.18	10.00	25.00	10.90	6.28	--	--	--	--	--	--	--	--
9/4/2009	NP		17.18	10.00	25.00	11.77	5.41	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.43	7.39
A-3															
6/26/2000	--		15.75	9.00	29.50	11.98	3.77	--	--	--	--	--	--	--	--
7/20/2000	--		15.75	9.00	29.50	12.21	3.54	--	--	--	--	--	--	--	--
9/19/2000	--		15.75	9.00	29.50	12.50	3.25	--	--	--	--	--	--	--	--
12/26/2000	--		15.75	9.00	29.50	12.17	3.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		15.75	9.00	29.50	10.70	5.05	--	--	--	--	--	--	--	--
6/12/2001	--		15.75	9.00	29.50	12.09	3.66	--	--	--	--	--	--	--	--
9/23/2001	--		15.75	9.00	29.50	12.65	3.10	--	--	--	--	--	--	--	--
12/28/2001	--		15.75	9.00	29.50	9.94	5.81	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		15.75	9.00	29.50	9.69	6.06	--	--	--	--	--	--	--	--
4/17/2002	--		15.75	9.00	29.50	10.61	5.14	--	--	--	--	--	--	--	--
8/14/2002	--		15.75	9.00	29.50	12.27	3.48	--	--	--	--	--	--	--	--
11/27/2002	--		15.75	9.00	29.50	12.22	3.53	--	--	--	--	--	--	--	--
2/12/2003	--	d	15.75	9.00	29.50	11.40	4.35	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.9
5/22/2003	--		15.75	9.00	29.50	11.42	4.33	--	--	--	--	--	--	--	--
7/23/2003	--		15.75	9.00	29.50	12.00	3.75	--	--	--	--	--	--	--	--
02/16/2004	--	g, i	18.37	9.00	29.50	10.94	7.43	--	--	--	--	--	--	--	--
05/06/2004	--		18.37	9.00	29.50	11.75	6.62	--	--	--	--	--	--	--	--
09/02/2004	--		18.37	9.00	29.50	12.15	6.22	--	--	--	--	--	--	--	--
11/29/2004	--		18.37	9.00	29.50	11.87	6.50	--	--	--	--	--	--	--	--
02/02/2005	--		18.37	9.00	29.50	10.42	7.95	--	--	--	--	--	--	--	--
05/09/2005	--		18.37	9.00	29.50	10.49	7.88	--	--	--	--	--	--	--	--
08/11/2005	--		18.37	9.00	29.50	12.02	6.35	--	--	--	--	--	--	--	--
02/09/2006	--		18.37	9.00	29.50	11.27	7.10	--	--	--	--	--	--	--	--
8/11/2006	--		18.37	9.00	29.50	11.83	6.54	--	--	--	--	--	--	--	--
2/7/2007	--		18.37	9.00	29.50	11.82	6.55	--	--	--	--	--	--	--	--
8/14/2007	--		18.37	9.00	29.50	12.06	6.31	--	--	--	--	--	--	--	--
2/22/2008	--		18.37	9.00	29.50	10.25	8.12	--	--	--	--	--	--	--	--

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-3 Cont.															
8/12/2008	--		18.37	9.00	29.50	12.10	6.27	--	--	--	--	--	--	--	--
1/8/2009	--		18.37	9.00	29.50	11.71	6.66	--	--	--	--	--	--	--	--
9/4/2009	--		18.37	9.00	29.50	12.57	5.80	--	--	--	--	--	--	--	--
A-4															
6/26/2000	--		15.25	8.00	28.00	10.99	4.26	--	--	--	--	--	--	--	--
7/20/2000	--		15.25	8.00	28.00	11.16	4.09	--	--	--	--	--	--	--	--
9/19/2000	--		15.25	8.00	28.00	11.97	3.28	--	--	--	--	--	--	--	--
12/26/2000	--		15.25	8.00	28.00	11.19	4.06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		15.25	8.00	28.00	9.81	5.44	--	--	--	--	--	--	--	--
6/12/2001	--		15.25	8.00	28.00	11.12	4.13	--	--	--	--	--	--	--	--
9/23/2001	--		15.25	8.00	28.00	11.63	3.62	--	--	--	--	--	--	--	--
12/28/2001	--		15.25	8.00	28.00	8.41	6.84	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		15.25	8.00	28.00	8.63	6.62	--	--	--	--	--	--	--	--
4/17/2002	--		15.25	8.00	28.00	9.68	5.57	--	--	--	--	--	--	--	--
8/14/2002	--		15.25	8.00	28.00	11.31	3.94	--	--	--	--	--	--	--	--
11/27/2002	--		15.25	8.00	28.00	11.25	4.00	--	--	--	--	--	--	--	--
2/12/2003	--	d	15.25	8.00	28.00	10.37	4.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.9	7.1
5/22/2003	--		15.25	8.00	28.00	10.42	4.83	--	--	--	--	--	--	--	--
7/23/2003	--		15.25	8.00	28.00	11.02	4.23	--	--	--	--	--	--	--	--
02/16/2004	--	g, i	18.01	8.00	28.00	9.65	8.36	--	--	--	--	--	--	--	--
05/06/2004	--		18.01	8.00	28.00	10.68	7.33	--	--	--	--	--	--	--	--
09/02/2004	--		18.01	8.00	28.00	10.83	7.18	--	--	--	--	--	--	--	--
11/29/2004	--		18.01	8.00	28.00	10.50	7.51	--	--	--	--	--	--	--	--
02/02/2005	--		18.01	8.00	28.00	9.22	8.79	--	--	--	--	--	--	--	--
05/09/2005	--		18.01	8.00	28.00	8.98	9.03	--	--	--	--	--	--	--	--
08/11/2005	--		18.01	8.00	28.00	10.99	7.02	--	--	--	--	--	--	--	--
02/09/2006	--		18.01	8.00	28.00	10.15	7.86	--	--	--	--	--	--	--	--
8/11/2006	--		18.01	8.00	28.00	10.30	7.71	--	--	--	--	--	--	--	--
2/7/2007	--		18.01	8.00	28.00	10.63	7.38	--	--	--	--	--	--	--	--
8/14/2007	--		18.01	8.00	28.00	10.70	7.31	--	--	--	--	--	--	--	--

