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First Quarter 2012 Monitoring Report
Former BP Station #11102
100 MacArthur Boulevard
Oakland, California
ACEH Case #RO0000456

REMEDIATION

"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."

Date:
April 13, 2012

Submitted by:

ARCADIS U.S., Inc

Hollis E. Phillips, P.G.
Project Manager

Contact:
Hollis E. Phillips

Phone:
415.374.2744 ext 13

Email:
Hollis.phillips@arcadis-us.com

Our ref:
GP09BPNA.C112

BROADBENT
875 Cotting Ln., Suite G, Vacaville, CA 95688
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broadbentinc.com

April 13, 2012

Project No. 09-88-643

ARCADIS-US, INC.
100 Montgomery Street, Ste. 300
San Francisco, CA 94104

Attn.: Ms. Hollis Phillips, PG

Re: First Quarter 2012 Monitoring Report, Former BP Service Station #11102,
100 MacArthur Boulevard, Alameda County, Oakland, California;
ACEH Case #RO0000456

Dear Ms. Phillips:

Attached is the First Quarter 2012 Monitoring Report for Former BP Service Station #11102 located at 100 MacArthur Boulevard, Oakland, Alameda County, California. Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (707) 455-2790.

Sincerely,
BROADBENT & ASSOCIATES, INC.

James C. Ramos, E.I.T.
Staff Engineer

Thomas A. Sparrowe, P.G.
Senior Geologist

Enclosures

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

FIRST QUARTER 2012 MONITORING REPORT
FORMER BP SERVICE STATION #11102, OAKLAND, CALIFORNIA

Broadbent & Associates, Inc. (Broadbent) is pleased to present this *First Quarter 2012 Monitoring Report* on behalf of ARCADIS USA, Inc. and Atlantic Richfield Company (a BP affiliated company) for Former BP Service Station #11102 located in Oakland, Alameda County, California. Monitoring activities at the site were performed in accordance with the reporting requirements issued by the Alameda County Environmental Health Services Agency (ACEH). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	Former BP Service Station #11102 / 100 MacArthur Boulevard, Oakland, California
Client Project Manager / Title:	Ms. Hollis Phillips, PG / Principal Geologist
Broadbent Contact:	Tom Sparrowe, (707) 455-7290
Broadbent Project No.:	09-88-643
Primary Regulatory Agency / ID No.:	ACEH / Case #RO0000456
Current phase of project:	Monitoring
List of Acronyms / Abbreviations:	See end of report text for list of acronyms/abbreviations used in report.

WORK PERFORMED THIS QUARTER (First Quarter 2012):

1. Conducted groundwater monitoring/sampling for First Quarter 2012 on February 20, 2012.
2. ARCADIS prepared and submitted *Recommendation for Case Closure* on March 12, 2012.

WORK SCHEDULED FOR NEXT QUARTER (Second Quarter 2012):

1. Submit *First Quarter 2012 Monitoring Report* (contained herein).

GROUNDWATER MONITORING PLAN SUMMARY:

Groundwater level gauging:	MW-1 through MW-4	(Semi-Annually: 1Q & 3Q)
Groundwater sample collection:	MW-1 through MW-4	(Semi-Annually: 1Q & 3Q)
Biodegradation indicator parameter monitoring:	None	

QUARTERLY RESULTS SUMMARY:

LNAPL

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

Groundwater Elevation and Gradient:

Depth to groundwater:	11.53 MW-1 to 13.09 MW-2	(ft below TOC)
Gradient direction:	West	(compass direction)
Gradient magnitude:	0.04	(ft/ft)
Average change in elevation:	0.93	(ft since last measurement)

Laboratory Analytical Data

Summary: MTBE was detected in each well sampled at concentrations up to 1,700 µg/L in well MW-3. TBA was detected in three wells sampled at concentrations up to 2,600 µg/L in well MW-2. TAME was detected in two wells sampled at concentrations up to 22 µg/L in well MW-3. The remaining petroleum hydrocarbon constituents were below detection levels.

ACTIVITIES CONDUCTED & RESULTS:

First Quarter 2012 groundwater monitoring was conducted on February 20, 2012 by Broadbent personnel in accordance with the monitoring plan summarized above. No irregularities were noted during water level gauging. Depth to water measurements ranged from 11.53 ft below top of casing (TOC) at MW-1 to 13.09 ft below TOC at MW-2. Resulting groundwater surface elevations ranged from 78.67 ft above datum at MW-1 to 65.45 ft above datum at MW-4. Groundwater elevations are summarized in Table 1. Water level elevations yielded a potentiometric groundwater gradient to the west at approximately 0.04 ft/ft. Field methods used during groundwater monitoring are provided in Appendix A. Field data sheets are included in Appendix B. A Site Location Map is presented as Drawing 1. Potentiometric groundwater elevation contours are presented in Drawing 2.

Groundwater samples were collected on February 20, 2012, consistent with the current monitoring schedule. No irregularities were reported during sampling. Samples were submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. (Pleasanton, California) for analysis of Gasoline-Range Organics (GRO, C6-C12), Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Tert-Butyl Alcohol (TBA) and Ethanol by EPA Method 8260. No significant irregularities were noted by the lab during analysis of the samples. The laboratory analytical report, including chain-of-custody documentation, is provided in Appendix C.

MTBE was detected above the laboratory reporting limit in each of the four wells sampled at concentrations up to 1,700 micrograms per liter (µg/L) in well MW-3. TAME was detected above the laboratory reporting limit in two wells sampled at concentrations up to 22 µg/L in well MW-3. TBA was detected above the laboratory reporting limit in three wells sampled at concentrations up to 2,600 µg/L in well MW-2. The remaining analytes were not detected above their laboratory reporting limits in the wells sampled this monitoring event. Groundwater monitoring laboratory analytical results are summarized in Table 1 and Table 2. The most recent GRO, Benzene, MTBE and TBA concentrations are also presented in Drawing 2. Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix D.

DISCUSSION:

Groundwater levels were between historic minimum and maximum elevations for wells MW-1, MW-2, MW-3 and MW-4. Groundwater elevations yielded a potentiometric groundwater gradient to the west at approximately 0.04 ft/ft, generally consistent with the historic flow direction and gradient data presented in Table 3.

This event's detected analytical concentrations were within the historic minimum and maximum ranges recorded for each well, with the following exception: TBA reached a historic minimum in MW-2 with a concentration of 2,600 µg/L. Recent and historic laboratory analytical results are summarized in Table 1 and Table 2.

RECOMMENDATIONS:

No environmental work is currently scheduled to occur for the Second Quarter of 2012. The next environmental work currently scheduled to be conducted is for the Third Quarter of 2012. However, ARCADIS recommends to suspend all monitoring and sampling activities at the Site while ACEH is reviewing the *Recommendation for Case Closure*.

LIMITATIONS:

