Atlantic Richfield Company

Chuck Carmel
Environmental Business Manager

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RECEIVED

11:56 am, May 02, 2011

Alameda County
Environmental Health

April 29, 2011

Re: First Quarter 2011 Monitoring Report
Atlantic Richfield Company Station #2107
3310 Park Boulevard, Oakland, California
ACEH Case #RO0002526

"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
Remediation Management Project Manager

Attachment:

Broadbent & Associates, Inc.
875 Cotting Ln., Suite G
Vacaville, CA 95688
(707) 455-7290 Tel
(707) 455-7295 Fax

BROADBENT & ASSOCIATES, INC
ENVIRONMENTAL, WATER RESOURCES & ENGINEERING

April 29, 2011

Project No. 06-88-614

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

Attn.: Mr. Chuck Carmel

Re: First Quarter 2011 Monitoring Report, Atlantic Richfield Company Station #2107, 3310 Park Boulevard, Oakland, California; ACEH Case #RO0002526

Dear Mr. Carmel:

Attached is the *First Quarter 2011Monitoring Report* for Atlantic Richfield Company (a BP affiliated company) Station #2107 located at, 3310 Park Boulevard, Oakland, Alameda County, California. This report presents results of groundwater monitoring conducted at the Site during the First Quarter of 2011.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact me at (707) 455-7290.

Sincerely,
BROADBENT & ASSOCIATES, INC.

Thomas A. Sparrowe, P.G. #5065 (exp. date 12/31/12)
Senior Geologist

Enclosures

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

FIRST QUARTER 2011
MONITORING REPORT
ARCO SERVICE STATION #2107, OAKLAND, CALIFORNIA

Broadbent & Associates, Inc. (BAI) is pleased to present this *First Quarter 2011 Monitoring Report* on behalf of Atlantic Richfield Company (ARC, a BP affiliated company) for ARCO Station #2107 located at 3310 Park Boulevard in Oakland, Alameda County, California (hereafter referred to as Station 2107). Monitoring activities at the site were performed in accordance with an agency directive issued by the Alameda County Environmental Health (ACEH). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	ARCO Station #2107 / 3310 Park Blvd., Oakland, California
Client Project Manager / Title:	Mr. Chuck Carmel / Remediation Management Project Manager
BAI Contact:	Mr. Tom Sparrowe, (707) 455-7290
BAI Project No.:	06-88-614
Primary Regulatory Agency / ID No.:	Alameda County Environmental Health (ACEH) ACEH Case # RO0002526
Current phase of project:	Assessment
List of Acronyms / Abbreviations:	See end of report text for list of acronyms/abbreviations used in report.

WORK PERFORMED THIS QUARTER (First Quarter 2011):

1. Submitted *Fourth Quarter 2010 Monitoring Report*.
2. Conducted groundwater monitoring/sampling for First Quarter 2011.

WORK SCHEDULED FOR NEXT QUARTER (Second Quarter 2011):

1. Submit *First Quarter 2011 Monitoring Report* (contained herein).
2. No sampling or environmental activities are scheduled at the Site during Fourth Quarter 2010.

QUARTERLY MONITORING PLAN SUMMARY:

Groundwater level gauging:	MW-11A, MW-11B, MW-12A, MW-12B, MW-13A, MW-13B	(Semi-Annually, 1Q &3Q)
Groundwater sample collection:	MW-11A, MW-11B, MW-12A, MW-12B, MW-13A, MW-13B	(Semi-Annually, 1Q & 3Q)
Biodegradation indicator parameter monitoring:	None	(Quarterly)

QUARTERLY RESULTS SUMMARY:

LNAPL

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

Groundwater Elevation and Gradient:

Depth to groundwater:	3.72 ft (MW-13B) to 10.05 ft (MW-12B)	(ft below TOC)
Gradient direction:	North-Northwest	(compass direction)
Gradient magnitude:	0.04	(ft/ft)
Average change in elevation:	-0.11	(ft since last measurement)

Laboratory Analytical Data

Summary: MTBE above the California Regional Water Quality Control Board-San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs) was detected in all wells sampled. GRO was only detected in MW-11A and above the RWQCB ESL. Other petroleum hydrocarbon constituents were below laboratory detection limits. GRO concentrations increased in MW-11A relative to Fourth Quarter 2010. MTBE increased in MW-12B and MW-13B and decreased in MW-11A, MW-11B, MW-12A and MW-13A relative to Fourth Quarter 2010.

ACTIVITIES CONDUCTED & RESULTS:

First Quarter 2011 groundwater monitoring was conducted on March 10 and 11, 2011 in accordance with the monitoring plan summary detailed above with the following exception: monitor well MW-11A was found with the well cap removed and the well vault full of water. MW-11A was purged dry and allowed to recharge. MW-11A groundwater recharge was so slow the well was capped, allowed to recharge overnight, and sampled the next day (March 11). Drawing 1 is a site location map for Station #2107. Field procedures used during groundwater monitoring are provided in Appendix A. Field data sheets are included in Appendix B.

Collected groundwater samples for MW-11A, MW-11B, MW-12A, MW-12B, MW-13A, MW-13B were submitted to Calscience Environmental Laboratories, Inc. (Calscience) of Garden Grove, California for analyses of gasoline range organics (GRO, C6-12) by EPA Method 8015B; for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tert-butyl ether (MTBE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), di-isopropyl ether (DIPG), tert-butyl alcohol (TBA), 1,2-dibromomethane (EDB), 1,2-dichloroethane (1,2-DCA) and ethanol by EPA Method 8260B. Temperature, dissolved oxygen (DO) and pH were also measured in the field to determine if the groundwater temperature and pH are conducive for biodegradation to occur.

LNAPL was not observed to be present in the wells monitored during First Quarter 2011. Current and historic groundwater elevations and groundwater sample analytical data are provided in Tables 1 and 2. Drawing 2 is provided as a groundwater elevation contour and analytical summary map for March 10 and 11, 2011. Laboratory analytical report and chain of custody record are provided in Appendix C. Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix C.

Review of Tables 1 and 2 and Drawing 2 indicates that GRO was detected in MW-11A (250 µg/L, micrograms per liter) above the RWQCB residential and non-residential ESLs where groundwater is a current or potential drinking water resource. MTBE was detected in all of the wells at concentrations above the RWQCB residential ESL of 5.0 µg/L where groundwater is a current or potential drinking water resource and below the non-residential ESL of 1,800 µg/L where groundwater is a potential drinking water resource. Other petroleum hydrocarbon constituents and fuel oxygenates were below laboratory detection limits.

As shown on Drawing 2, groundwater gradient on March 10, 2011 was 0.04 ft/ft in a north-northwester direction. Historical groundwater flow direction and gradient information is provided in Table 3.