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-4 Cont.															
2/22/2008	--		18.01	8.00	28.00	8.90	9.11	--	--	--	--	--	--	--	--
8/12/2008	--		18.01	8.00	28.00	10.60	7.41	--	--	--	--	--	--	--	--
1/8/2009	--		18.01	8.00	28.00	10.90	7.11	--	--	--	--	--	--	--	--
9/4/2009	--		18.01	8.00	28.00	11.80	6.21	--	--	--	--	--	--	--	--
A-5															
6/26/2000	--		13.51	8.00	30.00	10.04	3.47	--	--	--	--	--	--	--	--
7/20/2000	--		13.51	8.00	30.00	10.31	3.20	730	140	11	<0.5	8.9	3	--	--
9/19/2000	--		13.51	8.00	30.00	10.55	2.96	160	13	<0.5	2.8	1.9	<3	--	--
12/26/2000	--		13.51	8.00	30.00	10.37	3.14	8,120	465	108	659	1,450	<250	--	--
3/20/2001	--		13.51	8.00	30.00	8.81	4.70	7,990	1,110	473	611	1,580	<250	--	--
6/12/2001	--		13.51	8.00	30.00	10.13	3.38	450	91	18	35	95	<5.0	--	--
9/23/2001	--		13.51	8.00	30.00	10.80	2.71	110	20	<0.5	5	5	2.7	--	--
12/28/2001	--		13.51	8.00	30.00	8.17	5.34	320	24	2	20	27	5	--	--
3/21/2002	--		13.51	8.00	30.00	7.78	5.73	2,500	420	85	130	350	31	--	--
4/17/2002	--		13.51	8.00	30.00	8.68	4.83	1,300	190	36	67	210	<25	--	--
8/14/2002	--	b	13.51	8.00	30.00	10.41	3.10	840	150	<5.0	68	41	<25	1.4	6.8
11/27/2002	--	b	13.51	8.00	30.00	10.50	3.01	300	26	2.3	17	6	<0.5	1.16	7.2
2/12/2003	--	d	13.51	8.00	30.00	10.81	2.70	<500	74	7	34	45	<5.0	1.0	7.3
5/22/2003	--		13.51	8.00	30.00	9.46	4.05	500	100	9	28	47	<5.0	1.0	7.6
7/23/2003	--		13.51	8.00	30.00	10.29	3.22	900	100	5.7	65	57	<5.0	4.5	8.4
11/13/2003	NP	f	13.51	8.00	30.00	11.24	2.27	1,800	210	5.1	190	140	<5.0	4.3	7.32
02/16/2004	NP	h, i	16.09	8.00	30.00	9.45	6.64	680	52	15	50	77	<0.50	5.0	7.8
05/06/2004	P		16.09	8.00	30.00	10.28	5.81	1,500	140	13	72	110	<2.5	1.03	6.93
09/02/2004	NP		16.09	8.00	30.00	10.78	5.31	690	69	1.3	42	35	<1.0	1.3	7.1
11/29/2004	NP		16.09	8.00	30.00	10.05	6.04	<5,000	360	<50	190	290	<50	1.0	7.0
02/02/2005	NP		16.09	8.00	30.00	8.37	7.72	220	31	2.3	10	13	<0.50	0.6	7.4
05/09/2005	NP		16.09	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		16.09	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	o	16.09	8.00	30.00	9.02	7.07	<50	0.62	<0.50	<0.50	<0.50	<0.50	0.89	7.3
8/11/2006	NP		16.09	8.00	30.00	9.77	6.32	400	13	3.4	8.0	58	<0.50	2.16	7.2

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-5 Cont.															
2/7/2007	P		16.09	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		16.09	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		16.09	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		16.09	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		16.09	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		16.09	8.00	30.00	10.42	5.67	130	<0.50	<0.50	<0.50	<0.50	<0.50	0.46	7.19
A-6															
6/26/2000	--		13.51	8.00	28.50	10.09	3.42	--	--	--	--	--	--	--	--
7/20/2000	--		13.51	8.00	28.50	10.91	2.60	170	<0.5	<0.5	0.6	2	6	--	--
9/19/2000	--		13.51	8.00	28.50	11.27	2.24	<50	<0.5	<0.5	<0.5	<1.0	6	--	--
12/26/2000	--		13.51	8.00	28.50	10.65	2.86	56.2	<0.5	<0.5	<0.5	<0.5	8.17	--	--
3/20/2001	--		13.51	8.00	28.50	8.72	4.79	216	<0.5	<0.5	<0.5	1.8	19.9	--	--
6/12/2001	--		13.51	8.00	28.50	10.80	2.71	80	0.62	<0.5	<0.5	<0.5	15	--	--
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	--		13.51	8.00	28.50	8.05	5.46	270	0.98	3.5	0.77	1.4	26	--	--
3/21/2002	--		13.51	8.00	28.50	7.83	5.68	130	<0.5	<0.5	<0.5	<0.5	19	--	--
4/17/2002	--		13.51	8.00	28.50	8.73	4.78	<50	<0.5	<0.5	<0.5	<0.5	16	--	--
8/14/2002	--	b	13.51	8.00	28.50	10.43	3.08	980	4.8	2.6	2	4.9	75	1.5	7.1
11/27/2002	--	b	13.51	8.00	28.50	10.47	3.04	280	<0.5	0.74	<0.5	<0.5	16	0.9	6.9
2/12/2003	--	d	13.51	8.00	28.50	10.44	3.07	51	<0.50	<0.50	<0.50	<0.50	9.9	0.8	7.1
5/22/2003	--		13.51	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	--		13.51	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	f	13.51	8.00	28.50	11.20	2.31	<50	<0.50	<0.50	<0.50	<0.50	2.3	6.2	9.0
02/16/2004	NP	h, i	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
05/06/2004	P		16.10	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		16.10	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		16.10	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		16.10	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		16.10	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		16.10	8.00	28.50	10.13	5.97	780	<0.50	<0.50	<0.50	<0.50	14	1.0	6.9

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

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								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
A-6 Cont.															
02/09/2006	NP	o	16.10	8.00	28.50	9.23	6.87	210	<0.50	<0.50	<0.50	<0.50	17	1.27	6.8
8/11/2006	NP		16.10	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		16.10	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		16.10	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		16.10	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		16.10	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		16.10	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		16.10	8.00	28.50	10.60	5.50	<50	<0.50	<0.50	<0.50	<0.50	4.9	0.51	7.18
ADR-1															
6/26/2000	--		13.95	5.00	22.00	10.55	3.40	--	--	--	--	--	--	--	--
7/20/2000	--		13.95	5.00	22.00	10.85	3.10	180	29	<0.5	0.8	<1.0	22	--	--
9/19/2000	--		13.95	5.00	22.00	11.08	2.87	120	7.4	<0.5	1.2	<1.0	22	--	--
12/26/2000	--		13.95	5.00	22.00	10.93	3.02	<50	1.29	<0.5	<0.5	<0.5	14.7	--	--
3/20/2001	--		13.95	5.00	22.00	9.32	4.63	225	23.4	<0.5	8.71	4.13	10.8	--	--
6/12/2001	--		13.95	5.00	22.00	10.65	3.30	250	23	0.5	13	4.2	7.5	--	--
9/23/2001	--		13.95	5.00	22.00	11.25	2.70	<50	1.4	<0.5	<0.5	0.57	2.8	--	--
12/28/2001	--		13.95	5.00	22.00	8.43	5.52	250	16	<0.5	1.2	4.1	6.8	--	--
3/21/2002	--		13.95	5.00	22.00	8.27	5.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/17/2002	--		13.95	5.00	22.00	9.17	4.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/14/2002	--		13.95	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	--		13.95	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	--	d	13.95	5.00	22.00	9.95	4.00	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.9	7.2
5/22/2003	--		13.95	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	--		13.95	5.00	22.00	10.59	3.36	<50	2.5	<0.50	0.56	<0.50	4	>20	9.4
11/13/2003	--	f	13.95	5.00	22.00	11.15	2.80	<50	0.60	<0.50	<0.50	<0.50	1.6	8.5	8.2
02/16/2004	NP	f, i	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
05/07/2004	NP		16.56	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		16.56	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		16.56	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		16.56	5.00	22.00	9.02	7.54	<50	<0.50	<0.50	<0.50	<0.50	3.4	0.5	7.5