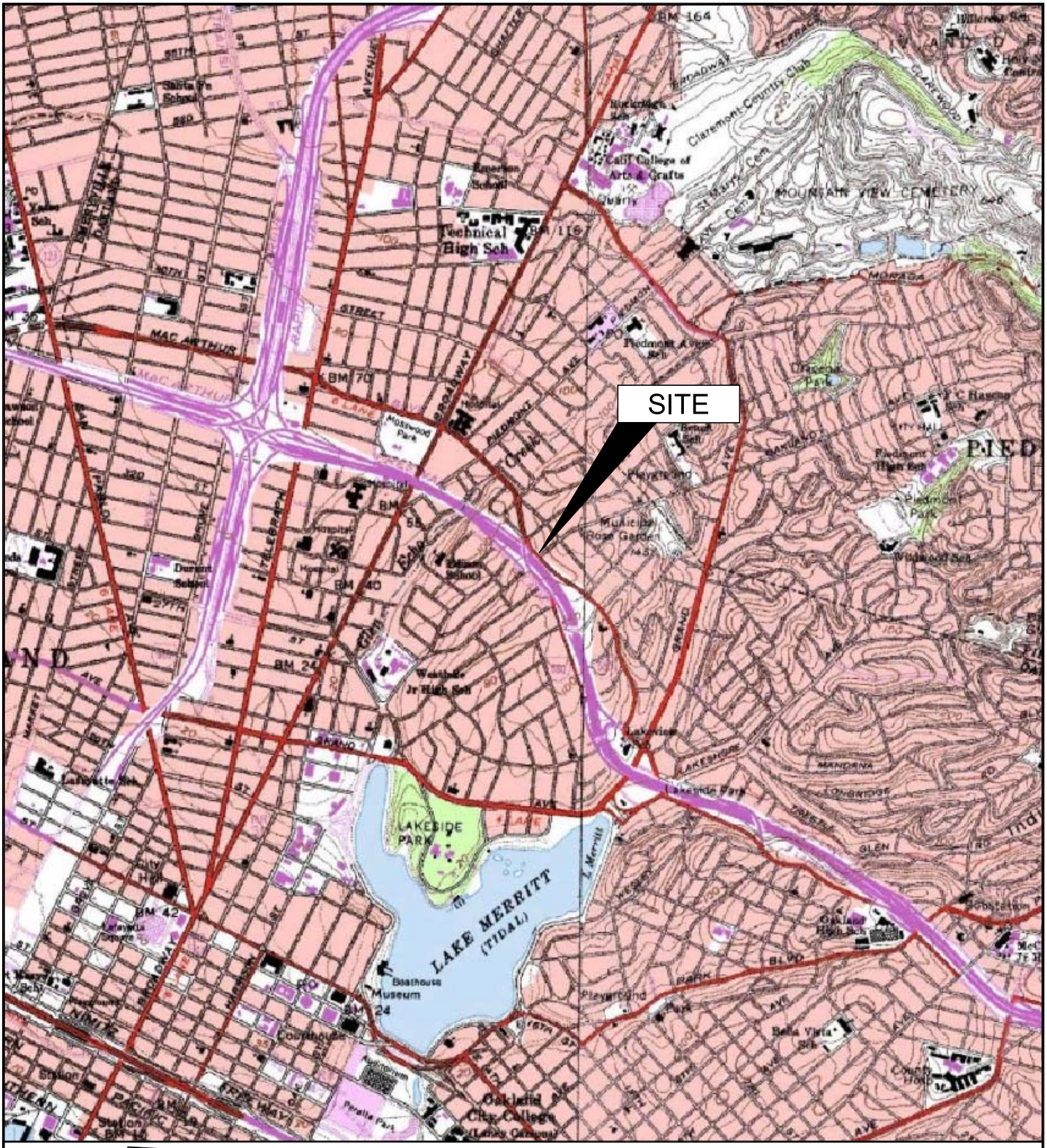
The findings presented in this report are based upon observations of field personnel, points investigated, results of laboratory tests performed by TestAmerica Laboratories, Inc. (Pleasanton, California), and our understanding of ACEH requirements. Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of ARCADIS-US, Inc. and Atlantic Richfield Company (a BP affiliated company). It is possible that variations in soil or groundwater conditions could exist beyond points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

ATTACHMENTS:

Drawing 1:	Site Location Map
Drawing 2:	Groundwater Elevation Contours and Analytical Summary Map, February 20, 2012
Table 1:	Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
Table 2:	Summary of Fuel Additives Analytical Data
Table 3:	Historical Groundwater Gradient - Direction and Magnitude
Appendix A:	Field Methods
Appendix B:	Field Data Sheets and Non-Hazardous Waste Data Form
Appendix C:	Laboratory Report and Chain-of-Custody Documentation
Appendix D:	GeoTracker Upload Confirmation Receipts

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

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



BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-643 Date: 10/1/09

Former Station #11102
100 MacArthur Boulevard
Oakland, California

Site Location Map

Drawing
1

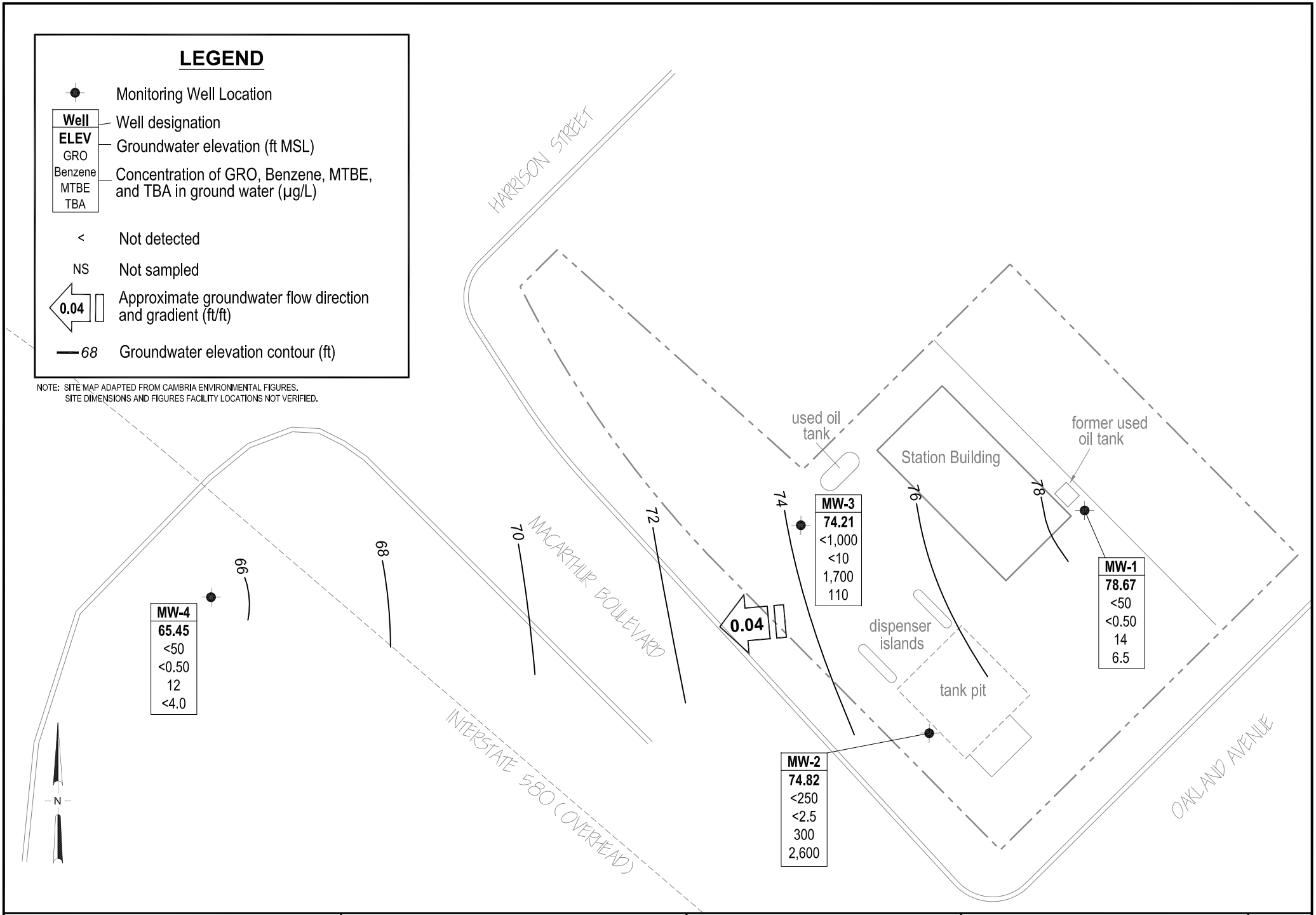

LEGEND
Monitoring Well Location
Well
ELEV
GRO
Benzene
MTBE
TBA
Well designation
Groundwater elevation (ft MSL)
Concentration of GRO, Benzene, MTBE, and TBA in ground water (µg/L)
<
Not detected
NS
Not sampled
0.04
Approximate groundwater flow direction and gradient (ft/ft)
68
Groundwater elevation contour (ft)
NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES.
SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.
HARRISON STREET
MACARTHUR BOULEVARD
INTERSTATE 580 (OVERHEAD)
OAKLAND AVENUE
used oil tank
former used oil tank
Station Building
dispenser islands
tank pit
MW-1
78.67
<50
<0.50
14
6.5
MW-2
74.82
<250
<2.5
300
2,600
MW-3
74.21
<1,000
<10
1,700
110
MW-4
65.45
<50
<0.50
12
<4.0
0.04
66
68
70
72
74
76
78
N
0
40
80
SCALE (ft)
BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 09-88-643 Date: 03/21/12
Former Station #11102
100 MacArthur Boulevard Oakland, California
Groundwater Elevation Contour and Analytical Summary Map
February 20, 2012
Drawing
2