DISCUSSION:

The only petroleum hydrocarbon constituent exceeding the RWQCB ESL in groundwater during First Quarter 2011 monitoring was GRO, detected in MW-11A, and MTBE, detect in all wells. Comparison of analytical results over the last two quarters indicates that GRO concentration decreased in MW-11A (1,300 µg/L to 250 µg/L). MTBE concentrations increased in MW-12B (510 µg/L to 700 µg/L) and MW-13B (15 µg/L to 31 µg/L) and decreased in MW-11A (350 µg/L to 76 µg/L), MW-11B (110 µg/L to 59 µg/L), MW-12A (34 µg/L to 27 µg/L) and MW-13A (24 µg/L to 12 µg/L) relative to Fourth Quarter 2010. These fluctuations are likely related to seasonal changes in groundwater elevation.

Review of historical groundwater gradient data indicates that the gradient measured during First Quarter 2011 monitoring is consistent with predominant measurements observed historically at the site. Vertical gradients between co-located well pairs after exhibited an upward vertical gradient at MW-12A/MW-12B and MW-13A/MW-13B. Due to the standing water and unsecured well cap in the MW-11A well vault a vertical gradient between well pair MW-11A/MW-11B could not be determined this quarter. During First Quarter 2011, groundwater elevations in "B" wells decreased an average of 0.11 feet across the site relative to measurements collected during Fourth Quarter 2010.

As was mentioned in BAI's April 30, 2009 *Groundwater Investigation and Third Quarter 2009 Groundwater Monitoring Report*, over-drilling of well MW-13A to 24 ft bgs, then partially backfilling with bentonite to 19 ft bgs, and constructing the well screen from 11.5-16.5 ft bgs was a variance from the planned scope of work. The validity of data distinguishing groundwater conditions between wells MW-13A and MW-13B is therefore suspect.

Review of biodegradation indicator parameter results indicates that DO, temperature, and pH measured during First Quarter 2011 monitoring were in the range conducive for biodegradation to take place. Additionally, similar to previous quarters, indicator parameter trends were observed across the site during First Quarter 2011. These data indicate that intrinsic bioremediation of petroleum hydrocarbon constituents in the groundwater is on-going at the site.

RECOMMENDATIONS:

No environmental work activities are scheduled to be conducted at the Site during the Second Quarter 2011. The next quarterly monitoring event is scheduled for the Third Quarter 2011. Due to the decreasing concentrations of petroleum hydrocarbon constituents of concern, BAI recommends that ARCO Station #2107 be considered a low risk exposure closure candidate. Unless directed by ACEH, no change to the monitoring program at Station #2107 is presently deemed warranted or recommended.

LIMITATIONS:

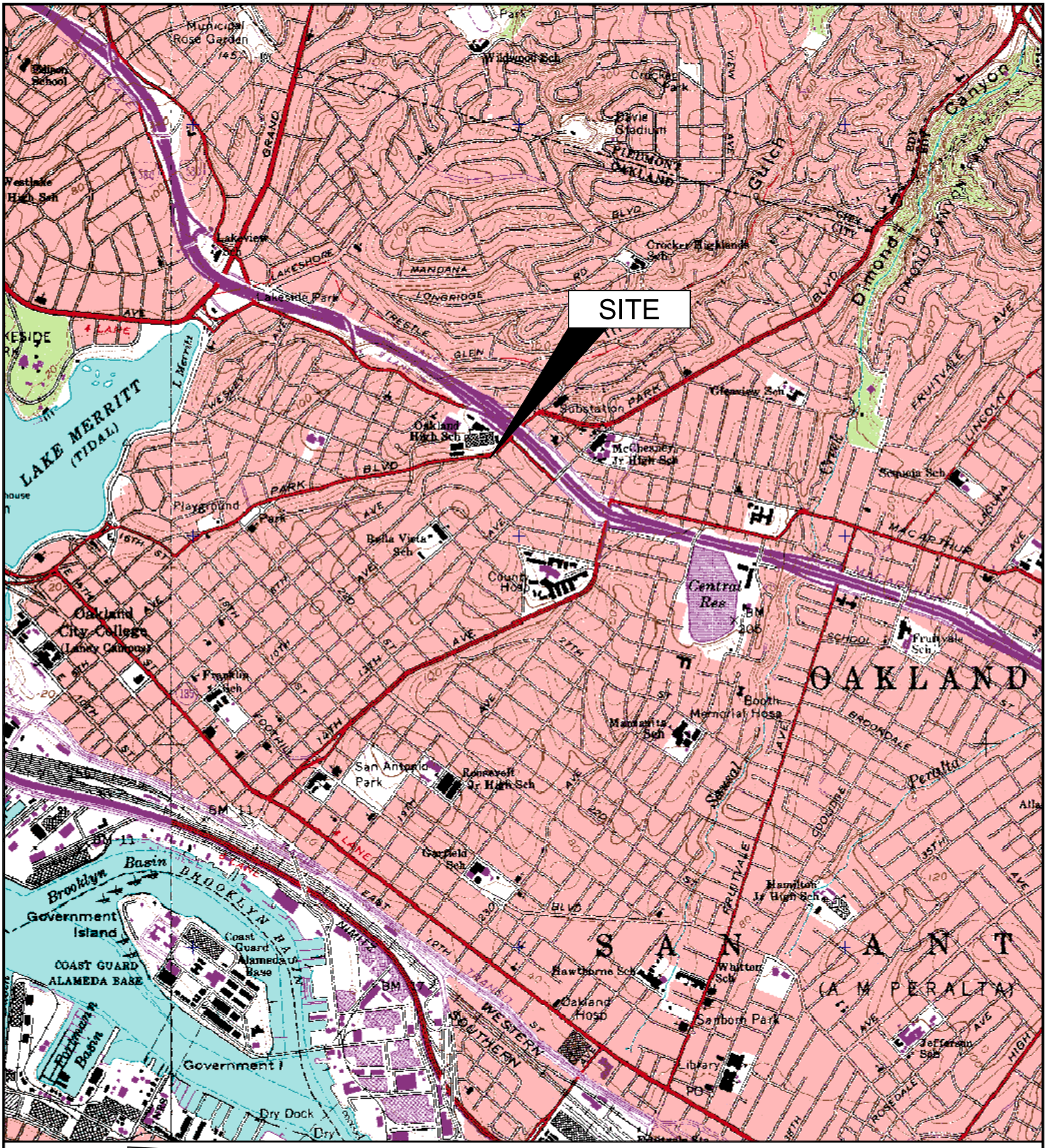
The findings presented in this report are based upon observations of field personnel, points investigated, results of laboratory tests performed by Calscience, and our understanding of ACEH guidelines. Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of ARC. It is possible that variations in soil or groundwater conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