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)					DO (mg/L)	pH	
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
ADR-1 Cont.															
05/09/2005	NP		16.56	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		16.56	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	o	16.56	5.00	22.00	10.05	6.51	<50	<0.50	<0.50	<0.50	<0.50	2.9	1.09	7.0
8/11/2006	NP		16.56	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		16.56	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		16.56	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		16.56	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		16.56	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		16.56	5.00	22.00	9.95	6.61	740	<0.50	0.94	<0.50	0.58	2.4	0.47	7.36
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
ADR-2															
6/26/2000	--		14.64	5.00	22.00	11.22	3.42	--	--	--	--	--	--	--	--
7/20/2000	--		14.64	5.00	22.00	11.60	3.04	12,000	410	2.5	540	720	23	--	--
9/19/2000	--		14.64	5.00	22.00	11.81	2.83	1,400	530	5	680	740	34	--	--
12/26/2000	--		14.64	5.00	22.00	11.52	3.12	901	26.6	<5.0	21.4	32.5	32.8	--	--
3/20/2001	--	j	14.64	5.00	22.00	10.10	4.54	--	--	--	--	--	--	--	--
6/12/2001	--	j	14.64	5.00	22.00	11.41	3.23	--	--	--	--	--	--	--	--
9/23/2001	--		14.64	5.00	22.00	11.98	2.66	5,300	370	<5.0	550	96	60	--	--
12/28/2001	--		14.64	5.00	22.00	9.48	5.16	2,600	190	<5.0	160	29	61	--	--
3/21/2002	--		14.64	5.00	22.00	9.10	5.54	180	6	<0.5	4.5	3.2	15	--	--
4/17/2002	--		14.64	5.00	22.00	9.93	4.71	730	86	<0.5	13	<0.5	<25	--	--
8/14/2002	--	b	14.64	5.00	22.00	12.09	2.55	1,300	170	<10	100	47	<50	0.9	7.0
11/27/2002	--	b	14.64	5.00	22.00	11.66	2.98	1,800	240	3.1	120	14	74	0.6	6.9
2/12/2003	--	d	14.64	5.00	22.00	10.74	3.90	760	120	<5.0	15	5.2	22	1.3	7.1
5/22/2003	--		14.64	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	--		14.64	5.00	22.00	11.38	3.26	140	2.8	<0.50	5	0.98	8.4	>20	9.4
02/16/2004	--	f, i	17.24	5.00	22.00	10.26	6.98	--	--	--	--	--	--	--	--
05/06/2004	--		17.24	5.00	22.00	11.05	6.19	--	--	--	--	--	--	--	--
09/02/2004	P		17.24	5.00	22.00	11.50	5.74	<500	67	<5.0	71	12	5.6	0.7	7.4
11/29/2004	--		17.24	5.00	22.00	11.20	6.04	--	--	--	--	--	--	--	--

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
ADR-2 Cont.															
02/02/2005	--		17.24	5.00	22.00	9.76	7.48	--	--	--	--	--	--	--	--
05/09/2005	--		17.24	5.00	22.00	11.18	6.06	--	--	--	--	--	--	--	--
08/11/2005	NP		17.24	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	--		17.24	5.00	22.00	9.60	7.64	--	--	--	--	--	--	--	--
8/11/2006	NP		17.24	5.00	22.00	11.13	6.11	570	54	<1.0	2.2	<1.0	4.6	0.8	7.1
2/7/2007	--		17.24	5.00	22.00	11.08	6.16	--	--	--	--	--	--	--	--
8/14/2007	NP		17.24	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	--		17.24	5.00	22.00	9.47	7.77	--	--	--	--	--	--	--	--
8/12/2008	NP		17.24	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	--		17.24	5.00	22.00	10.88	6.36	--	--	--	--	--	--	--	--
9/4/2009	NP		17.24	5.00	22.00	11.79	5.45	330	0.66	<0.50	<0.50	<0.50	1.9	0.55	7.38
AR-1															
6/26/2000	--		15.61	8.00	28.00	11.59	4.02	--	--	--	--	--	--	--	--
7/20/2000	--		15.61	8.00	28.00	12.06	3.55	<50	<0.5	<0.5	<0.5	<1.0	6	--	--
9/19/2000	--		15.61	8.00	28.00	11.89	3.72	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
12/26/2000	--		15.61	8.00	28.00	11.95	3.66	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
03/20/01	--	a	15.61	8.00	28.00	--	--	--	--	--	--	--	--	--	--
6/12/2001	--		15.61	8.00	28.00	11.87	3.74	<50	<0.5	<0.5	<0.5	<0.5	17	--	--
9/23/2001	--		15.61	8.00	28.00	12.42	3.19	--	--	--	--	--	--	--	--
12/28/2001	--		15.61	8.00	28.00	7.62	7.99	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002	--		15.61	8.00	28.00	9.37	6.24	--	--	--	--	--	--	--	--
4/17/2002	--		15.61	8.00	28.00	10.43	5.18	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/14/2002	--		15.61	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	--		15.61	8.00	28.00	12.00	3.61	--	--	--	--	--	--	--	--
2/12/2003	--	d	15.61	8.00	28.00	10.89	4.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	7.9
5/22/2003	--		15.61	8.00	28.00	11.18	4.43	--	--	--	--	--	--	--	--
7/23/2003	--		15.61	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	--		15.61	8.00	28.00	12.05	3.56	--	--	--	--	--	--	--	--
02/16/2004	--		18.18	8.00	28.00	10.35	7.83	--	--	--	--	--	--	--	--
05/06/2004	--		18.18	8.00	28.00	11.60	6.58	--	--	--	--	--	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
AR-1 Cont.															
09/02/2004	P		18.18	8.00	28.00	11.88	6.30	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.8
11/29/2004	--		18.18	8.00	28.00	11.55	6.63	--	--	--	--	--	--	--	--
02/02/2005	--		18.18	8.00	28.00	9.92	8.26	--	--	--	--	--	--	--	--
05/09/2005	--		18.18	8.00	28.00	10.19	7.99	--	--	--	--	--	--	--	--
08/11/2005	P	n	18.18	8.00	28.00	11.80	6.38	<50	<0.50	<0.50	<0.50	<0.50	<0.50	7.4	7.6
02/09/2006	--		18.18	8.00	28.00	10.49	7.69	--	--	--	--	--	--	--	--
8/11/2006	P		18.18	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	--	e	18.18	8.00	28.00	--	--	--	--	--	--	--	--	--	--
8/14/2007	--	e	18.18	8.00	28.00	--	--	--	--	--	--	--	--	--	--
2/22/2008	--	e	18.18	8.00	28.00	--	--	--	--	--	--	--	--	--	--
8/12/2008	NP		18.18	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	--		18.18	8.00	28.00	11.43	6.75	--	--	--	--	--	--	--	--
9/4/2009	NP		18.18	8.00	28.00	12.52	5.66	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.62	7.61
AR-2															
6/26/2000	--		15.28	8.50	28.50	11.79	3.49	--	--	--	--	--	--	--	--
7/20/2000	--		15.28	8.50	28.50	12.07	3.21	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
9/19/2000	--		15.28	8.50	28.50	12.08	3.20	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
12/26/2000	--		15.28	8.50	28.50	11.95	3.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001	--		15.28	8.50	28.50	10.50	4.78	--	--	--	--	--	--	--	--
6/12/2001	--		15.28	8.50	28.50	11.73	3.55	<50	<0.5	<0.5	<0.5	<0.5	82	--	--
9/23/2001	--		15.28	8.50	28.50	12.43	2.85	--	--	--	--	--	--	--	--
12/28/2001	--		15.28	8.50	28.50	8.60	6.68	<50	<0.5	<0.5	<0.5	<0.5	30	--	--
3/21/2002	--		15.28	8.50	28.50	9.49	5.79	--	--	--	--	--	--	--	--
4/17/2002	--		15.28	8.50	28.50	10.37	4.91	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--
8/14/2002	--		15.28	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	--		15.28	8.50	28.50	12.08	3.20	--	--	--	--	--	--	--	--
2/12/2003	--	d	15.28	8.50	28.50	11.15	4.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.5
5/22/2003	--		15.28	8.50	28.50	11.18	4.10	--	--	--	--	--	--	--	--
7/23/2003	--		15.28	8.50	28.50	11.85	3.43	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	8.2
11/13/2003	--	f	15.28	8.50	28.50	11.98	3.30	--	--	--	--	--	--	--	--

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

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

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
AR-2 Cont.															
02/16/2004	--	f, i	17.87	8.50	28.50	10.69	7.18	--	--	--	--	--	--	--	--
05/06/2004	--		17.87	8.50	28.50	11.55	6.32	--	--	--	--	--	--	--	--
09/02/2004	--	k	17.87	8.50	28.50	--	--	--	--	--	--	--	--	--	--
09/20/2004	NP		17.87	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	--		17.87	8.50	28.50	12.62	5.25	--	--	--	--	--	--	--	--
02/02/2005	--		17.87	8.50	28.50	10.12	7.75	--	--	--	--	--	--	--	--
05/09/2005	--		17.87	8.50	28.50	10.13	7.74	--	--	--	--	--	--	--	--
08/11/2005	NP		17.87	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	--		17.87	8.50	28.50	10.03	7.84	--	--	--	--	--	--	--	--
8/11/2006	NP		17.87	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	--		17.87	8.50	28.50	11.52	6.35	--	--	--	--	--	--	--	--
8/14/2007	NP		17.87	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	--		17.87	8.50	28.50	9.82	8.05	--	--	--	--	--	--	--	--
8/12/2008	NP		17.87	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	--		17.87	8.50	28.50	11.40	6.47	--	--	--	--	--	--	--	--
9/4/2009	NP		17.87	8.50	28.50	11.32	6.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.53	7.56

ABBREVIATIONS & SYMBOLS:

-- = 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.