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-1																	
11/4/1989	--	90.20	13.21	0.00	76.99	<500	<50	3.4	0.6	<0.3	<0.3	--	<5000	--	--	--	
11/11/1989	--		13.32	0.00	76.88	--	--	--	--	--	--	--	--	--	--	--	
4/3/1990	--		12.46	0.00	77.74	820	--	64	1.9	23	34	--	--	--	--	--	
7/30/1990	--		12.92	0.00	77.28	190	<50	11	<5.0	<5.0	<5.0	--	<5000	--	--	--	
11/20/1990	--		14.08	0.00	76.12	50	79	2.4	<0.3	<0.3	<0.3	--	<5000	--	--	--	
3/1/1991	--		13.61	0.00	76.59	<100	<1000	0.9	<0.3	<0.3	0.3	--	14,000	--	--	--	
8/19/1991	--		15.74	0.00	74.46	370	<50	35	0.73	6.4	5.6	--	<5000	--	--	--	
11/13/1991	--		14.08	0.00	76.12	60	<50	0.68	<0.3	<0.3	<0.3	--	<5000	--	--	--	
2/24/1992	--		12.52	0.00	77.68	140	100	3.9	0.66	1.2	3.8	--	<5000	--	--	--	
5/19/1992	--		11.80	0.00	78.40	4,200	910	440	21	250	37	--	<5000	--	--	--	
6/17/1992	--		12.01	0.00	78.19	4,000	560	350	14	150	17	--	<5000	--	--	--	
7/22/1992	--		12.42	0.00	77.78	4,000	--	<5.0	19	210	61	--	--	--	--	--	
8/14/1992	--		12.75	0.00	77.45	2,400	1,700	330	20	150	47	--	<5000	--	--	--	
11/11/1992	--		13.69	0.00	76.51	260	92	30	3.4	7.6	6.8	--	<5000	--	--	--	
6/7/1993	--		10.93	0.00	79.27	3,700	--	120	12	26	9.5	--	--	--	--	--	c
6/7/1993	--		10.93	0.00	79.27	3,400	440	98	11	21	7.6	--	--	--	--	--	
12/2/1993	--		12.72	0.00	77.48	1,100	120	8.3	3.6	0.6	1.5	--	<5000	--	--	--	
6/22/1994	--		11.81	0.00	78.39	2,100	--	30	3.2	2	15	2,000	--	--	--	--	c, d
6/22/1994	--		11.81	0.00	78.39	2,100	<50	32	3.8	2.2	17	4,000	<5000	--	3.2	--	d
1/10/1995	--		10.97	0.00	79.23	<500	--	120	<5	5	<10	--	--	--	--	--	c
1/10/1995	--		10.97	0.00	79.23	<500	420	120	<5	<5	<10	--	--	--	3.9	--	
6/21/1995	--		9.38	0.00	80.82	3,600	--	<13	<5.0	<5.0	<10	--	--	--	--	--	c, e
6/21/1995	--		9.38	0.00	80.82	4,700	1,300	16	<5.0	<5.0	<10	--	2,900	0.6	6.7	--	
12/27/1995	--		11.55	0.00	78.65	430	2,100	<2.5	<2.5	<2.5	<5.0	1,200	640	--	6.3	--	
6/13/1996	--		9.28	0.00	80.92	3,200	920	51	<12	<12	<12	4,000	2,000	--	6.3	--	
12/4/1996	--		11.91	0.00	78.29	1,400	280	6.2	<5	<5	<5	2,600	2,000	6	6.7	--	f
6/10/1997	--		8.97	0.00	81.23	7,900	1,700	12	<10	<10	<10	15,000	<5	--	6	--	
6/10/1997	--		8.97	0.00	81.23	7,700	--	14	<25	<25	<25	13,000	--	--	--	--	c
12/12/1997	--		11.37	0.00	78.83	440	760	8.8	<1.0	2.6	9.4	6,700	1,200	--	5.5	--	
6/18/1998	--		8.02	0.00	82.18	7,500	2,900	<2.5	<5.0	<5.0	<5.0	5,600	<5	--	4.9	--	

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-1 Cont.																	
3/9/1999	--	90.20	9.80	0.00	80.40	32,000	--	100	16	72	110	49,000	--	--	--	--	
9/28/1999	--		10.78	0.00	79.42	1,000	--	<5.0	<5.0	<5.0	<5.0	730	--	<1.0	--	--	
10/14/1999	--		10.84	0.00	79.36	--	660	--	--	--	--	--	--	--	--	--	
3/27/2000	--		9.83	0.00	80.37	4,300	--	160	19	37	43	28,000	--	--	--	--	
9/28/2000	--		11.33	0.00	78.87	2,700	--	10	2.6	1.1	2.7	28,000	--	--	--	--	
3/8/2001	--		10.96	0.00	79.24	8,200	--	23.5	6.09	5.23	8.97	11,600	--	--	--	--	
9/21/2001	--		12.07	0.00	78.13	6,000	--	37.9	<0.5	<0.5	<1.5	7,370	--	--	--	--	
2/28/2002	--		10.48	0.00	79.72	6,400	--	60.8	<5.0	6.43	<10	7,750	--	--	--	--	
9/6/2002	--		11.20	0.00	79.00	1,400	--	<5.0	<5.0	<5.0	<5.0	6,000	--	--	--	--	
2/19/2003	--		11.29	0.00	78.91	<10000	--	<100	110	<100	<100	4,500	--	--	--	--	h
7/14/2003	--		11.18	0.00	79.02	710	--	11	<10	<10	<10	940	--	--	--	--	
01/14/2004	--		11.74	0.00	78.46	<500	--	<5.0	<5.0	<5.0	<5.0	220			--	6.6	
04/23/2004	P		11.95	0.00	78.25	470	--	3.4	<2.5	<2.5	<2.5	150			--	6.7	l
07/01/2004	P		11.52	0.00	78.68	360	--	<2.5	<2.5	<2.5	<2.5	96			--	6.0	
10/28/2004	P		12.56	0.00	77.64	390	--	0.94	<0.50	<0.50	<0.50	43			--	6.2	
01/10/2005	P		11.85	0.00	78.35	490	--	17	<2.5	5.8	5.4	85			--	7.6	
04/13/2005	P		10.00	0.00	80.20	1,000	--	27	<2.5	<2.5	25	48			--	6.6	
07/11/2005	P		9.27	0.00	80.93	180	--	<0.50	<0.50	<0.50	<0.50	36			--	7.7	
10/17/2005	P		10.96	0.00	79.24	140	--	<0.50	<0.50	<0.50	<0.50	20			--	8.0	
01/17/2006	P		10.81	0.00	79.39	120	--	0.64	<0.50	<0.50	0.56	38			--	6.5	
04/21/2006	P		9.28	0.00	80.92	410	--	1.4	1.0	<0.50	<0.50	17			--	6.5	m
7/17/2006	--		9.25	0.00	80.95	<50	--	<0.50	<0.50	<0.50	<0.50	5.5	--	--	--	7.7	
7/26/2006	--		8.57	0.00	81.63	<50	--	<0.50	<0.50	<0.50	<0.50	4.4	--	--	--	6.6	
10/31/2006	P		9.80	0.00	80.40	<50	--	<0.50	<0.50	<0.50	<0.50	2.8	--	--	2.81	6.99	
1/8/2007	P		10.36	0.00	79.84	<50	--	2.2	<0.50	<0.50	<0.50	6.2	--	--	2.51	6.97	
4/10/2007	P		10.65	0.00	79.55	160	--	1.4	<0.50	<0.50	<0.50	9.0	--	--	1.75	7.00	
7/10/2007	P		10.52	0.00	79.68	120	160	<0.50	<0.50	<0.50	<0.50	4.9	--	--	2.01	6.60	p
10/24/2007	P		11.23	0.00	78.97	100	--	<0.50	<0.50	<0.50	<0.50	4.9	--	--	1.89	6.57	
1/22/2008	P		11.22	0.00	78.98	240	--	<0.50	<0.50	0.83	1.7	7.2	--	--	3.18	6.49	
4/15/2008	P		10.26	0.00	79.94	240	--	<0.50	<0.50	<0.50	0.73	5.5	--	--	3.32	6.45	