ATTACHMENTS:

Drawing 1:	Site Location Map
Drawing 2:	First Quarter 2011 Groundwater Elevation Contour and Analytical Summary Map
Table 1:	Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
Table 2:	Summary of Fuel Additive Analytical Data
Table 3:	Historic Groundwater Gradient Information
Appendix A:	Field Methods
Appendix B:	Field Data Sheets
Appendix C:	Laboratory Report and Chain-of-Custody Documentation

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

ACEH	Alameda County Environmental Health
ARC:	Atlantic Richfield Company
BAI:	Broadbent & Associates, Inc.
BTEX:	benzene, toluene, ethylbenzene, total xylenes
1,2-DCA:	1,2-dichloroethane
DIPE:	di-isopropyl ether
DO:	didissolved oxygen
ESLs:	RWQCB Environmental Screening Levels (revised May 2008)
EDB:	1,2-dibromomethane
ft/ft:	feet per foot
gal:	gallons
GRO:	gasoline range organics (C6-12)
LNAPL:	light non-aqueous phase liquid
MTBE:	methyl tertiary butyl ether
RWQCB:	California Regional Water Quality Control Board-San Francisco Bay Region
TAME:	tert-amyl methyl ether
TBA:	tert-butyl alcohol
TOC:	top of casing
µg/L:	micrograms per liter

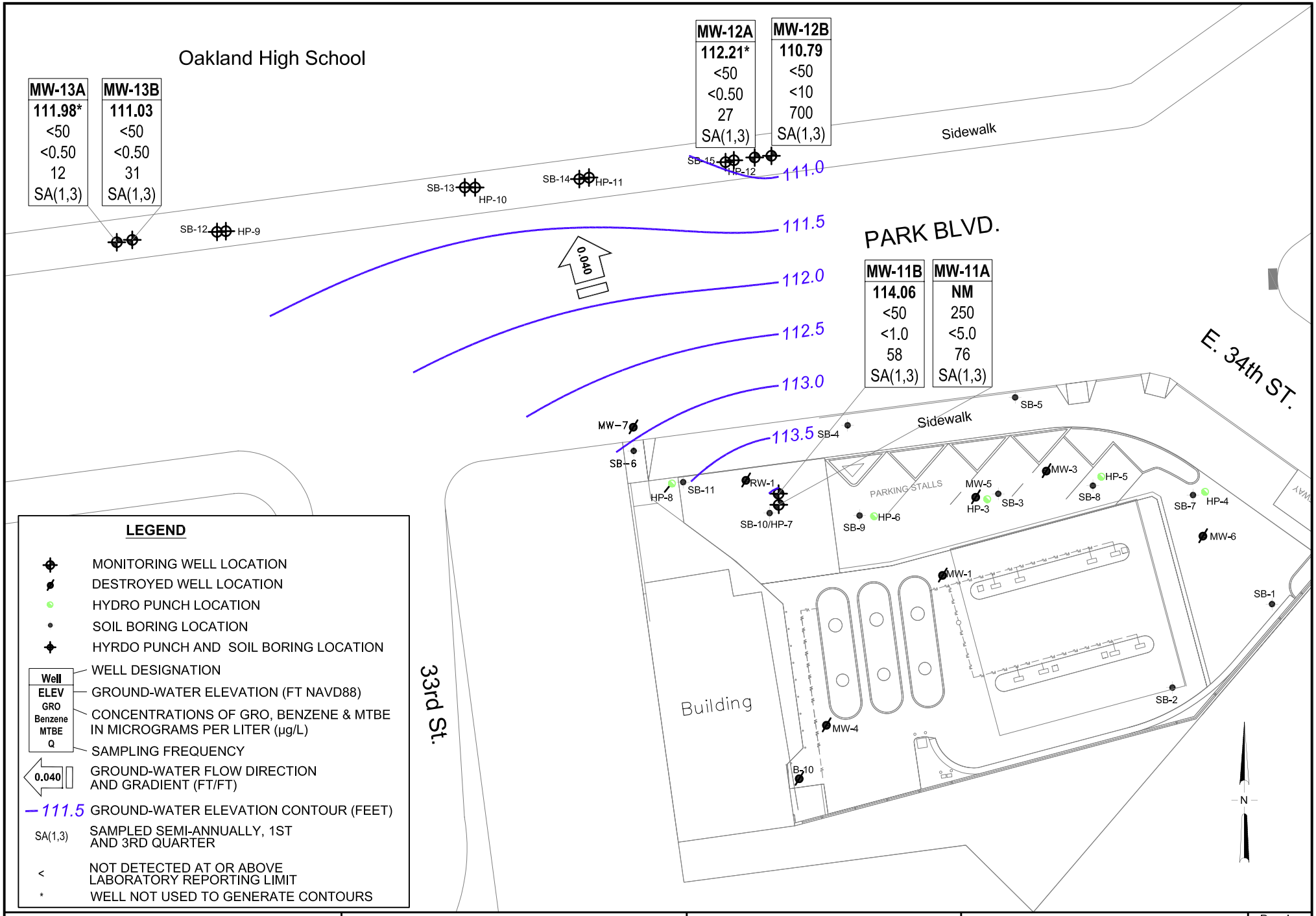


BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-614 Date: 07/22/09

Station #2107
3310 Park Boulevard
Oakland, California

Site Location Map

Drawing
1



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SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 06-88-614 Date: 4/18/2011