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.

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

Table 2. Summary of Fuel Additives Analytical Data
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-1									
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	
A-2									
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	
A-3									
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	

Table 2. Summary of Fuel Additives Analytical Data
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-4									
2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
A-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	
A-6									
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	

Table 2. Summary of Fuel Additives Analytical Data
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-6 Cont.									
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	
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	
ADR-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	
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	

Table 2. Summary of Fuel Additives Analytical Data
Station #2169, 889 W. Grand Ave., Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ADR-2									
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	
AR-1									
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									
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)
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	

ABBREVIATIONS & SYMBOLS:

-- = Not analyzed/applicable/measured/available

< = Not detected at or above specified laboratory reporting limit

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

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.

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

**Table 3. Historical Ground-Water Flow Direction and Gradient
Station #2169, 889 W. Grand Ave., Oakland, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
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

* = 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.

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

APPENDIX A

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



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

September 22, 2009

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

Re: Groundwater Sampling Data Package, BP Service Station No. 2169, located at
889 West Grand Avenue, Oakland, California.

General Information

Data Submittal Prepared / Reviewed by: Carol Huff / Jay Johnson

Phone Number: (530) 676-6000

On-Site Supplier Representative: Jerry Gonzales and Nic Armstrong

Sampling Date: September 4, 2009

Unusual Field Conditions: None noted.

Scope of Work Performed: Quarterly monitoring and sampling

Variations from Work Scope: None noted

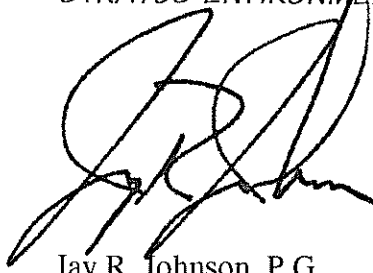
This submittal presents the data collected in association with routine groundwater monitoring. The attachments include field data sheets, chain of custody documentation, certified analytical results, and field procedures for groundwater sampling documentation. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations.

September 22, 2009.

Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

STRATUS ENVIRONMENTAL, INC.



Jay R. Johnson, P.G.
Project Manager



Attachments:

- Field Data Sheets
- Chain of Custody Documentation
- Certified Analytical Results
- Field Procedures for Groundwater Sampling

cc: Mr. Chuck Carmel, BP/ARCO

BP VALLEY PORTFOLIO
WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: A-1
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: A-1
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/09 START (2400hr) 1132 END (2400hr) 1135
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 1133
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" _____ 3" 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 23.65 CASING VOLUME (gal) = 4.7
 DEPTH TO WATER (feet) = 11.22 CALCULATED PURGE (gal) = 14.1
 WATER COLUMN HEIGHT (feet) = 12.4 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS							
DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>1104</u>	<u>0</u>	<u>22.4</u>	<u>803</u>	<u>7.25</u>	<u>clear</u>	
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE DEPTH TO WATER: 11.22 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE: YES _____ NO ANALYSES: SWO
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Vol-HCl

PURGING EQUIPMENT
 Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT
 Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (_____ PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: Master
 REMARKS: DO: 0.48

SIGNATURE: _____ Page _____ of _____

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: A-2
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: A-2
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/09 START (2400hr) 10:24 END (2400hr) 10:29
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 10:25
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" _____ 3" 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 29.48 CASING VOLUME (gal) = 4.8
 DEPTH TO WATER (feet) = 11.77 CALCULATED PURGE (gal) = 19.4
 WATER COLUMN HEIGHT (feet) = 12.7 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>10:26</u>	<u>0</u>	<u>21.1</u>	<u>637</u>	<u>7.39</u>	<u>clear</u>	

SAMPLE DEPTH TO WATER: 11.77 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE: YES _____ NO ANALYSES: SWO
 ODOR: no SAMPLE VESSEL / PRESERVATIVE: 6 Vol-HCl

PURGING EQUIPMENT

SAMPLING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____
 Pump Depth: _____

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (_____ PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: Master
 REMARKS: P0093

SIGNATURE: _____ Page ____ of ____

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL ID.: A-5
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE ID.: A-5
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/09 START (2400hr) 10:10 END (2400hr) 10:13
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 10:11
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 2400 CASING VOLUME (gal) = 2.3
 DEPTH TO WATER (feet) = 10.42 CALCULATED PURGE (gal) = 6.9
 WATER COLUMN HEIGHT (feet) = 13.5 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>10:12</u>	<u>0</u>	<u>21.1</u>	<u>825</u>	<u>7.19</u>	<u>clear</u>	_____
<u>/</u>	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 10.42 SAMPLE TURBIDITY: clear

80% RECHARGE: YES NO ANALYSES: SWD
 ODOR: yes SAMPLE VESSEL / PRESERVATIVE: 6 Vol HCL

PURGING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____
 Pump Depth:

SAMPLING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: Master
 REMARKS: DO 046

SIGNATURE: [Signature] Page _____ of _____

BP VALLEY PORTFOLIO
WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: A-6
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: A-6
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/09 START (2400hr) 952 END (2400hr) 957
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 9:55
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 26.75 CASING VOLUME (gal) = 4.2
 DEPTH TO WATER (feet) = 10.60 CALCULATED PURGE (gal) = 12.8
 WATER COLUMN HEIGHT (feet) = 25.1 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>956</u>	<u>0</u>	<u>23.1</u>	<u>620</u>	<u>7.18</u>	<u>clear</u>	
/							
		<u>NO</u>	<u>FWSD</u>				

SAMPLE DEPTH TO WATER: 10.60 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE: YES NO ANALYSES: SW-0
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Vol-Hce

PURGING EQUIPMENT
 Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT
 Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: Mast
 REMARKS: DO 051

SIGNATURE: _____ Page ____ of ____

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: AR-1
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: AR-1
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/08 START (2400hr) 11:50 END (2400hr) 11:53
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 11:51
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" _____ 3" _____ 4" _____ 5" _____ 6" 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 27.44 CASING VOLUME (gal) = 223
 DEPTH TO WATER (feet) = 12.52 CALCULATED PURGE (gal) = 67.7
 WATER COLUMN HEIGHT (feet) = 14.9 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>11:52</u>	<u>0</u>	<u>22.8</u>	<u>2415</u>	<u>7.61</u>	<u>clear</u>	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 12.52 SAMPLE TURBIDITY: clear

80% RECHARGE: YES _____ NO ANALYSES: S-W-O
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Voa-Acl

PURGING EQUIPMENT

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump _____ Bailer (PVC)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 _____ Peristaltic Pump _____ Dedicated _____
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump Bailer (_____ PVC or disposable)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 _____ Peristaltic Pump _____ Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: NA