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-1 Cont.																	
7/8/2008	P	90.20	11.10	0.00	79.10	78	--	<0.50	<0.50	<0.50	<0.50	5.8	--	--	1.65	6.78	
11/19/2008	P		12.51	0.00	77.69	150	--	<0.50	<0.50	<0.50	<0.50	3.4	--	--	1.59	6.84	
2/10/2009	P		12.71	0.00	77.49	<50	--	<0.50	<0.50	<0.50	<0.50	5.3	--	--	1.63	7.00	
5/7/2009	P		10.90	0.00	79.30	<50	--	1.6	<0.50	<0.50	<0.50	13	--	--	1.41	6.82	
9/3/2009	P		11.91	0.00	78.29	120	--	<0.50	<0.50	<0.50	0.89	3.8	--	--	1.45	6.82	
10/29/2009	P		12.54	0.00	77.66	<50	--	<0.50	<0.50	<0.50	<1.0	22	--	--	1.53	6.73	
2/26/2010	P		10.61	0.00	79.59	<50	--	<0.50	<0.50	<0.50	<1.0	8.1	--	--	0.75	6.55	
8/16/2010	P		10.12	0.00	80.08	<50	--	<0.50	<0.50	<0.50	<1.0	8.1	--	--	1.27	6.57	
11/12/2010	--		10.53	0.00	79.67	--	--	--	--	--	--	--	--	--	--	--	
2/3/2011	P		11.88	0.00	78.32	<50	--	0.50	<0.50	<0.50	<1.0	14	--	--	1.00	6.51	
6/23/2011	--		9.78	0.00	80.42	--	--	--	--	--	--	--	--	--	--	--	
8/22/2011	P		10.39	0.00	79.81	<50	--	<0.50	<0.50	<0.50	<1.0	1.1	--	--	0.60	6.77	
2/20/2012	**P**		**11.53**	**0.00**	**78.67**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**14**	**--**	**--**	**0.66**	**6.99**	
MW-2																	
11/4/1989	--	87.91	15.84	0.00	72.07	<500	--	6.5	<0.3	<0.3	<0.3	--	--	--	--	--	
11/11/1989	--		14.75	0.00	73.16	--	--	--	--	--	--	--	--	--	--	--	
4/3/1990	--		15.25	0.00	72.66	<500	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
7/30/1990	--		15.59	0.00	72.32	61	--	6.5	<0.5	<0.5	<0.5	--	--	--	--	--	
11/20/1990	--		17.81	0.00	70.10	<50	--	0.3	<0.3	<0.3	<0.3	--	--	--	--	--	
3/1/1991	--		17.11	0.00	70.80	<100	--	0.4	<0.3	<0.3	<0.3	--	--	--	--	--	
8/19/1991	--		17.97	0.00	69.94	<30	--	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	
11/13/1991	--		16.76	0.00	71.15	38	--	0.32	<0.3	<0.3	<0.3	--	--	--	--	--	
2/24/1992	--		15.07	0.00	72.84	<50	--	<0.5	<0.5	<0.5	0.58	--	--	--	--	--	
5/19/1992	--		14.70	0.00	73.21	<50	--	0.55	<0.5	<0.5	<0.5	--	--	--	--	--	
7/22/1992	--		15.60	0.00	72.31	90	--	1.3	0.6	0.9	1.9	--	--	--	--	--	
8/14/1992	--		15.88	0.00	72.03	--	--	--	--	--	--	--	--	--	--	--	
11/11/1992	--		16.19	0.00	71.72	65	--	3.2	<0.5	<0.5	1	--	--	--	--	--	c
11/11/1992	--		16.19	0.00	71.72	52	--	2.8	<0.5	<0.5	0.9	--	--	--	--	--	
6/7/1993	--		14.42	0.00	73.49	1,200	--	14	2.8	1.9	1.71	--	--	--	--	--	
12/2/1993	--		14.94	0.00	72.97	2,100	--	32	3.8	2.2	17	3,700	--	--	--	--	c, d

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-2 Cont.																	
12/2/1993	--	87.91	14.94	0.00	72.97	790	--	3.4	0.5	10	<0.5	3,700	--	--	--	--	d
6/22/1994	--		14.25	0.00	73.66	110	--	<0.5	<0.5	<0.5	<0.5	120	--	--	3.9	--	d
1/10/1995	--		13.64	0.00	74.27	<50	--	<0.5	<0.5	0.6	1	--	--	--	4.3	--	
6/21/1995	--		11.66	0.00	76.25	4,700	--	<10	<10	<10	<20	--	--	--	7.8	--	
12/27/1995	--		13.11	0.00	74.80	6,300	--	<25	<25	<25	<50	19,000	--	--	--	--	c
12/27/1995	--		13.11	0.00	74.80	6,100	--	<25	<25	<25	<50	20,000	--	--	6.7	--	
6/13/1996	--		10.86	0.00	77.05	8,700	--	<5	<5	<5	<5	13,000	--	--	--	--	c
6/13/1996	--		10.86	0.00	77.05	8,300	--	<2.5	<2.5	<2.5	<2.5	13,000	--	--	6.5	--	
12/4/1996	--		13.03	0.00	74.88	5,900	--	<2.5	<5	<5	<5	11,000	--	--	--	--	c
12/4/1996	--		13.03	0.00	74.88	5,900	--	<2.5	<5	<5	<5	11,000	--	--	6.3	--	
6/10/1997	--		10.04	0.00	77.87	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.8	--	
12/12/1997	--		12.44	0.00	75.47	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.7	--	
6/18/1998	--		8.89	0.00	79.02	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	c
6/18/1998	--		8.89	0.00	79.02	50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.3	--	
3/9/1999	--		10.20	0.00	77.71	15,000	--	<5.0	<5.0	<5.0	<5.0	23,000	--	--	--	--	
9/28/1999	--		11.81	0.00	76.10	36,000	--	<5.0	12	7	26	35,000	--	<5.0	--	--	
10/14/1999	--		10.27	0.00	77.64	--	100	--	--	--	--	--	--	--	--	--	
3/27/2000	--		9.98	0.00	77.93	1,300	--	<0.5	<0.5	0.51	<0.5	5,800	--	--	--	--	
9/28/2000	--		11.40	0.00	76.51	1,600	--	1.8	1.7	0.54	2.2	15,000	--	--	--	--	
3/8/2001	--		11.16	0.00	76.75	20,000	--	<0.5	<0.5	<0.5	<0.5	29,100	--	--	--	--	
9/21/2001	--		11.65	0.00	76.26	5,000	--	<0.5	<0.5	<0.5	<1.5	6,110	--	--	--	--	
2/28/2002	--		9.86	0.00	78.05	3,200	--	35.1	<0.5	<0.5	<1.0	4,620	--	--	--	--	
9/6/2002	--		12.32	0.00	75.59	1,900	--	<10	<10	<10	<10	15,000	--	--	--	--	
2/19/2003	--		11.63	0.00	76.28	45,000	--	<250	<250	<250	<250	32,000	--	--	--	--	h
7/14/2003	--		12.07	0.00	75.84	9,300	--	<500	<500	<500	<500	24,000	--	--	--	--	
01/14/2004	P		11.45	0.00	76.46	<50,000	--	<500	<500	<500	<500	21,000			--	6.9	
04/23/2004	P		11.45	0.00	76.46	5,100	--	<250	<250	<250	<250	22,000			--	6.8	l
07/01/2004	P		12.32	0.00	75.59	<5,000	--	<50	<50	<50	<50	5,200			--	5.6	
10/28/2004	P		13.02	0.00	74.89	8,500	--	<50	<50	<50	<50	6,800			--	6.2	
01/10/2005	P		14.38	0.00	73.53	<25,000	--	<250	<250	<250	<250	7,100			--	7.6	