Station #2107
3310 Park Boulevard
Oakland, California

Groundwater Elevation Contours and Analytical Summary Map
March 10, 2011

Drawing
2

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

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well and Sample Date	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-11A															
3/9/2009	P	120.85	16.00	20.00	12.41	108.44	1,000	1.5	<1.0	13	4.8	60	9.20	12.74	
6/18/2009	P		16.00	20.00	14.58	106.27	260	11	<5.0	6.8	<5.0	280	--	9.83	a
9/1/2009	P		16.00	20.00	8.75	112.10	1,400	28	20	61	6.7	340	1.40	7.84	
11/11/2009	--		16.00	20.00	10.40	110.45	--	--	--	--	--	--	1.55	12.5	
2/19/2010	P		16.00	20.00	8.90	111.95	1,300	20	17	25	<5.0	340	2.01	12.13	
7/23/2010	P		16.00	20.00	8.37	112.48	1,300	20	22	23	<5.0	350	1.11	12.0	
3/10/2011	**P**		**16.00**	**20.00**	--	--	**250**	**<5.0**	**5.4**	**<5.0**	**<5.0**	**76**	**4.17**	**12.3**	**b; c (GRO)**
MW-11B															
3/9/2009	P	121.31	26.00	30.00	7.33	113.98	280	1.3	1.3	7.6	<0.50	240	9.56	7.14	
6/18/2009	P		26.00	30.00	7.38	113.93	130	<5.0	<5.0	<5.0	<5.0	200	--	6.96	a
9/1/2009	P		26.00	30.00	7.66	113.65	69	<5.0	<5.0	<5.0	<5.0	210	1.01	7.01	
11/11/2009	P		26.00	30.00	7.70	113.61	55	<5.0	<5.0	<5.0	<5.0	200	0.38	6.7	
2/19/2010	P		26.00	30.00	7.59	113.72	68	<2.5	<2.5	<2.5	<2.5	180	2.38	7.44	
7/23/2010	P		26.00	30.00	7.42	113.89	<50	<2.5	<2.5	<2.5	<2.5	110	1.57	7.02	
3/10/2011	**P**		**26.00**	**30.00**	**7.25**	**114.06**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**58**	**1.86**	**6.8**	
MW-12A															
3/9/2009	P	120.64	13.00	18.00	8.70	111.94	<50	<0.50	<0.50	<0.50	<0.50	41	4.62	6.76	
6/18/2009	P		13.00	18.00	8.58	112.06	<50	<1.0	<1.0	<1.0	<1.0	40	--	7.92	a
9/1/2009	P		13.00	18.00	9.21	111.43	<50	<0.50	<0.50	<0.50	<0.50	39	1.06	6.97	
11/11/2009	P		13.00	18.00	9.15	111.49	<50	<1.0	<1.0	<1.0	<1.0	41	0.51	6.2	
2/19/2010	P		13.00	18.00	9.13	111.51	<50	<0.50	<0.50	<0.50	<0.50	32	0.38	6.58	
7/23/2010	P		13.00	18.00	9.18	111.46	<50	<0.50	<0.50	<0.50	<0.50	34	0.68	7.6	
3/10/2011	**P**		**13.00**	**18.00**	**8.43**	**112.21**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**27**	**1.66**	**6.7**	
MW-12B															
3/9/2009	P	120.84	27.00	30.00	14.89	105.95	<50	<0.50	0.55	<0.50	<0.50	150	5.87	7.74	
6/18/2009	P		27.00	30.00	13.51	107.33	140	<2.5	<2.5	<2.5	<2.5	380	--	8.60	a
9/1/2009	P		27.00	30.00	9.54	111.30	89	<10	<10	<10	<10	460	0.99	6.88	
11/11/2009	P		27.00	30.00	11.53	109.31	<50	<5.0	<5.0	<5.0	<5.0	600	1.00	6.46	
2/19/2010	P		27.00	30.00	11.07	109.77	52	<5.0	<5.0	<5.0	<5.0	620	3.32	6.89	

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

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well and Sample Date	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-12B Cont.															
7/23/2010	P	120.84	27.00	30.00	10.75	110.09	<50	<10	<10	<10	<10	510	1.70	7.54	
3/10/2011	**P**		**27.00**	**30.00**	**10.05**	**110.79**	**<50**	**<10**	**<10**	**<10**	**<10**	**700**	**2.71**	**6.9**	
MW-13A															
3/9/2009	P	114.55	11.50	16.50	9.53	105.02	<50	<0.50	<0.50	<0.50	<0.50	13	9.39	7.64	
6/18/2009	P		11.50	16.50	2.88	111.67	<50	<0.50	<0.50	<0.50	<0.50	23	--	7.21	a
9/1/2009	P		11.50	16.50	3.31	111.24	<50	<0.50	<0.50	<0.50	<0.50	34	0.96	6.90	
11/11/2009	P		11.50	16.50	3.66	110.89	<50	<0.50	<0.50	<0.50	<0.50	21	1.79	6.5	
2/19/2010	P		11.50	16.50	3.43	111.12	<50	<0.50	<0.50	<0.50	<0.50	15	0.92	6.69	
7/23/2010	P		11.50	16.50	3.22	111.33	<50	<0.50	<0.50	<0.50	<0.50	24	1.4	7.0	
3/10/2011	**P**		**11.50**	**16.50**	**2.57**	**111.98**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**12**	**0.76**	**6.7**	
MW-13B															
3/9/2009	P	114.75	18.50	22.50	2.96	111.79	<50	<0.50	<0.50	<0.50	<0.50	13	8.44	6.99	
6/18/2009	P		18.50	22.50	2.85	111.90	<50	<0.50	<0.50	<0.50	<0.50	12	--	6.92	a
9/1/2009	P		18.50	22.50	3.36	111.39	<50	<0.50	<0.50	<0.50	<0.50	17	0.96	7.29	
11/11/2009	P		18.50	22.50	3.49	111.26	<50	<0.50	<0.50	<0.50	<0.50	21	2.45	6.39	
2/19/2010	P		18.50	22.50	3.10	111.65	<50	<0.50	<0.50	<0.50	<0.50	19	1.46	6.50	
7/23/2010	P		18.50	22.50	2.74	112.01	<50	<0.50	<0.50	<0.50	<0.50	15	1.16	7.19	
3/10/2011	**P**		**18.50**	**22.50**	**3.72**	**111.03**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**31**	**0.72**	**6.6**	

Symbols & Abbreviations:
-- = Not measured/applicable/analyzed/sampled
µg/L = Micrograms per liter
DO = Dissolved oxygen
DTW = Depth to water in ft below TOC
GRO = Gasoline range organics
mg/L = Milligrams per liter
MTBE = Methyl tert butyl ether
< = Not detected at or above specified laboratory reporting limit
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing in ft above NAVD88 datum

Footnotes:
a = DO meter not working
b = Well full of water
c = Quantitation of unknown hydrocarbons(s) in sample based on gasoline