REMARKS: DOO.62

SIGNATURE: _____ Page _____ of _____

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: AR-2
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: AR-2
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/00 START (2400hr) 10:40 END (2400hr) 10:43
 DATE SAMPLED 9/4/00 SAMPLE TIME (2400hr) 10:41
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" _____ 3" _____ 4" 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 28.50 CASING VOLUME (gal) = 11.5
 DEPTH TO WATER (feet) = 11.32 CALCULATED PURGE (gal) = 39.5
 WATER COLUMN HEIGHT (feet) = 17.1 ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/00</u>	<u>1042</u>	<u>0</u>	<u>21.3</u>	<u>351.0</u>	<u>7.56</u>	<u>clear</u>	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	<u>NO FURTHER</u>		_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE DEPTH TO WATER: 11.32 SAMPLE INFORMATION SAMPLE TURBIDITY: clear

80% RECHARGE: YES NO ANALYSES: S.W.O
 ODOR: NO SAMPLE VESSEL / PRESERVATIVE: 6 Noa-HCC

PURGING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (_____ PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated _____
 Other: _____

WELL INTEGRITY: good LOCK#: MURPHY
 REMARKS: DO 0.50

SIGNATURE: _____ Page ___ of ___

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169
CLIENT NAME: _____
LOCATION: Oakland - 889 W. Grand Avenue

PURGED BY: JS
SAMPLED BY: SC

WELL I.D.: ADR-1
SAMPLE I.D.: ADR-1
QA SAMPLES: _____

DATE PURGED 9/4/09
DATE SAMPLED 9/4/09
SAMPLE TYPE: Groundwater x

START (2400hr) 11:15
SAMPLE TIME (2400hr) 11:16
Surface Water _____

END (2400hr) 11:18
Treatment Effluent _____
Other _____

CASING DIAMETER: 2" _____ 3" _____ 4" X 5" _____ 6" _____ 8" _____ Other _____
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 20.77
DEPTH TO WATER (feet) = 11.06
WATER COLUMN HEIGHT (feet) = 9.7

CASING VOLUME (gal) = 6.5
CALCULATED PURGE (gal) = 19.5
ACTUAL PURGE (gal) = 0 NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>11:17</u>	<u>0</u>	<u>22.9</u>	<u>766</u>	<u>7.19</u>	<u>clear</u>	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE DEPTH TO WATER: 11.06

SAMPLE INFORMATION

SAMPLE TURBIDITY: clear

80% RECHARGE: X YES _____ NO

ANALYSES: SWO

ODOR: no

SAMPLE VESSEL / PRESERVATIVE: 6 Voc-HCC

PURGING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
Other: _____
Pump Depth: _____

____ Bailer (Teflon)
____ Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated _____

SAMPLING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
Other: _____

____ Bailer (Teflon)
X Bailer (____ PVC or X disposable)
____ Bailer (Stainless Steel)
____ Dedicated _____

WELL INTEGRITY: Good

LOCK#: Master

REMARKS: D.O. 0.61

SIGNATURE: _____

BP VALLEY PORTFOLIO

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 2169 PURGED BY: JS WELL I.D.: ADR-2
 CLIENT NAME: _____ SAMPLED BY: JS SAMPLE I.D.: ADR-2
 LOCATION: Oakland - 889 W. Grand Avenue QA SAMPLES: _____

DATE PURGED 9/4/09 START (2400hr) 1059 END (2400hr) 1102
 DATE SAMPLED 9/4/09 SAMPLE TIME (2400hr) 1700
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" _____ 3" _____ 4" 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 25.57 CASING VOLUME (gal) = 9.1
 DEPTH TO WATER (feet) = 11.79 CALCULATED PURGE (gal) = 27.5
 WATER COLUMN HEIGHT (feet) = 13.7 ACTUAL PURGE (gal) = ⊖ NP

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>9/4/09</u>	<u>1101</u>	<u>⊖</u>	<u>21.7</u>	<u>705</u>	<u>7.38</u>	<u>clear</u>	
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 11.79 SAMPLE TURBIDITY: clear

80% RECHARGE: YES _____ NO _____ ANALYSES: SWO
 ODOR: no SAMPLE VESSEL / PRESERVATIVE: 6 Ved-Hcc

PURGING EQUIPMENT

SAMPLING EQUIPMENT

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump _____ Bailer (PVC)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 _____ Peristaltic Pump _____ Dedicated _____

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump Bailer (_____ PVC or disposable)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 _____ Peristaltic Pump _____ Dedicated _____

Other: _____
 Pump Depth: _____

Other: _____

WELL INTEGRITY: good LOCK#: MASTER

REMARKS: DO-0.55

SIGNATURE: 

WELLHEAD OBSERVATION FORM



Site Name/Number: 2167

Date: 9/4/09

Technician: Jerry

Well I.D.	Box in Good Condition	Well lid secure?	Lock Missing?	Water in Wellbox?	Water Level Relative to Cap?	Well Cap?	Bolts Missing?	Bolts Stripped?	Bolt Holes Stripped?	Cracked or Broken Lid?	Cracked or Broken Box?	Grout Level more than 1ft below TOC?	Additional Comments <small>(such as missing lid, concrete needs replacement, or other - explain)</small>
	X = Yes Blank = No	X = Yes If not call PM prior to departure	X = Yes (replaced) Blank = No	X = Yes Blank = No	A = Above cap B = Below cap L = Level w/cap	I = Intact M = Missing or Compromised (replaced)	# of missing/ Total #	# of stripped/ Total #	# of stripped/ Total #	X = Yes Blank = No	X = Yes Blank = No	X = Yes Blank = No	
A-1	X			X	B	I	X		4 Broken				
A-2	X			X	B	I			4 Broken				
A-3	X			X	A	I	X		4 Broken				
A-4	X					I	X						
A-5	X					I							
A-6	X					I							
AR-1	X					I	X						
AR-2	X					I	X						
ADR-1	X					I	X						
ADR-2	X					I	X						

* Explain corrective action taken (replaced bolt/tapped bolt hole etc...) or if a safety issue, please call PM

DRUM INVENTORY

Drums on site? Yes No

Type and i Steel: Plastic

Note whether drums are full or empty, solids or liquids:

1/2 Full

Drum label info (description, date, contact info):

GENERAL SITE CONDITIONS

Make notes on housekeeping conditions (such as trash around remediation system enclosure/compound, bent or missing bollards, signs missing from compound fences, graffiti on compound, etc.)



Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP 2169

Req Due Date (mm/dd/yy): 14 Day TAT

Rush TAT: Yes No

BP/ARC Facility No.: 2169

Lab Work Order Number: _____

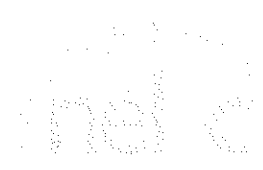
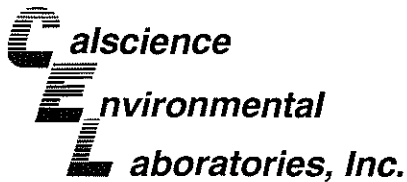
Lab Name: CalScience	BP/ARC Facility Address: 889 W. Grand Avenue	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95682
Lab Phone: 714-895-5404 Fax: 714-895-7501	California Global ID No.: T0600100112	Consultant/Contractor PM: Jay Johnson
Lab Shipping Acct:	Enfos Proposal No: 000WP-0031	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU <input type="checkbox"/> OOC-PM <input type="checkbox"/>	Email EDD To: chuff@stratusinc.net
Other Info:	Stage: Operate Activity: Monitor	Invoice To: BP/ARC <input checked="" type="checkbox"/> Contractor <input type="checkbox"/>