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-2 Cont.																	
04/13/2005	P	87.91	14.03	0.00	73.88	<5,000	--	<50	<50	<50	<50	5,300			--	6.6	
07/11/2005	P		11.25	0.00	76.66	<5,000	--	<50	<50	<50	<50	5,300			--	7.5	
10/17/2005	P		12.48	0.00	75.43	<5,000	--	<50	<50	<50	<50	2,500			--	8.2	
01/17/2006	P		10.70	0.00	77.21	<5,000	--	<50	<50	<50	<50	2,200			--	7.0	
04/21/2006	--		--	--	--	--	--	--	--	--	--	--			--	--	n
7/26/2006	--		10.47	0.00	77.44	2,700	--	<50	<50	<50	<50	2,900	--	--	--	6.69	k
10/31/2006	P		12.02	0.00	75.89	2,300	--	<25	<25	<25	<25	2,300	--	--	2.02	6.71	
1/8/2007	P		11.68	0.00	76.23	1500	--	<12	<12	<12	<12	1700	--	--	1.37	6.54	
4/10/2007	P		11.45	0.00	76.46	1,300	--	<50	<50	<50	<50	1,500	--	--	1.60	6.89	k
7/10/2007	P		11.97	0.00	75.94	2,300	120	<25	<25	<25	<25	2,600	--	--	1.82	6.69	k, p
10/24/2007	P		12.91	0.00	75.00	2,800	--	<25	<25	<25	<25	2,800	--	--	1.55	6.77	k
1/22/2008	P		12.00	0.00	75.91	<2,500	--	<25	<25	<25	<25	1,400	--	--	2.08	6.55	
4/15/2008	P		11.77	0.00	76.14	73	--	<2.5	<2.5	<2.5	<2.5	2,400	--	--	3.12	6.72	
7/8/2008	P		12.65	0.00	75.26	93	--	<50	<50	<50	<50	2,800	--	--	1.78	7.05	
11/19/2008	P		13.98	0.00	73.93	130	--	<50	<50	<50	<50	1,900	--	--	1.75	6.72	
2/10/2009	P		13.64	0.00	74.27	<50	--	<50	<50	<50	<50	940	--	--	1.71	7.04	
5/7/2009	P		12.00	0.00	75.91	350	--	<20	<20	<20	<20	1,900	--	--	1.62	6.94	
9/3/2009	P		13.68	0.00	74.23	890	--	<40	<40	<40	<40	1,300	--	--	1.56	7.02	q
10/29/2009	P		13.88	0.00	74.03	530	--	<0.50	<0.50	<0.50	<1.0	690	--	--	1.60	6.7	k
2/26/2010	P		11.65	0.00	76.26	1,100	--	<10	<10	<10	<20	1,100	--	--	0.52	6.64	k
8/16/2010	NP		12.82	0.00	75.09	1,000	--	<10	<10	<10	<20	1,100	--	--	0.70	6.60	
11/12/2010	--		12.98	0.00	74.93	--	--	--	--	--	--	--	--	--	--	--	
2/3/2011	NP		12.38	0.00	75.53	<1,000	--	<10	<10	<10	<20	860	--	--	1.23	6.51	
6/23/2011	--		11.37	0.00	76.54	--	--	--	--	--	--	--	--	--	--	--	
8/22/2011	P		12.29	0.00	75.62	<250	--	<2.5	<2.5	<2.5	<5.0	170	--	--	0.35	6.89	
2/20/2012	**P**		**13.09**	**0.00**	**74.82**	**<250**	**--**	**<2.5**	**<2.5**	**<2.5**	**<5.0**	**300**	**--**	**--**	**0.61**	**7.05**	
MW-3																	
11/4/1989	--	87.02	15.40	0.00	71.62	<500	--	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	
11/11/1989	--		14.10	0.00	72.92	--	--	--	--	--	--	--	--	--	--	--	
4/3/1990	--		13.90	0.00	73.12	<100	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	

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Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-3 Cont.																	
7/30/1990	--	87.02	13.77	0.00	73.25	<50	--	<0.5	<0.5	<0.5	<0.5	--	<5000	--	--	--	
11/20/1990	--		14.67	0.00	72.35	<50	--	0.3	0.8	0.4	1.5	--	--	--	--	--	
3/1/1991	--		15.22	0.00	71.80	<100	--	0.4	<0.3	<0.3	<0.3	--	--	--	--	--	
8/19/1991	--		13.15	0.00	73.87	<30	--	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	
11/13/1991	--		15.66	0.00	71.36	<30	--	<0.3	<0.3	<0.3	<0.3	--	--	--	--	--	
2/24/1992	--		15.01	0.00	72.01	<50	--	0.65	1.4	0.66	4.4	--	--	--	--	--	
5/19/1992	--		15.52	0.00	71.50	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
7/22/1992	--		15.63	0.00	71.39	<50	<50	<0.5	<0.5	<0.5	<0.5	--	<5000	--	--	--	
8/14/1992	--		13.57	0.00	73.45	--	--	--	--	--	--	--	--	--	--	--	
11/11/1992	--		14.13	0.00	72.89	<50	--	<0.5	0.7	<0.5	1.3	--	--	--	--	--	
6/7/1993	--		12.13	0.00	74.89	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
12/2/1993	--		13.29	0.00	73.73	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
6/22/1994	--		12.78	0.00	74.24	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	2.9	--	
1/10/1995	--		12.01	0.00	75.01	<50	--	<0.5	<0.5	<0.5	<1	--	--	--	3.8	--	
6/21/1995	--		11.57	0.00	75.45	<50	--	<0.50	<0.50	<0.50	<1.0	--	--	--	7.4	--	
12/27/1995	--		13.47	0.00	73.55	<50	--	<0.50	<0.50	<0.50	<1.0	5.7	--	--	7.3	--	
6/13/1996	--		11.22	0.00	75.80	60	--	<0.5	<0.5	<0.5	<0.5	<10	--	--	6.8	--	
12/4/1996	--		13.28	0.00	73.74	<50	--	<0.5	<1	<1	<1	<10	--	--	6.7	--	
6/10/1997	--		10.22	0.00	76.80	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	6.1	--	
12/12/1997	--		12.61	0.00	74.41	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	c
12/12/1997	--		12.61	0.00	74.41	<50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.6	--	
6/18/1998	--		12.80	0.00	74.22	--	--	--	--	--	--	--	--	--	--	--	
6/18/1998	--		9.07	0.00	77.95	50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.3	--	
6/18/1998	--		12.80	0.00	74.22	50	--	<0.5	<1.0	<1.0	<1.0	<10	--	--	5.3	--	
6/18/1998	--		9.07	0.00	77.95	--	--	--	--	--	--	--	--	--	--	--	
9/28/1999	--		13.76	0.00	73.26	--	--	--	--	--	--	--	--	--	--	--	
3/27/2000	--		13.77	0.00	73.25	<50	--	<0.5	<0.5	<0.5	<0.5	1.6	--	--	--	--	
9/28/2000	--		11.28	0.00	75.74	<50	--	<0.5	7.4	<0.5	1.3	2	--	--	--	--	
3/8/2001	--		11.75	0.00	75.27	<50	--	<0.5	<0.5	<0.5	<0.5	60.4	--	--	--	--	
9/21/2001	--		11.33	0.00	75.69	<50	--	<0.5	<0.5	<0.5	<1.5	8.18	--	--	--	--	

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Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-3 Cont.																	
2/28/2002	--	87.02	10.86	0.00	76.16	<50	--	<0.5	<0.5	<0.5	<1.0	25.5	--	--	--	--	
9/6/2002	--		12.73	0.00	74.29	<50	--	1.2	<0.5	<0.5	1	16	--	--	--	--	
2/19/2003	--		11.72	0.00	75.30	<500	--	<5.0	<5.0	<5.0	<5.0	110	--	--	--	--	h
7/14/2003	--		13.76	0.00	73.26	<50	--	<0.50	<0.50	<0.50	0.67	28	--	--	--	--	
01/14/2004	P		14.83	0.00	72.19	550	--	<5.0	<5.0	<5.0	<5.0	380			--	8.1	
04/23/2004	P		13.17	0.00	73.85	<200	--	<25	<25	<25	<25	560			--	6.8	l
07/01/2004	P		15.19	0.00	71.83	<50	--	<0.50	<0.50	<0.50	0.50	48			--	6.4	
10/28/2004	P		15.50	0.00	71.52	<500	--	<5.0	<5.0	<5.0	<5.0	290			--	6.3	
01/10/2005	P		15.00	0.00	72.02	<50	--	<0.50	<0.50	<0.50	<0.50	18			--	7.6	
04/13/2005	P		14.34	0.00	72.68	<50	--	<0.50	<0.50	<0.50	<0.50	9.0			--	7.1	
07/11/2005	P		10.82	0.00	76.20	130	--	<1.0	<1.0	<1.0	<1.0	120			--	7.8	k
10/17/2005	P		11.84	0.00	75.18	<250	--	<2.5	<2.5	<2.5	<2.5	260			--	8.5	
01/17/2006	P		11.59	0.00	75.43	800	--	<5.0	<5.0	<5.0	<5.0	980			--	7.2	
04/21/2006	P		10.00	0.00	77.02	<500	--	<5.0	<5.0	<5.0	<5.0	48			--	6.7	
7/17/2006	P		10.80	0.00	76.22	910	--	<5.0	<5.0	<5.0	<5.0	1,400	--	--	--	7.7	k
7/26/2006	P		9.67	0.00	77.35	810	--	<10	<10	<10	<10	1,300	--	--	--	6.56	
10/31/2006	P		10.85	0.00	76.17	1,600	--	<10	<10	<10	<10	2,300	--	--	2.50	6.84	
1/8/2007	P		12.73	0.00	74.29	520	--	<5.0	<5.0	<5.0	<5.0	760	--	--	3.61	7.12	
4/10/2007	P		11.93	0.00	75.09	630	--	<5.0	<5.0	<5.0	<5.0	750	--	--	2.31	7.15	k
7/10/2007	P		11.30	0.00	75.72	1,800	66	<5.0	<5.0	<5.0	<5.0	2,400	--	--	1.56	6.72	k, p
10/24/2007	P		13.77	0.00	73.25	2,000	--	<25	<25	<25	<25	3,500	--	--	1.62	6.41	k
1/22/2008	P		12.92	0.00	74.10	1,600	--	<12	<12	<12	<12	2,800	--	--	2.17	6.32	k
4/15/2008	P		15.25	0.00	71.77	<50	--	<2.5	<2.5	<2.5	<2.5	960	--	--	3.44	6.71	
7/8/2008	P		12.27	0.00	74.75	<50	--	<50	<50	<50	<50	2,200	--	--	1.52	7.01	
11/19/2008	P		15.27	0.00	71.75	<50	--	<50	<50	<50	<50	2,700	--	--	1.60	6.83	
2/10/2009	P		13.61	0.00	73.41	<50	--	<50	<50	<50	<50	1,800	--	--	1.66	6.98	
5/7/2009	P		11.75	0.00	75.27	140	--	<10	<10	<10	<10	780	--	--	1.28	6.86	
9/3/2009	P		13.47	0.00	73.55	1,100	--	<10	<10	<10	<10	2,400	--	--	1.33	6.87	q
10/29/2009	P		13.04	0.00	73.98	1,000	--	<10	<10	<10	<20	1,500	--	--	0.97	7.09	k
2/26/2010	P		12.44	0.00	74.58	1,500	--	<10	<10	<10	<20	1,500	--	--	0.74	6.69	k