Notes:
Values for DO and pH were obtained through field measurements

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-11A									
3/9/2009	--	<20	60	<1.0	<1.0	<1.0	--	--	
6/18/2009	<3,000	<100	280	<5.0	<5.0	<5.0	<5.0	<5.0	
9/1/2009	<3,000	<100	340	<5.0	<5.0	5.3	<5.0	<5.0	
2/19/2010	<3,000	<100	340	<5.0	<5.0	6.1	<5.0	<5.0	
7/23/2010	<3,000	<100	350	<5.0	<5.0	6.5	<5.0	<5.0	
3/10/2011	**<6,000**	**<100**	**76**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	
MW-11B									
3/9/2009	--	<10	240	<0.50	<0.50	3.1	--	--	
6/18/2009	<3,000	<100	200	<5.0	<5.0	<5.0	<5.0	<5.0	
9/1/2009	<3,000	<100	210	<5.0	<5.0	<5.0	<5.0	<5.0	
11/11/2009	<3,000	<100	200	<5.0	<5.0	<5.0	<5.0	<5.0	
2/19/2010	<1,500	<50	180	<2.5	<2.5	<2.5	<2.5	<2.5	
7/23/2010	<1,500	<50	110	<2.5	<2.5	<2.5	<2.5	<2.5	
3/10/2011	**<600**	**<20**	**58**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	
MW-12A									
3/9/2009	--	<10	41	<0.50	<0.50	<0.50	--	--	
6/18/2009	<600	<20	40	<1.0	<1.0	<1.0	<1.0	<1.0	
9/1/2009	<300	<10	39	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<600	<20	41	<1.0	<1.0	<1.0	<1.0	<1.0	
2/19/2010	<300	<10	32	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	34	<0.50	<0.50	<0.50	<0.50	<0.50	
3/10/2011	**<300**	**<10**	**27**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-12B									
3/9/2009	--	<10	150	<0.50	<0.50	<0.50	--	--	
6/18/2009	<1,500	<50	380	<2.5	<2.5	<2.5	<2.5	<2.5	
9/1/2009	<6,000	<200	460	<10	<10	<10	<10	<10	
11/11/2009	<3,000	<100	600	<5.0	<5.0	<5.0	<5.0	<5.0	
2/19/2010	<3,000	<100	620	<5.0	<5.0	5.1	<5.0	<5.0	
7/23/2010	<6,000	<200	510	<10	<10	<10	<10	<10	
3/10/2011	**<6,000**	**<200**	**700**	**<10**	**<10**	**<10**	**<10**	**<10**	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-13A									
3/9/2009	--	<10	13	<0.50	<0.50	<0.50	--	--	
6/18/2009	<300	<10	23	<0.50	<0.50	<0.50	<0.50	<0.50	
9/1/2009	<300	<10	34	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	21	<0.50	<0.50	<0.50	<0.50	<0.50	
2/19/2010	<300	<10	15	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	24	<0.50	<0.50	<0.50	<0.50	<0.50	
3/10/2011	**<300**	**<10**	**12**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-13B									
3/9/2009	--	<10	13	<0.50	<0.50	<0.50	--	--	
6/18/2009	<300	<10	12	<0.50	<0.50	<0.50	<0.50	<0.50	
9/1/2009	<300	<10	17	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	21	<0.50	<0.50	<0.50	<0.50	<0.50	
2/19/2010	<300	<10	19	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	15	<0.50	<0.50	<0.50	<0.50	<0.50	
3/10/2011	**<300**	**<10**	**31**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measurable
< = Not detected above reported detection limit
1,2-DCA = 1,2-Dichloroethane
µg/L = Micrograms per Liter
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

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

Table 3. Historical Groundwater Flow Direction and Gradient

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Date Measured	Approximate Groundwater Flow Direction	Approximate Hydraulic Gradient (ft/ft)
3/9/2009	Northeast	0.06
6/18/2009	Northeast	0.06
9/1/2009	North-Northwest	0.03
11/11/2009	North	0.05
2/19/2010	North	0.03
7/23/2010	North	0.05
3/10/2011	**North-Northwest**	**0.04**

APPENDIX A

FIELD METHODS

BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

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

A.1.1 Water Level & Free-Product Measurement

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

A.1.2 Monitoring Well Purging

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

A.1.3 Ground-Water Sample Collection

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

A.1.4 Surface Water Sample Collection

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

A.1.5 Decontamination Protocol

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

A.1.6 Chain of Custody Procedures

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

Field Custody Procedures

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

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

Transfer of Custody and Shipment

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

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

A.1.7 Field Records

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

APPENDIX B

FIELD DATA SHEETS

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

FIELD DATA REPORT

DATE: 3/10/11
PERSONNEL: SB & DR
WEATHER: Cloudy

PROJECT NO.: 06-88-607
COMMENTS: BP 2107

Equip:	Geosquirt	Tubing	Bailers	DO	wli	Ec/pH

Well ID	Time	MEASURING POINT	DTW (FT)	PRODUCT THICKNESS	pH	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	Iron (mg/l)	Alk. (mg/l)	WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC
MW-1A	—		—									Cap off well full to top
MW-1B	1501		7.25									
MW-2A	1536		8.43									
MW-2B	1338		10.05									
MW-3A	1427		2.57									
MW-3B	1427		3.72									

G:\ADMINISTRATION\BAI FORMS\WATER LVL MEAS FORM

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

Groundwater Sampling Data Sheet

Well I.D.: MW-~~BB~~11A
Project Name/Location: BP2107 Project #: 06-88-614
Sampler's Name: SB & JR Date: 3-10-11
Purging Equipment: Bailer
Sampling Equipment: Bailer
Casing Type: PVC

Casing Diameter:		2	inch
Total Well Depth:		20	feet
Depth to Water:	-	0	feet 17.8
Water Column Thickness:	=		feet
Unit Casing Volume*:	x		gallon / foot
Casing Water Volume:	=		gallons
Casing Volume:	x	3	each
Estimated Purge Volume:	=		gallons

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

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	0725	4.17	-72	—	5579	60.2	12.3	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: gallons
Depth to Water at Sample Collection: feet
Sample Collection Time: 7:25 AM 3/11 Purged Dry? (Y) N)

Comments: Cap was overturned & well was filled to the top.
- no sheen, water looked normal
3/11/2011 - only 3 samples; slow recharge

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

Groundwater Sampling Data Sheet

Well I.D.: MW-11D
Project Name/Location: BP 2107 Project #: 3/10/11
Sampler's Name: SB & JR Date: 06-08-6/14
Purging Equipment: bailer
Sampling Equipment: bailer
Casing Type: PVC

Casing Diameter:	2	inch	
Total Well Depth:	30.00	feet	
Depth to Water:	- 7.25	feet	
Water Column Thickness:	= 22.75	feet	
Unit Casing Volume*:	x 0.16	gallon / foot	
Casing Water Volume:	= 3.64	gallons	
Casing Volume:	x 3	each	
Estimated Purge Volume:	= 10.92	gallons	

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

Free product measurement (if present): —

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	15:10	1.86	317	—	754.0	62.2	6.9	
1	15:11	X	X	X	754.0	62.9	6.8	
2	15:12	X	X	X	756.6	64.1	6.8	
3	15:13	X	X	X	759.6	64.5	6.8	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 3 gallons
Depth to Water at Sample Collection: — feet
Sample Collection Time: 15:15 Purged Dry? (Y / (N))

Comments:

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

Groundwater Sampling Data Sheet

Well I.D.: MW-12A
Project Name/Location: BP 2107 Project #: 06-86-614
Sampler's Name: SG MR Date: 3/10/11
Purging Equipment: bailer
Sampling Equipment: bailer
Casing Type: PVC