BP/ARC EBM: Paul Supple				Matrix		No. Containers / Preservative										Requested Analyses						Report Type & QC Level				
EBM Phone: (925) 275-3801 FAX (925) 275-3815				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO by 8015M	BTEX15 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B							Standard <u>X</u>	Full Data Package <input type="checkbox"/>	
EBM Email: paul.supple@bp.com																										Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description. Comments *Oxy = MTBE, TAME, ETBE, DIPE, TBA
Lab No.	Sample Description	Date	Time																							
A-1		7/4/9	1138	X			6			X		X	X	X	X	X										
A-2			1025	X			6			X		X	X	X	X	X										
A-5			10:11	X			6			X		X	X	X	X	X										
A-6			955	X			6			X		X	X	X	X	X										
AR-1			1151	X			6			X		X	X	X	X	X										
AR-2			1041	X			6			X		X	X	X	X	X										
ADR-1			1116	X			6			X		X	X	X	X	X										
ADR-2			1100	X			6			X		X	X	X	X	X										
TB-2169-09042009			500	X			2			X															ON HOLD	

Sampler's Name: <u>Jerry Saw Zales / Doulos Env.</u>	Relinquished By / Affiliation:	Date:	Time:	Accepted By / Affiliation:	Date:	Time:
Sampler's Company: Stratus Environmental Inc.						
Shipment Method:	Ship Date:					
Shipment Tracking No:						

Special Instructions: TB Sample ON HOLD! Cc results to miller@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
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September 22, 2009

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

Subject: **Calscience Work Order No.:** 09-09-0496
Client Reference: BP 2169

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/5/2009 and analyzed in accordance with the attached chain-of-custody.

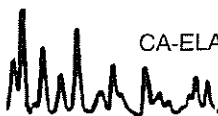
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows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

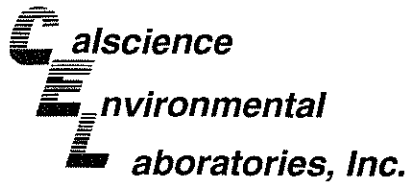
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, which appears to read "Richard Villafania".

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager





Analytical Report



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

Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 2169

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-1	09-09-0496-1-E	09/04/09 11:33	Aqueous	GC 4	09/09/09	09/09/09 16:10	090909B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	990	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	83	38-134			

A-2	09-09-0496-2-D	09/04/09 10:25	Aqueous	GC 4	09/09/09	09/09/09 07:23	090909B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	89	38-134			

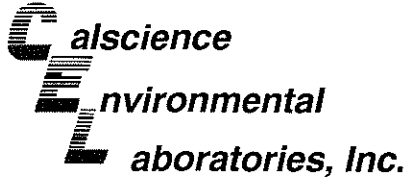
A-5	09-09-0496-3-E	09/04/09 10:11	Aqueous	GC 4	09/09/09	09/09/09 15:37	090909B01
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Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	130	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	90	38-134			

A-6	09-09-0496-4-D	09/04/09 09:55	Aqueous	GC 4	09/09/09	09/09/09 05:11	090909B01
-----	----------------	----------------	---------	------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	91	38-134			

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



Analytical Report

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

Date Received: 09/05/09
 Work Order No: 09-09-0496
 Preparation: EPA 5030B
 Method: EPA 8015B (M)

Project: BP 2169

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
AR-1	09-09-0496-5-D	09/04/09 11:51	Aqueous	GC 4	09/09/09	09/09/09 07:56	090909B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	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
AR-2	09-09-0496-6-D	09/04/09 10:41	Aqueous	GC 4	09/09/09	09/09/09 08:29	090909B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	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
ADR-1	09-09-0496-7-D	09/04/09 11:16	Aqueous	GC 4	09/09/09	09/09/09 09:35	090909B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	810	50	1		ug/L

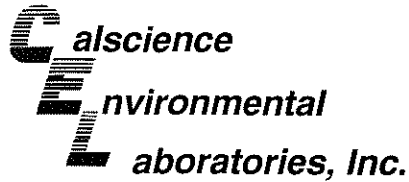
Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	91	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ADR-2	09-09-0496-8-D	09/04/09 11:00	Aqueous	GC 4	09/09/09	09/09/09 09:02	090909B01

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	330	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	85	38-134	

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



Analytical Report



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

Date Received: 09/05/09
 Work Order No: 09-09-0496
 Preparation: EPA 5030B
 Method: EPA 8015B (M)

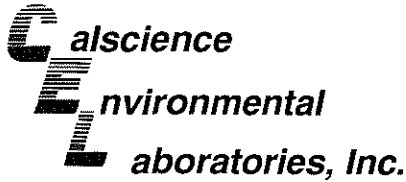
Project: BP 2169

Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-695-656	N/A	Aqueous	GC 4	09/09/09	09/09/09 03:32	090909B01

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

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



Analytical Report

09/05/09
09-09-0496
EPA 5030B
EPA 8260B
ug/L

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

Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-1	09-09-0496-1-B	09/04/09 11:33	Aqueous	GC/MS BB	09/09/09	09/09/09 16:28	090909L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	19	0.50	1		Methyl-t-Butyl Ether (MTBE)	7.4	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	0.80	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	2.2	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	1.5	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	97	80-128			Dibromofluoromethane	103	80-127		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	86	68-120		

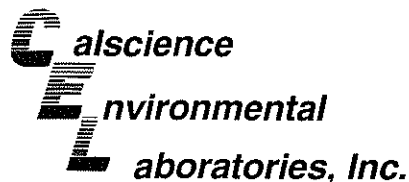
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-2	09-09-0496-2-A	09/04/09 10:25	Aqueous	GC/MS BB	09/08/09	09/09/09 05:42	090908L02

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
1,2-Dichloroethane-d4	104	80-128			Dibromofluoromethane	104	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	70	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-5	09-09-0496-3-B	09/04/09 10:11	Aqueous	GC/MS BB	09/09/09	09/09/09 16:57	090909L01

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
1,2-Dichloroethane-d4	94	80-128			Dibromofluoromethane	100	80-127		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	79	68-120		

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



Analytical Report

09/05/09
09-09-0496
EPA 5030B
EPA 8260B
ug/L

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

Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
A-6	09-09-0496-4-A	09/04/09 09:55	Aqueous	GC/MS BB	09/08/09	09/09/09 06:39	090908L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	4.9	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	107	80-128			Dibromofluoromethane	107	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	74	68-120		

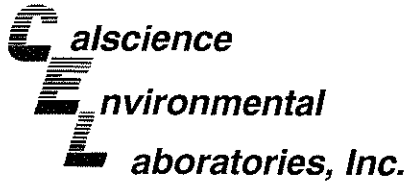
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
AR-1	09-09-0496-5-A	09/04/09 11:51	Aqueous	GC/MS BB	09/08/09	09/09/09 07:08	090908L02

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
1,2-Dichloroethane-d4	106	80-128			Dibromofluoromethane	108	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	70	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
AR-2	09-09-0496-6-A	09/04/09 10:41	Aqueous	GC/MS BB	09/08/09	09/09/09 07:37	090908L02

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
1,2-Dichloroethane-d4	103	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	72	68-120		

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



Analytical Report

09/05/09
09/05/09
09/05/09

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

Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2169

Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ADR-1	09-09-0496-7-A	09/04/09 11:16	Aqueous	GC/MS BB	09/08/09	09/09/09 08:06	090908L02

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	0.65	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
1,2-Dichloroethane-d4	95	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	97	80-120			1,4-Bromofluorobenzene	80	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ADR-2	09-09-0496-8-A	09/04/09 11:00	Aqueous	GC/MS BB	09/08/09	09/09/09 08:34	090908L02