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

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L									DO (mg/L)	pH	Footnote
						GRO/ TPHg	DRO/ TPHd	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE	TOG	HVOC			
MW-3 Cont.																	
8/16/2010	P	87.02	11.43	0.00	75.59	1,900	--	<0.50	<0.50	<0.50	<1.0	2,400	--	--	0.52	6.59	
11/12/2010	--		12.05	0.00	74.97	--	--	--	--	--	--	--	--	--	--	--	
2/3/2011	NP		12.31	0.00	74.71	<1,000	--	<10	<10	<10	<20	1,500	--	--	1.92	6.68	
6/23/2011	--		11.08	0.00	75.94	--	--	--	--	--	--	--	--	--	--	--	
8/22/2011	P		11.54	0.00	75.48	<1,000	--	<10	<10	<10	<20	2,600	--	--	0.45	6.98	
2/20/2012	**P**		**12.81**	**0.00**	**74.21**	**<1,000**	**--**	**<10**	**<10**	**<10**	**<20**	**1,700**	**--**	**--**	**0.58**	**7.08**	
MW-4																	
11/12/2010	--	NS	--	--	--	<50	--	<0.50	<0.50	<0.50	<1.0	95	--	--	--	--	
2/3/2011	P	78.06	12.09	0.00	65.97	<50	--	<0.50	<0.50	<0.50	<1.0	110	--	--	3.45	6.51	
6/23/2011	P		11.33	0.00	66.73	<50	--	<0.50	<0.50	<0.50	<1.0	36	--	--	1.37	6.87	
8/22/2011	P		12.09	0.00	65.97	<50	--	<0.50	<0.50	<0.50	<1.0	3.7	--	--	--	6.96	
2/20/2012	**P**		**12.61**	**0.00**	**65.45**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**12**	**--**	**--**	**1.57**	**7.09**	
QC-2																	
11/11/1992	--	NS	--	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	g
6/7/1993	--		--	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	g
12/2/1993	--		--	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	g
6/22/1994	--		--	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	g
1/10/1995	--		--	--	--	<50	--	<0.5	<0.5	<0.5	<1	--	--	--	--	--	g
6/21/1995	--		--	--	--	<50	--	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	g
12/27/1995	--		--	--	--	<50	--	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	g
6/13/1996	--		--	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	<10	--	--	--	--	g

Symbols & Abbreviations:
--/--- = Not analyzed/applicable/measured/available
< = Not detected at or above specified laboratory reporting limit
DO = Dissolved oxygen
DRO = Diesel range organics
DTW = Depth to water in ft bgs
ft bgs = feet below ground surface
GRO = Gasoline range organics, range C4-C12
GWE = Groundwater elevation measured in ft
HVOC = Halogenated volatile organic compounds
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing measured in ft
TOG = Total oil and grease
TPH-d = Total petroleum hydrocarbons as diesel
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter
ANA = Anametrix, Inc.
PACE = Pace, Inc.
ATI = Analytical Technologies, Inc.
SAL = Superior Analytical Laboratory
SPL = Southern Petroleum Laboratories
SEQ/SEQM = Sequoia Analytical/Sequoia Analytical - Morgan Hill (Laboratories)
CEL = CalScience Environmental Laboratories, Inc.

Footnotes:
c = Blind duplicate
d = A copy of the documentation for this data is included in Appendix C of Alisto report 10-076-06-002
e = Tetrachloroethene
f = trans-1,2-Dichloroethene
g = Travel blank
h = TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE analyzed by EPA Method 8260B beginning on 1st quarter sampling event (2/19/03)
k = The hydrocarbon result was partly due to individual peaks in the quantification range (GRO)
l = GRO analyzed by EPA Method 8015B
m = Confirmatory analysis for total xylenes was past holding time
n = Well inaccessible
p = Hydrocarbon in req. fuel range, but doesn't resemble req. fuel (DRO)
q = Quantitaion of unknown hydrocarbon(s) in sample based on gasoline (GRO)

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

Values for pH and DO 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 September 30, 2009. GRO analysis was changed to EPA method 8260B (C6-C12) for the time period October 1, 2009 through the present

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

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
6/22/1994	--	--	2,000	--	--	--	--	--	
6/22/1994	--	--	4,000	--	--	--	--	--	
12/27/1995	--	--	1,200	--	--	--	--	--	
6/13/1996	--	--	4,000	--	--	--	--	--	
12/4/1996	--	--	2,600	--	--	--	--	--	
6/10/1997	--	--	15,000	--	--	--	--	--	
6/10/1997	--	--	13,000	--	--	--	--	--	
12/12/1997	--	--	6,700	--	--	--	--	--	
6/18/1998	--	--	5,600	--	--	--	--	--	
3/9/1999	--	--	49,000	--	--	--	--	--	
9/28/1999	--	--	730	--	--	--	--	--	
3/27/2000	--	--	28,000	--	--	--	--	--	
9/28/2000	--	--	28,000	--	--	--	--	--	
3/8/2001	--	--	11,600	--	--	--	--	--	
9/21/2001	--	--	7,370	--	--	--	--	--	
2/28/2002	--	--	7,750	--	--	--	--	--	
9/6/2002	--	--	6,000	--	--	--	--	--	
2/19/2003	--	--	4,500	--	--	--	--	--	
7/14/2003	<2000	2,700	940	<20	<20	<20	--	--	
01/14/2004	<1,000	2,500	220	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<500	2,500	150	<2.5	<2.5	<2.5	<2.5	<2.5	
07/01/2004	<500	2,000	96	<2.5	<2.5	<2.5	<2.5	<2.5	
10/28/2004	<5.0	1,500	43	<0.50	<0.50	0.58	<0.50	<0.50	
01/10/2005	<500	1,900	85	<2.5	<2.5	<2.5	<2.5	<2.5	
04/13/2005	<500	1,400	48	<2.5	<2.5	<2.5	<2.5	<2.5	
07/11/2005	<100	550	36	<0.50	<0.50	<0.50	<0.50	<0.50	
10/17/2005	<100	450	20	<0.50	<0.50	<0.50	<0.50	<0.50	a
01/17/2006	<300	260	38	<0.50	<0.50	0.54	<0.50	<0.50	
04/21/2006	<300	320	17	<0.50	<0.50	<0.50	<0.50	<0.50	
7/17/2006	<300	32	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/26/2006	<300	22	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
10/31/2006	<300	<20	2.8	<0.50	<0.50	<0.50	<0.50	<0.50	a