Casing Diameter:		2	inch
Total Well Depth:		18.00	feet
Depth to Water:	-	8.43	feet
Water Column Thickness:	=	9.57	feet
Unit Casing Volume*:	x	0.16	gallon / foot
Casing Water Volume:	=	1.53	gallons
Casing Volume:	x	3	each
Estimated Purge Volume:	=	4.6	gallons

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

Free product measurement (if present): —

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1:53	1.66	227	—	763.9	64.9	6.8	
1	1:55	X	X	X	768.4	65.5	6.7	
2	1:56	X	X	X	768.2	65.6	6.7	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2 gallons
Depth to Water at Sample Collection: — feet
Sample Collection Time: 1:58 Purged Dry? (Y / (N))

Comments:

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

Groundwater Sampling Data Sheet

Well I.D.: MW-12B
Project Name/Location: BP 2107 Project #: 0688-614
Sampler's Name: SB + JR Date: 3/10/11
Purging Equipment: bailer
Sampling Equipment: Bailer
Casing Type: PVC

Casing Diameter:		2	inch
Total Well Depth:		30.00	feet
Depth to Water:	-	10.05	feet
Water Column Thickness:	=	19.95	feet
Unit Casing Volume*:	x	0.16	gallon / foot
Casing Water Volume:	=	3.2	gallons
Casing Volume:	x	3	each
Estimated Purge Volume:	=	9.5	gallons

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

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	2:05	2.71	278	-	1167	65.6	6.9	
1	2:06	X	X	X	1173	66.7	6.9	
2	2:10	X	X	X	1171	67.4	6.9	
3	2:12	X	X	X	1180	67.4	6.9	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 3 gallons
Depth to Water at Sample Collection: feet
Sample Collection Time: 2:15 PM
Purged Dry? (Y / (N))

Comments:

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

Groundwater Sampling Data Sheet

Well I.D.: MW-13A
Project Name/Location: BP 2109 Project #: 06-38-014
Sampler's Name: SB & JC Date: 3-10-11
Purging Equipment: bailer
Sampling Equipment: bailer
Casing Type: PVC

Casing Diameter:		2	inch
Total Well Depth:		16.50	feet
Depth to Water:	-	2.57	feet
Water Column Thickness:	=	13.93	feet
Unit Casing Volume*:	x	0.16	gallon / foot
Casing Water Volume:	=	2.23	gallons
Casing Volume:	x	3	each
Estimated Purge Volume:	=	6.69	gallons

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

Free product measurement (if present): _____

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1431	0.76	199		1016	~~65.4~~	6.7	
1	1433	X	X	X	1014	64.3	6.6	
2	1434	X	X	X	1018	64.8	6.7	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2 gallons
Depth to Water at Sample Collection: _____ feet
Sample Collection Time: 1440 Purged Dry? (Y (N))

Comments:

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

Groundwater Sampling Data Sheet

Well I.D.: MW-13B
Project Name/Location: BP 240T
Project #: 06-98-614
Sampler's Name: SS & JR
Date:
Purging Equipment: BAILER
Sampling Equipment: BAILER
Casing Type: PVC

Casing Diameter:	2	inch	
Total Well Depth:	22.50	feet	
Depth to Water:	- 3.72	feet	
Water Column Thickness:	= 18.78	feet	
Unit Casing Volume*:	x .16	gallon / foot	
Casing Water Volume:	= 3	gallons	
Casing Volume:	x 3	each	
Estimated Purge Volume:	= 9	gallons	

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

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	14:44	0.72	257		1066	64.1	6.7	
1	14:45	X	X	X	1066	63.2	6.6	
2	14:46	X	X	X	1072	65.0	6.7	
3	14:47	X	X	X	1066	66.1	6.6	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 3 gallons
Depth to Water at Sample Collection: feet
Sample Collection Time: 14:50
Purged Dry? (Y / N)

Comments:

APPENDIX C

LABORATORY REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION

Calscience
Environmental
Laboratories, Inc.

March 28, 2011

Tom Sparrowe
Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Subject: **Calscience Work Order No.: 11-03-0969**
Client Reference: BP 2107

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/12/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted 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,

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: 03/12/11
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 2107

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-11A	**11-03-0969-1-C**	**03/11/11 07:25**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 19:55**	**110315B01**

Comment(s): -LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	250	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
MW-11B	**11-03-0969-2-E**	**03/10/11 15:15**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 20:27**	**110315B01**

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
MW-12A	**11-03-0969-3-E**	**03/10/11 13:58**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 17:45**	**110315B01**

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

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-12B	**11-03-0969-4-E**	**03/10/11 14:15**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 21:00**	**110315B01**

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	81	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: 03/12/11
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 2107

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-13A	**11-03-0969-5-E**	**03/10/11 14:40**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 21:32**	**110315B01**

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	80	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-13B	**11-03-0969-6-E**	**03/10/11 14:50**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 22:04**	**110315B01**

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

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-695-1,036**	**N/A**	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11 16:08**	**110315B01**

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

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc	Date Received:	03/12/11
875 Cotting Lane, Suite G	Work Order No:	11-03-0969
Vacaville, CA 95688-9299	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: BP 2107

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-11A	**11-03-0969-1-A**	**03/11/11 07:25**	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/17/11 00:38**	**110316L03**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	5.0	10		Methyl-t-Butyl Ether (MTBE)	76	5.0	10	
1,2-Dibromoethane	ND	5.0	10		Tert-Butyl Alcohol (TBA)	ND	100	10	
1,2-Dichloroethane	ND	5.0	10		Diisopropyl Ether (DIPE)	ND	5.0	10	
Ethylbenzene	ND	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Toluene	5.4	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	
Xylenes (total)	ND	5.0	10		Ethanol	ND	6000	20	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	102	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	84	80-120			1,4-Bromofluorobenzene	83	68-120		

MW-11B	**11-03-0969-2-B**	**03/10/11 15:15**	**Aqueous**	**GC/MS BB**	**03/17/11**	**03/17/11 18:17**	**110317L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.0	2		Methyl-t-Butyl Ether (MTBE)	58	1.0	2	
1,2-Dibromoethane	ND	1.0	2		Tert-Butyl Alcohol (TBA)	ND	20	2	
1,2-Dichloroethane	ND	1.0	2		Diisopropyl Ether (DIPE)	ND	1.0	2	
Ethylbenzene	ND	1.0	2		Ethyl-t-Butyl Ether (ETBE)	ND	1.0	2	
Toluene	ND	1.0	2		Tert-Amyl-Methyl Ether (TAME)	ND	1.0	2	
Xylenes (total)	ND	1.0	2		Ethanol	ND	600	2	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	105	80-128			Dibromofluoromethane	95	80-127		
Toluene-d8	80	80-120			1,4-Bromofluorobenzene	81	68-120		