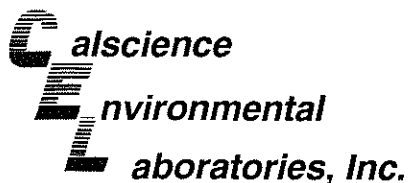
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.66	0.50	1		Methyl-t-Butyl Ether (MTBE)	1.9	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	94	80-128			Dibromofluoromethane	103	80-127		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	79	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-1,072	N/A	Aqueous	GC/MS BB	09/08/09	09/09/09 01:22	090908L02

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
1,2-Dichloroethane-d4	102	80-128			Dibromofluoromethane	96	80-127		
Toluene-d8	97	80-120			1,4-Bromofluorobenzene	71	68-120		

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





Analytical Report



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

Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BP 2169

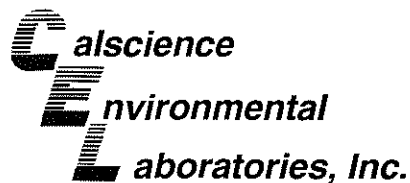
Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-703-1,074	N/A	Aqueous	GC/MS BB	09/09/09	09/09/09 12:34	090909L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,2-Dichloroethane-d4	104	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	81	68-120		

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





Quality Control - Spike/Spike Duplicate



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

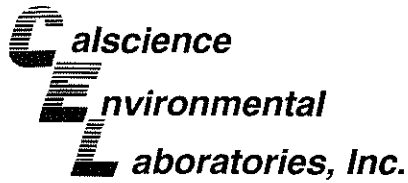
Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
A-6	Aqueous	GC 4	09/09/09	09/09/09	090909S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	94	101	38-134	8	0-25	

RPD - Relative Percent Difference . CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

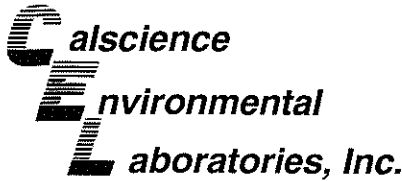
Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0378-7	Aqueous	GC/MS BB	09/08/09	09/09/09	090908S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	98	76-124	6	0-20	
Carbon Tetrachloride	112	106	74-134	5	0-20	
Chlorobenzene	98	94	80-120	4	0-20	
1,2-Dibromoethane	104	97	80-120	7	0-20	
1,2-Dichlorobenzene	100	97	80-120	3	0-20	
1,1-Dichloroethene	102	95	73-127	7	0-20	
Ethylbenzene	93	91	78-126	3	0-20	
Toluene	96	94	80-120	3	0-20	
Trichloroethene	102	96	77-120	6	0-20	
Vinyl Chloride	89	93	72-126	4	0-20	
Methyl-t-Butyl Ether (MTBE)	102	88	67-121	10	0-49	
Tert-Butyl Alcohol (TBA)	116	112	36-162	3	0-30	
Diisopropyl Ether (DIPE)	98	93	60-138	6	0-45	
Ethyl-t-Butyl Ether (ETBE)	99	90	69-123	10	0-30	
Tert-Amyl-Methyl Ether (TAME)	95	87	65-120	9	0-20	
Ethanol	106	106	30-180	0	0-72	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

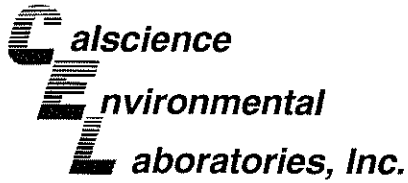
Date Received: 09/05/09
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B

Project BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0603-6	Aqueous	GC/MS BB	09/09/09	09/09/09	090909S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	102	76-124	2	0-20	
Carbon Tetrachloride	103	103	74-134	0	0-20	
Chlorobenzene	97	103	80-120	6	0-20	
1,2-Dibromoethane	99	113	80-120	14	0-20	
1,2-Dichlorobenzene	98	100	80-120	1	0-20	
1,1-Dichloroethene	96	97	73-127	0	0-20	
Ethylbenzene	95	99	78-126	4	0-20	
Toluene	96	96	80-120	0	0-20	
Trichloroethene	97	99	77-120	2	0-20	
Vinyl Chloride	90	93	72-126	4	0-20	
Methyl-t-Butyl Ether (MTBE)	90	94	67-121	5	0-49	
Tert-Butyl Alcohol (TBA)	116	121	36-162	4	0-30	
Diisopropyl Ether (DIPE)	93	96	60-138	3	0-45	
Ethyl-t-Butyl Ether (ETBE)	92	97	69-123	5	0-30	
Tert-Amyl-Methyl Ether (TAME)	92	96	65-120	4	0-20	
Ethanol	126	149	30-180	17	0-72	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate

Stratus Environmental, Inc.

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

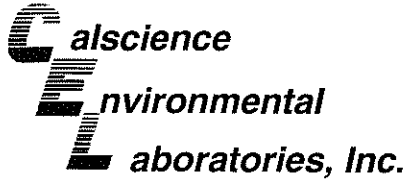
Date Received: N/A
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-656	Aqueous	GC 4	09/09/09	09/09/09	090909B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	99	104	78-120	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
 Work Order No: 09-09-0496
 Preparation: EPA 5030B
 Method: EPA 8260B

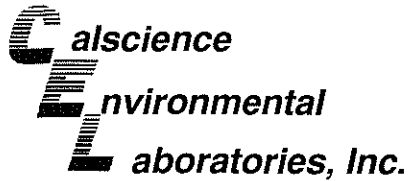
Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,072	Aqueous	GC/MS BB	09/08/09	09/08/09	090908L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	102	100	80-120	73-127	1	0-20	
Carbon Tetrachloride	106	106	74-134	64-144	1	0-20	
Chlorobenzene	102	94	80-120	73-127	8	0-20	
1,2-Dibromoethane	109	98	79-121	72-128	10	0-20	
1,2-Dichlorobenzene	100	98	80-120	73-127	2	0-20	
1,1-Dichloroethene	102	101	78-126	70-134	2	0-28	
Ethylbenzene	99	91	80-120	73-127	8	0-20	
Toluene	98	92	80-120	73-127	6	0-20	
Trichloroethene	109	116	79-127	71-135	6	0-20	
Vinyl Chloride	102	92	72-132	62-142	10	0-20	
Methyl-t-Butyl Ether (MTBE)	95	94	69-123	60-132	1	0-20	
Tert-Butyl Alcohol (TBA)	112	115	63-123	53-133	3	0-20	
Diisopropyl Ether (DIPE)	97	96	59-137	46-150	1	0-37	
Ethyl-t-Butyl Ether (ETBE)	96	97	69-123	60-132	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	94	91	70-120	62-128	3	0-20	
Ethanol	112	97	28-160	6-182	14	0-57	

Total number of LCS compounds : 16
 Total number of ME compounds : 0
 Total number of ME compounds allowed : 1
 LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 09-09-0496
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 2169

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-703-1,074	Aqueous	GC/MS BB	09/09/09	09/09/09	090909L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	98	106	80-120	73-127	7	0-20	
Carbon Tetrachloride	104	112	74-134	64-144	7	0-20	
Chlorobenzene	96	103	80-120	73-127	7	0-20	
1,2-Dibromoethane	101	110	79-121	72-128	9	0-20	
1,2-Dichlorobenzene	100	103	80-120	73-127	3	0-20	
1,1-Dichloroethene	97	104	78-126	70-134	7	0-28	
Ethylbenzene	89	102	80-120	73-127	14	0-20	
Toluene	94	103	80-120	73-127	8	0-20	
Trichloroethene	98	109	79-127	71-135	10	0-20	
Vinyl Chloride	97	103	72-132	62-142	7	0-20	
Methyl-t-Butyl Ether (MTBE)	92	100	69-123	60-132	9	0-20	
Tert-Butyl Alcohol (TBA)	117	111	63-123	53-133	5	0-20	
Diisopropyl Ether (DIPE)	92	99	59-137	46-150	8	0-37	
Ethyl-t-Butyl Ether (ETBE)	91	100	69-123	60-132	9	0-20	
Tert-Amyl-Methyl Ether (TAME)	92	101	70-120	62-128	10	0-20	
Ethanol	107	94	28-160	6-182	13	0-57	

Total number of LCS compounds : 16

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

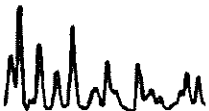
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

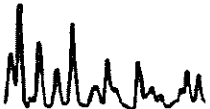


Work Order Number: 09-09-0496

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



<u>Qualifier</u>	<u>Definition</u>
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.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.