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1 Cont.									
1/8/2007	<300	110	6.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2007	<300	210	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
7/10/2007	<300	110	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
10/24/2007	<300	94	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
1/22/2008	<300	110	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/15/2008	<300	84	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/8/2008	<300	64	5.8	<0.50	<0.50	<0.50	<0.50	<0.50	
11/19/2008	<300	110	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2009	<300	110	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	
5/7/2009	<300	17	13	<0.50	<0.50	<0.50	<0.50	<0.50	
9/3/2009	<300	260	3.8	<0.50	<0.50	<0.50	<0.50	<0.50	
10/29/2009	<100	210	22	<0.50	<0.50	<0.50	<0.50	<0.50	
2/26/2010	<100	240	8.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/16/2010	120	35	8.1	<0.50	<0.50	<0.50	<0.50	<0.50	
2/3/2011	<250	36	14	<0.50	<0.50	<0.50	<0.50	<0.50	
8/22/2011	<250	<4.0	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
2/20/2012	**<250**	**6.5**	**14**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-2									
12/2/1993	--	--	3,700	--	--	--	--	--	
12/2/1993	--	--	3,700	--	--	--	--	--	
6/22/1994	--	--	120	--	--	--	--	--	
12/27/1995	--	--	19,000	--	--	--	--	--	
12/27/1995	--	--	20,000	--	--	--	--	--	
6/13/1996	--	--	13,000	--	--	--	--	--	
6/13/1996	--	--	13,000	--	--	--	--	--	
12/4/1996	--	--	11,000	--	--	--	--	--	
12/4/1996	--	--	11,000	--	--	--	--	--	
6/10/1997	--	--	<10	--	--	--	--	--	
12/12/1997	--	--	<10	--	--	--	--	--	
6/18/1998	--	--	<10	--	--	--	--	--	
6/18/1998	--	--	<10	--	--	--	--	--	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-2 Cont.									
3/9/1999	--	--	23,000	--	--	--	--	--	
9/28/1999	--	--	35,000	--	--	--	--	--	
3/27/2000	--	--	5,800	--	--	--	--	--	
9/28/2000	--	--	15,000	--	--	--	--	--	
3/8/2001	--	--	29,100	--	--	--	--	--	
9/21/2001	--	--	6,110	--	--	--	--	--	
2/28/2002	--	--	4,620	--	--	--	--	--	
9/6/2002	--	--	15,000	--	--	--	--	--	
2/19/2003	--	--	32,000	--	--	--	--	--	
7/14/2003	<100000	<20000	24,000	<1000	<1000	<1000	--	--	
01/14/2004	<100,000	<20,000	21,000	<500	<500	<500	<500	<500	
04/23/2004	<50,000	11,000	22,000	<250	<250	420	<250	<250	
07/01/2004	<10,000	2,900	5,200	<50	<50	110	<50	<50	
10/28/2004	<5.0	6,700	6,800	<50	<50	120	<50	<50	
01/10/2005	<50,000	<10,000	7,100	<250	<250	<250	<250	<250	
04/13/2005	<10,000	5,300	5,300	<50	<50	95	<50	<50	
07/11/2005	<10,000	9,000	5,300	<50	<50	99	<50	<50	
10/17/2005	<10,000	5,200	2,500	<50	<50	<50	<50	<50	a
01/17/2006	<30,000	8,400	2,200	<50	<50	<50	<50	<50	
04/21/2006	--	--	--	--	--	--	--	--	Well inaccessible
7/26/2006	<30,000	4,500	2,900	<50	<50	<50	<50	<50	
10/31/2006	<15,000	9,300	2,300	<25	<25	41	<25	<25	a
1/8/2007	<7,500	7700	1700	<12	<12	38	<12	<12	
4/10/2007	<30,000	6,400	1,500	<50	<50	<50	<50	<50	
7/10/2007	<15,000	8,700	2,600	<25	<25	42	<25	<25	
10/24/2007	<15,000	9,500	2,800	<25	<25	52	<25	<25	
1/22/2008	<15,000	6,000	1,400	<25	<25	<25	<25	<25	
4/15/2008	<1,500	6,800	2,400	<2.5	<2.5	30	2.8	<2.5	
7/8/2008	<30,000	7,600	2,800	<50	<50	<50	<50	<50	
11/19/2008	<30,000	7,100	1,900	<50	<50	<50	<50	<50	
2/10/2009	<30,000	2,700	940	<50	<50	<50	<50	<50	
5/7/2009	<12,000	3,900	1,900	<20	<20	30	<20	<20	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-2 Cont.									
9/3/2009	<24,000	7,500	1,300	<40	<40	<40	<40	<40	
10/29/2009	<100	3,900	690	<0.50	<0.50	12	2.4	<0.50	
2/26/2010	<2,000	4,100	1,100	<10	<10	13	<10	<10	
8/16/2010	<2,000	4,800	1,100	<10	<10	14	<10	<10	
2/3/2011	<250	3,200	860	<10	<10	<10	<10	<10	
8/22/2011	<1,300	3,100	170	<2.5	<2.5	3.9	<2.5	<2.5	
2/20/2012	**<1,300**	**2,600**	**300**	**<2.5**	**<2.5**	**4.0**	**<2.5**	**<2.5**	
MW-3									
12/27/1995	--	--	5.7	--	--	--	--	--	
6/13/1996	--	--	<10	--	--	--	--	--	
12/4/1996	--	--	<10	--	--	--	--	--	
6/10/1997	--	--	<10	--	--	--	--	--	
12/12/1997	--	--	<10	--	--	--	--	--	
12/12/1997	--	--	<10	--	--	--	--	--	
6/18/1998	--	--	<10	--	--	--	--	--	
6/18/1998	--	--	<10	--	--	--	--	--	
3/27/2000	--	--	1.6	--	--	--	--	--	
9/28/2000	--	--	2	--	--	--	--	--	
3/8/2001	--	--	60.4	--	--	--	--	--	
9/21/2001	--	--	8.18	--	--	--	--	--	
2/28/2002	--	--	25.5	--	--	--	--	--	
9/6/2002	--	--	16	--	--	--	--	--	
2/19/2003	--	--	110	--	--	--	--	--	
7/14/2003	<100	<20	28	<1.0	<1.0	<1.0	--	--	
01/14/2004	<1,000	<200	380	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<5,000	<1,000	560	<25	<25	<25	<25	<25	
07/01/2004	<100	<20	48	<0.50	<0.50	0.52	<0.50	<0.50	
10/28/2004	<5.0	<200	290	<5.0	<5.0	<5.0	<5.0	<5.0	
01/10/2005	<100	<20	18	<0.50	<0.50	<0.50	<0.50	<0.50	
04/13/2005	<100	<20	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
07/11/2005	<200	<40	120	<1.0	<1.0	1.4	<1.0	<1.0	a

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-3 Cont.									
10/17/2005	<500	<100	260	<2.5	<2.5	4.2	<2.5	<2.5	a
01/17/2006	<3,000	200	980	<5.0	<5.0	13	<5.0	<5.0	
04/21/2006	<3,000	<200	48	<5.0	<5.0	<5.0	<5.0	<5.0	
7/17/2006	<3,000	<200	1,400	<5.0	<5.0	15	<5.0	<5.0	
7/26/2006	<6,000	<400	1,300	<10	<10	18	<10	<10	
10/31/2006	<6,000	<400	2,300	<10	<10	39	<10	<10	a
1/8/2007	<3000	<200	760	<5.0	<5.0	9.7	<5.0	<5.0	
4/10/2007	<3,000	<200	750	<5.0	<5.0	<5.0	<5.0	<5.0	
7/10/2007	<3,000	<200	2,400	<5.0	<5.0	39	<5.0	--	
10/24/2007	<15,000	<1,000	3,500	<25	<25	58	<25	<25	
1/22/2008	<7,500	<500	2,800	<12	<12	34	<12	<12	
4/15/2008	<1,500	<50	960	<2.5	<2.5	9.2	<2.5	<2.5	
7/8/2008	<30,000	<1,000	2,200	<50	<50	<50	<50	<50	
11/19/2008	<30,000	<1,000	2,700	<50	<50	<50	<50	<50	
2/10/2009	<30,000	<1,000	1,800	<50	<50	<50	<50	<50	
5/7/2009	<6,000	<200	780	<10	<10	11	<10	<10	
9/3/2009	<6,000	<200	2,400	<10	<10	39	<10	<10	
10/29/2009	<2,000	110	1,500	<10	<10	17	<10	<10	
2/26/2010	<2,000	<80	1,500	<10	<10	16	<10	<10	
8/16/2010	<100	20	2,400	<0.50	0.77	32	2.3	<0.50	
2/3/2011	<50,000	150	1,500	<10	<10	12	<10	<10	
8/22/2011	<5,000	<80	2,600	<10	<10	28	<10	<10	
2/20/2012	**<5,000**	**110**	**1,700**	**<10**	**<10**	**22**	**<10**	**<10**	
MW-4									
11/12/2010	<250	6.9	95	<0.50	<0.50	0.75	<0.50	<0.50	
2/3/2011	<250	12	110	<0.50	<0.50	0.67	<0.50	<0.50	
6/23/2011	<250	<4.0	36	<0.50	<0.50	<0.50	<0.50	<0.50	
8/22/2011	<250	<4.0	3.7	<0.50	<0.50	<0.50	<0.50	<0.50	
2/20/2012	**<250**	**<4.0**	**12**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
QC-2									

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
QC-2 Cont.									
12/27/1995	--	--	<5.0	--	--	--	--	--	
6/13/1996	--	--	<10	--	--	--	--	--	

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

Footnotes:
a = The calibration verification for ethanol was within the method limits but outside the contract limits