MW-12A	**11-03-0969-3-A**	**03/10/11 13:58**	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/17/11 01:36**	**110316L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	27	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	108	80-128			Dibromofluoromethane	98	80-127		
Toluene-d8	82	80-120			1,4-Bromofluorobenzene	82	68-120		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc	Date Received:	03/12/11
875 Cotting Lane, Suite G	Work Order No:	11-03-0969
Vacaville, CA 95688-9299	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: BP 2107

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-12B	**11-03-0969-4-A**	**03/10/11 14:15**	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/17/11 02:04**	**110316L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	10	20		Methyl-t-Butyl Ether (MTBE)	700	10	20	
1,2-Dibromoethane	ND	10	20		Tert-Butyl Alcohol (TBA)	ND	200	20	
1,2-Dichloroethane	ND	10	20		Diisopropyl Ether (DIPE)	ND	10	20	
Ethylbenzene	ND	10	20		Ethyl-t-Butyl Ether (ETBE)	ND	10	20	
Toluene	ND	10	20		Tert-Amyl-Methyl Ether (TAME)	ND	10	20	
Xylenes (total)	ND	10	20		Ethanol	ND	6000	20	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,2-Dichloroethane-d4	112	80-128			Dibromofluoromethane	111	80-127		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	82	68-120		

MW-13A	**11-03-0969-5-A**	**03/10/11 14:40**	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/17/11 02:33**	**110316L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	12	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	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	109	80-128			Dibromofluoromethane	101	80-127		
Toluene-d8	84	80-120			1,4-Bromofluorobenzene	86	68-120		

MW-13B	**11-03-0969-6-A**	**03/10/11 14:50**	**Aqueous**	**GC/MS BB**	**03/17/11**	**03/17/11 18:46**	**110317L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	31	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	103	80-127		
Toluene-d8	81	80-120			1,4-Bromofluorobenzene	82	68-120		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc	Date Received:	03/12/11
875 Cotting Lane, Suite G	Work Order No:	11-03-0969
Vacaville, CA 95688-9299	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: BP 2107

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-703-1,653**	**N/A**	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/16/11 17:53**	**110316L03**

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	109	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	84	80-120			1,4-Bromofluorobenzene	84	68-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-703-1,654**	**N/A**	**Aqueous**	**GC/MS BB**	**03/17/11**	**03/17/11 13:56**	**110317L03**

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	105	80-128			Dibromofluoromethane	102	80-127		
Toluene-d8	83	80-120			1,4-Bromofluorobenzene	83	68-120		

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: 03/12/11
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-12A	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11**	**110315S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	90	89	38-134	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: 03/12/11
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1083-1	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/16/11**	**110316S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	102	76-124	4	0-20	
Carbon Tetrachloride	93	94	74-134	1	0-20	
Chlorobenzene	98	99	80-120	1	0-20	
1,2-Dibromoethane	101	100	80-120	2	0-20	
1,2-Dichlorobenzene	95	96	80-120	1	0-20	
1,2-Dichloroethane	105	104	80-120	0	0-20	
Ethylbenzene	104	101	78-126	3	0-20	
Toluene	88	87	80-120	1	0-20	
Trichloroethene	92	89	77-120	4	0-20	
Methyl-t-Butyl Ether (MTBE)	102	108	67-121	5	0-49	
Tert-Butyl Alcohol (TBA)	96	96	36-162	0	0-30	
Diisopropyl Ether (DIPE)	101	100	60-138	1	0-45	
Ethyl-t-Butyl Ether (ETBE)	102	102	69-123	0	0-30	
Tert-Amyl-Methyl Ether (TAME)	97	100	65-120	2	0-20	
Ethanol	119	92	30-180	26	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

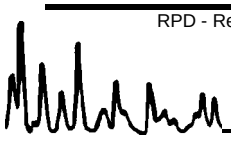
Date Received: 03/12/11
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1209-4	**Aqueous**	**GC/MS BB**	**03/17/11**	**03/17/11**	**110317S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	110	76-124	5	0-20	
Carbon Tetrachloride	90	92	74-134	3	0-20	
Chlorobenzene	96	100	80-120	4	0-20	
1,2-Dibromoethane	94	101	80-120	8	0-20	
1,2-Dichlorobenzene	93	97	80-120	4	0-20	
1,2-Dichloroethane	97	106	80-120	9	0-20	
Ethylbenzene	101	105	78-126	3	0-20	
Toluene	85	89	80-120	4	0-20	
Trichloroethene	83	96	77-120	15	0-20	
Methyl-t-Butyl Ether (MTBE)	89	98	67-121	10	0-49	
Tert-Butyl Alcohol (TBA)	91	94	36-162	4	0-30	
Diisopropyl Ether (DIPE)	95	100	60-138	5	0-45	
Ethyl-t-Butyl Ether (ETBE)	89	96	69-123	7	0-30	
Tert-Amyl-Methyl Ether (TAME)	86	94	65-120	9	0-20	
Ethanol	106	112	30-180	6	0-72	

RPD - Relative Percent Difference , CL - Control Limit



Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: N/A
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-1,036	**Aqueous**	**GC 4**	**03/15/11**	**03/15/11**	**110315B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	94	96	78-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: N/A
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8260B

Project: BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,653	**Aqueous**	**GC/MS BB**	**03/16/11**	**03/16/11**	**110316L03**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	99	98	80-120	73-127	1	0-20	
Carbon Tetrachloride	98	97	74-134	64-144	1	0-20	
Chlorobenzene	92	94	80-120	73-127	3	0-20	
1,2-Dibromoethane	89	93	79-121	72-128	4	0-20	
1,2-Dichlorobenzene	92	94	80-120	73-127	3	0-20	
1,2-Dichloroethane	95	95	80-120	73-127	0	0-20	
Ethylbenzene	98	100	80-120	73-127	2	0-20	
Toluene	84	85	80-120	73-127	1	0-20	
Trichloroethene	88	90	79-127	71-135	3	0-20	
Methyl-t-Butyl Ether (MTBE)	91	100	69-123	60-132	8	0-20	
Tert-Butyl Alcohol (TBA)	103	94	63-123	53-133	10	0-20	
Diisopropyl Ether (DIPE)	95	98	59-137	46-150	4	0-37	
Ethyl-t-Butyl Ether (ETBE)	96	100	69-123	60-132	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	91	94	70-120	62-128	4	0-20	
Ethanol	92	103	28-160	6-182	11	0-57	

Total number of LCS compounds : 15
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Broadbent & Associates, Inc
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Date Received: N/A
Work Order No: 11-03-0969
Preparation: EPA 5030C
Method: EPA 8260B