Laboratory Management Program LaMP Chain of Custody Record

09-09-0496

BP/ARC Project Name: BP 2169
 BP/ARC Facility No: 2169

Req Due Date (mm/dd/yy): 14 Day TAT Rush TAT: Yes No
 Lab Work Order Number: _____

Lab Name: CalScience	BP/ARC Facility Address: 889 W. Grand Avenue	Consultant/Contractor: Stratus Environmental Inc.
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No:
Lab PM: Richard Villafania	Lead Regulatory Agency: Alameda	Address: 3330 Cameron Park Drive, #550, Cameron Park, CA 95882
Lab Phone: 714-895-5494 Fax: 714-895-7501	California Global ID No.: T0600100112	Consultant/Contractor PM: Jay Johnson
Lab Shipping Acct:	Enfos Proposal No: 000WP-0031	Phone: 530-676-6000 Fax: 530-676-6005
Lab Bottle Order No:	Accounting Mode: Provision <input checked="" type="checkbox"/> OOC-BU <input type="checkbox"/> OOC-RM <input type="checkbox"/>	Email EDD To: <u>chuff@stratusinc.net</u>
Other Info:	Stage: Operate Activity: Monitor	Invoice To: BP/ARC <input checked="" type="checkbox"/> Contractor <input type="checkbox"/>

BP/ARC EBM: Paul Supple				Matrix			No. Containers / Preservative					Requested Analyses					Report Type & QC Level	
EBM Phone: (925) 275-3801 FAX (925) 275-3815				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO by 8015M	BTEX45 FO* by 8260B	Ethanol by 8260B	EDB by 8260B	1,2-DCA by 8260B	Standard <input checked="" type="checkbox"/>
EBM Email: paul.supple@bp.com																		Full Data Package <input type="checkbox"/>
Lab No.	Sample Description	Date	Time															Comments
1	A-1	9/4/09	1133	X			6						X	X	X	X	X	
2	A-2		1025	X			6			X			X	X	X	X	X	
3	A-5		10:11	X			6			X			X	X	X	X	X	
4	A-6		955	X			6			X			X	X	X	X	X	
5	AR-1		1151	X			6			X			X	X	X	X	X	
6	AR-2		1041	X			6			X			X	X	X	X	X	
7	ADR-1		1116	X			6			X			X	X	X	X	X	
8	ADR-2		1100	X			6			X			X	X	X	X	X	
9	TB-2169-09042009		500	X			2			X								ON HOLD

Sampler's Name: <u>Jerry Saw Zales / Doulos Env.</u>	Relinquished By / Affiliation:	Date:	Time:	Accepted By / Affiliation:	Date: <u>9/5/09</u>	Time: <u>9:30</u>
Sampler's Company: Stratus Environmental Inc.						
Shipment Method: <u>USA</u>	Ship Date:					
Shipment Tracking No: <u>106462449</u>						

Special Instructions: TB Sample ON HOLD! Cc results to miller@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

Page 1 of 1

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Stratus

DATE: 9/5/09

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

Temperature 3.8 °C - 0.2°C (CF) = 3.6 °C Blank Sample

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

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

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

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

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: WSC

Sample _____ No (Not Intact) Not Present Initial: SP

SAMPLE CONDITION:

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

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve EnCores® TerraCores® _____

Water: VOA VOA^h VOAna₂ 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 500PB 500PBna

250PB 250PBn 125PB 125PBz_{na} 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Summa® _____ Other: _____ Checked/Labeled by: SP

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

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ z_{na}: ZnAc₂+NaOH f: Field-filtered Scanned by: _____

ATTACHMENT

FIELD PROCEDURES FOR GROUNDWATER SAMPLING

The sampling procedures for groundwater monitoring events are contained in this appendix.

Groundwater and Liquid-Phase Petroleum Hydrocarbon Depth Assessment

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

Subjective Analysis of Groundwater

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

Monitoring Well Sampling

In many cases, determining whether to purge or not to purge wells prior to sample collection is made in the field and is often based on depth to water relative to the screen interval of the well. Site-specific field data sheets present details associated with the purge method and equipment used.

Monitoring wells, when purged, use a pump or bailer until pH, temperature, and conductivity of the purge water has stabilized and a minimum of three well volumes of water has been removed. Field measuring equipment is calibrated and maintained according to the manufacturer's instructions. If three well volumes cannot be removed in one half hour's time the well is allowed to recharge to 80% of original level. After recharging, a groundwater sample is then collected from each of the wells using disposable bailers.

A Teflon bailer, electric submersible or bladder pump will be the only equipment used for well sampling. When samples for volatile organic analysis are being collected, the pump flow will be regulated at approximately 100 milliliters per minute to minimize pump effluent turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa will be used in sampling for volatile organics. These

bottles will be filled completely to prevent air accumulation in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum will be placed over the positive meniscus to eliminate air. After the bottle is capped, it is inverted and tapped to verify that it contains no air bubbles. The sample containers for other parameters will be filled, filtered as required, and capped. Glass and plastic bottles used by Stratus to collect groundwater samples are supplied by the laboratory.

Groundwater Sample Labeling and Preservation

Samples are collected in appropriate containers supplied by the laboratory. All required chemical preservation is added to the bottles prior to delivery to Stratus. Sample label information includes a unique sample identification number, job identification number, date, and time. After labeling, all groundwater samples are placed in a Ziploc® type bag and placed in an ice chest cooled to approximately 4° Celsius. Upon arriving at Stratus' office the samples are transferred to a locked refrigerator cooled to approximately 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain-of-custody form. Trip and temperature blanks supplied by the laboratory accompany the groundwater sample containers and groundwater samples.

Sample Identification and Chain-of-Custody Procedures

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

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and contain adequate volumes for analysis. These conditions are noted on a Laboratory Sample Receipt Checklist that becomes part of the laboratory report upon request.

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

Equipment Cleaning

All reusable sampling equipments are cleaned using phosphate-free detergents and rinsed with de-ionized water.

APPENDIX B

GEOTRACKER UPLOAD CONFIRMATIONS

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_WELL FILE

SUCCESS

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

<u>Submittal Type:</u>	GEO_WELL
<u>Submittal Title:</u>	3Q09 GEO_WELL 2169
<u>Facility Global ID:</u>	T0600100112
<u>Facility Name:</u>	ARCO #02169
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	Broadbent & Associates, Inc.
<u>Username:</u>	BROADBENT-C
<u>IP Address:</u>	67.118.40.90
<u>Submittal Date/Time:</u>	10/20/2009 9:38:25 AM
<u>Confirmation Number:</u>	6334481358

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STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

<u>Submittal Type:</u>	EDF - Monitoring Report - Semi-Annually
<u>Submittal Title:</u>	3Q09 GW Monitoring
<u>Facility Global ID:</u>	T0600100112
<u>Facility Name:</u>	ARCO #02169
<u>File Name:</u>	09090496.zip
<u>Organization Name:</u>	Broadbent & Associates, Inc.
<u>Username:</u>	BROADBENT-C
<u>IP Address:</u>	67.118.40.90
<u>Submittal Date/Time:</u>	10/20/2009 9:40:38 AM
<u>Confirmation Number:</u>	4197191536

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)