Project: BP 2107

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,654	**Aqueous**	**GC/MS BB**	**03/17/11**	**03/17/11**	**110317L03**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	103	107	80-120	73-127	3	0-20	
Carbon Tetrachloride	94	94	74-134	64-144	1	0-20	
Chlorobenzene	98	100	80-120	73-127	2	0-20	
1,2-Dibromoethane	96	100	79-121	72-128	4	0-20	
1,2-Dichlorobenzene	93	97	80-120	73-127	4	0-20	
1,2-Dichloroethane	98	103	80-120	73-127	5	0-20	
Ethylbenzene	105	105	80-120	73-127	0	0-20	
Toluene	88	89	80-120	73-127	1	0-20	
Trichloroethene	92	93	79-127	71-135	0	0-20	
Methyl-t-Butyl Ether (MTBE)	91	98	69-123	60-132	7	0-20	
Tert-Butyl Alcohol (TBA)	103	95	63-123	53-133	8	0-20	
Diisopropyl Ether (DIPE)	96	98	59-137	46-150	2	0-37	
Ethyl-t-Butyl Ether (ETBE)	93	96	69-123	60-132	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	89	92	70-120	62-128	3	0-20	
Ethanol	118	87	28-160	6-182	30	0-57	

Total number of LCS compounds : 15
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-03-0969

Qualifier	Definition
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
BZ	Sample preserved improperly.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
DU	Insufficient sample quantity for matrix spike/dup matrix spike.
ET	Sample was extracted past end of recommended max. holding time.
ET	Sample was extracted past end of recommended maximum holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GR	Internal standard recovery is outside method recovery limit.
IB	CCV recovery abovelimit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG,AY	LG= Surrogate recovery below the acceptance limit. AY= Matrix interference suspected.
LH,AY	LH= Surrogate recovery above the acceptance limit. AY= Matrix interference suspected.
LM,AY	LM= MS and/or MSD above acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LN,AY	LN= MS and/or MSD below acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
LW	Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX	Quantitation of unknown hydrocarbon(s) in sample based on diesel.
MB	Analyte present in the method blank.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed.

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

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP 2107
BP/ARC Facility No: 2107
Req Due Date (mm/dd/yy): STD-TAT
Rush TAT: Yes ___ No X
Lab Work Order Number: 0969

Lab Name: Cal science	BP/ARC Facility Address: 3310 Park Blvd.	Consultant/Contractor: Broadbent & Associates, Inc.
Lab Address: 7440 Lincoln Way	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No: 06-88-614-1-813
Lab PM: Richard Villafania	Lead Regulatory Agency: ACEH	Address: 875 Cotting Lane Ste. G, Vacaville, CA 95688
Lab Phone: 714-895-5494 / 714-895-7501 (fax)	California Global ID No.: T06019734306	Consultant/Contractor PM: Tom Sparrowe
Lab Shipping Accnt: 9255	Enfos Proposal No: 000TK-0004	Phone: 707-455-7290 / 707-455-7295 (fax)
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ___ OOC-RM ___	Email EDD To: tsparrowe@broadbentinc.com
Other Info:	Stage: Appraise (1) Activity: Monitoring (13)	Invoice To: BP/ARC X Contractor ___
BP/ARC EBM: Chuck Carmel		
EBM Phone: 925-275-3803		
EBM Email: charles.carmel@bp.com		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol		Requested Analyses: GRO (8015)	BTEX (8260)	5 Oxys (8260)	EDB (8260)	1,2-DCA (8260)	Ethanol (8260)				
1	MW-11A	3-16-11	07:25		X			6				X			X	X	X	X	X	X				
2	MW-11B	3-16-11	15:15		X			6				X			X	X	X	X	X	X				
3	MW-12A	3-16-11	13:58		X			6				X			X	X	X	X	X	X				
4	MW-12B	3-16-11	14:15		X			6				X			X	X	X	X	X	X				
5	MW-13A	3-16-11	14:40		X			6				X			X	X	X	X	X	X				
6	MW-13B	3-16-11	14:50		X			6				X			X	X	X	X	X	X				
7	TB - 2107 - 110310	3/10/11	1520		X			2				X												

Report Type & QC Level: Standard X; Full Data Package ___

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

ON HOLD

Sampler's Name: James Ramos/Sam Barkley	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: BAI	James Ramos	3-11-11	14:00	CSL	3/12/11	0930
Shipment Method: GSO Ship Date: 3-11-11						
Shipment Tracking No: 106840246						

Special Instructions: MW-11A ONLY HAS 3 BOAs DUE TO LACK OF WATER

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

0969

5

GSO
GOLDEN STATE OVERNIGHT

SHIPPING AIR BILL

1-800-322-5555
WWW.GSO.COM

4 PACKAGE INFORMATION
- ☐ LETTER (MAX 8 OZ)
- ☐ PACKAGE (WT) _____
- ☐ DECLARED VALUE $_____
- ☐ COD AMOUNT $_____ (CASH NOT ACCEPTED)

PACKAGE T.ARRT.

1 FROM
DATE 3/11/11
COMPANY Broadbent
ADDRESS 875 Cotting Ln
ADDRESS STE/ROOM G
CITY Vacaville ZIP CODE
SENDERS NAME S. Barkley PHONE NUMBER (530) 538-7784

2 TO
COMPANY CAL SCIENCE
NAME PHONE NUMBER 714) 895-5494
ADDRESS 7440 LINCOLN WAY
ADDRESS STE/ROOM
CITY GARDEN GROVE ZIP CODE 92841

3 YOUR INTERNAL BILLING REFERENCE WILL APPEAR ON YOUR INVOICE

SPECIAL INSTRUCTIONS

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

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

6 RELEASE SIGNATURE
SIGN TO AUTHORIZE DELIVERY WITHOUT OBTAINING SIGNATURE

7

8 PICK UP INFORMATION
TIME DRIVER # ROUTE #

106840246 PEEL OFF HERE

9 GSO TRACKING NUMBER 106840246

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-03-0969

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Broadbent & Associates DATE: 03/12/11

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

Temperature 2.5 °C + 0.5 °C (CF) = 3.0 °C ☑ Blank ☐ Sample

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

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

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

Ambient Temperature: ☐ Air ☐ Filter Initial: YC

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: YC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: [illegible]

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☒ 3/12/11	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

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

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

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

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:** 110714A **Labeled/Checked by:** [illegible]

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

Preservative: h: HCL n: HNO_3 na$_2$: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** TN

APPENDIX D

GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

Submittal Type:	**EDF - Monitoring Report - Semi-Annually**
Submittal Title:	**1Q11 GW Monitoring**
Facility Global ID:	**T06019734306**
Facility Name:	**ARCO #2107**
File Name:	**11030969.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**4/18/2011 10:50:18 AM**
Confirmation Number:	**3739460766**

VIEW QC REPORT

VIEW DETECTIONS REPORT