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

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

Table 3. Historical Groundwater Gradient - Direction and Magnitude

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
4/21/2006	--	--
7/17/2006	Southwest	0.05
10/31/2006	Southwest	0.04
1/8/2007	West	0.06
4/10/2007	West	0.05
7/10/2007	Southwest	0.04
10/24/2007	West-Southwest	0.06
1/22/2008	West	0.05
4/15/2008	West-Southwest	0.09
7/8/2008	West-Southwest	0.05
11/19/2008	West	0.06
2/10/2009	West	0.04
5/7/2009	West	0.05
9/3/2009	West	0.05
10/29/2009	West	0.04
2/26/2010	West	0.05
8/16/2010	West-Southwest	0.05
2/3/2011	West-Southwest	0.04
6/23/2011	West-Southwest	0.05
8/22/2011	West-Southwest	0.05
2/20/2012	**West**	**0.04**

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

Table 4. Bio-Degradation Parameters

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in mg/L									ORP (mV)	pH	Temp (F)	Conductivity (µS/cm)	Footnote
	Dissolved Oxygen	Nitrate (NO3)	Ferrous Iron	Sulfate (SO4)	Dissolved Sulfide	Hydrogen Sulfide	Dissolved CO2	Methane	Total Alkalinity					
MW-1														
6/22/1994	3.2	--	--	--	--	--	--	--	--	--	--	--	--	
1/10/1995	3.9	--	--	--	--	--	--	--	--	--	--	--	--	
6/21/1995	6.7	--	--	--	--	--	--	--	--	--	--	--	--	
12/27/1995	6.3	--	--	--	--	--	--	--	--	--	--	--	--	
6/13/1996	6.3	--	--	--	--	--	--	--	--	--	--	--	--	
12/4/1996	6.7	--	--	--	--	--	--	--	--	--	--	--	--	
6/10/1997	6	--	--	--	--	--	--	--	--	--	--	--	--	
12/12/1997	5.5	--	--	--	--	--	--	--	--	--	--	--	--	
6/18/1998	4.9	--	--	--	--	--	--	--	--	--	--	--	--	
01/14/2004	--	--	--	--	--	--	--	--	--	--	6.6	--	--	
04/23/2004	--	--	--	--	--	--	--	--	--	--	6.7	--	--	
07/01/2004	--	--	--	--	--	--	--	--	--	--	6.0	--	--	
10/28/2004	--	--	--	--	--	--	--	--	--	--	6.2	--	--	
01/10/2005	--	--	--	--	--	--	--	--	--	--	7.6	--	--	
04/13/2005	--	--	--	--	--	--	--	--	--	--	6.6	--	--	
07/11/2005	--	--	--	--	--	--	--	--	--	--	7.7	--	--	
10/17/2005	--	--	--	--	--	--	--	--	--	--	8.0	--	--	
01/17/2006	--	--	--	--	--	--	--	--	--	--	6.5	--	--	
04/21/2006	--	--	--	--	--	--	--	--	--	--	6.5	--	--	
7/17/2006	--	--	--	--	--	--	--	--	--	--	7.7	--	--	
7/26/2006	--	--	--	--	--	--	--	--	--	--	6.6	--	--	
10/31/2006	2.81	--	--	--	--	--	--	--	--	--	6.99	--	--	
1/8/2007	2.51	--	--	--	--	--	--	--	--	--	6.97	--	--	
4/10/2007	1.75	--	--	--	--	--	--	--	--	--	7.00	--	--	
7/10/2007	2.01	1.5	0.110	21	--	<1.0	--	--	--	71.1	6.60	--	--	
10/24/2007	1.89	--	--	--	--	--	--	--	--	--	6.57	--	639	
1/22/2008	3.18	0.76	0.420	11	--	<1.0	--	--	--	108	6.49	--	811	
4/15/2008	3.32	0.24	0.260	9.9	--	<0.100	--	--	--	--	6.45	--	758	
7/8/2008	1.65	0.86	0.230	19	--	--	--	--	--	--	6.78	--	628	
11/19/2008	1.59	0.54	0.5	16	--	--	--	--	--	--	6.84	--	853	
2/10/2009	1.63	0.83	0	35	--	<0.100	--	--	--	63	7.00	--	899	

Table 4. Bio-Degradation Parameters

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in mg/L									ORP (mV)	pH	Temp (F)	Conductivity (µS/cm)	Footnote
	Dissolved Oxygen	Nitrate (NO3)	Ferrous Iron	Sulfate (SO4)	Dissolved Sulfide	Hydrogen Sulfide	Dissolved CO2	Methane	Total Alkalinity					
MW-1 Cont.														
5/7/2009	1.41	9.3	0.5	40	--	<0.100	--	--	--	59	6.82	--	851	
9/3/2009	1.45	<0.440	0.0	15	--	<0.100	--	--	--	62	6.82	--	676	
10/29/2009	1.53	<1.000	<0.10	19	--	2.9	--	--	--	20	6.73	--	142.8	a
2/26/2010	0.75	--	--	--	--	--	--	--	--	45	6.55	--	761.2	
8/16/2010	1.27	--	--	--	--	--	--	--	--	116	6.57	66.7	598.2	
2/3/2011	1.00	--	--	--	--	--	--	--	--	--	6.51	64.9	611	
8/22/2011	0.60	--	--	--	--	--	--	--	--	78	6.77	67.28	518	
2/20/2012	0.66	--	--	--	--	--	--	--	--	145	6.99	66.02	604	
MW-2														
6/22/1994	3.9	--	--	--	--	--	--	--	--	--	--	--	--	
1/10/1995	4.3	--	--	--	--	--	--	--	--	--	--	--	--	
6/21/1995	7.8	--	--	--	--	--	--	--	--	--	--	--	--	
12/27/1995	6.7	--	--	--	--	--	--	--	--	--	--	--	--	
6/13/1996	6.5	--	--	--	--	--	--	--	--	--	--	--	--	
12/4/1996	6.3	--	--	--	--	--	--	--	--	--	--	--	--	
6/10/1997	5.8	--	--	--	--	--	--	--	--	--	--	--	--	
12/12/1997	5.7	--	--	--	--	--	--	--	--	--	--	--	--	
6/18/1998	5.3	--	--	--	--	--	--	--	--	--	--	--	--	
01/14/2004	--	--	--	--	--	--	--	--	--	--	6.9	--	--	
04/23/2004	--	--	--	--	--	--	--	--	--	--	6.8	--	--	
07/01/2004	--	--	--	--	--	--	--	--	--	--	5.6	--	--	
10/28/2004	--	--	--	--	--	--	--	--	--	--	6.2	--	--	
01/10/2005	--	--	--	--	--	--	--	--	--	--	7.6	--	--	
04/13/2005	--	--	--	--	--	--	--	--	--	--	6.6	--	--	
07/11/2005	--	--	--	--	--	--	--	--	--	--	7.5	--	--	
10/17/2005	--	--	--	--	--	--	--	--	--	--	8.2	--	--	
01/17/2006	--	--	--	--	--	--	--	--	--	--	7.0	--	--	
7/26/2006	--	--	--	--	--	--	--	--	--	--	6.69	--	--	
10/31/2006	2.02	--	--	--	--	--	--	--	--	--	6.71	--	--	
1/8/2007	1.37	--	--	--	--	--	--	--	--	--	6.54	--	--	

Table 4. Bio-Degradation Parameters

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in mg/L									ORP (mV)	pH	Temp (F)	Conductivity (µS/cm)	Footnote
	Dissolved Oxygen	Nitrate (NO3)	Ferrous Iron	Sulfate (SO4)	Dissolved Sulfide	Hydrogen Sulfide	Dissolved CO2	Methane	Total Alkalinity					
MW-2 Cont.														
4/10/2007	1.60	--	--	--	--	--	--	--	--	--	6.89	--	--	
7/10/2007	1.82	<0.500	0.160	26	--	<1.0	--	--	--	9.7	6.69	--	--	
10/24/2007	1.55	--	--	--	--	--	--	--	--	--	6.77	--	863	
1/22/2008	2.08	8.5	0.150	26	--	<1.0	--	--	--	167	6.55	--	672	
4/15/2008	3.12	<0.100	<0.100	28	--	<0.100	--	--	--	--	6.72	--	799	
7/8/2008	1.78	<0.440	0.150	25	--	--	--	--	--	--	7.05	--	753	
11/19/2008	1.75	3.3	0	20	--	--	--	--	--	--	6.72	--	581	
2/10/2009	1.71	22	0	42	--	0.100	--	--	--	87	7.04	--	591	CL (NO3)
5/7/2009	1.62	<0.440	0.03	33	--	<0.100	--	--	--	90	6.94	--	1,108	
9/3/2009	1.56	<0.440	0.5	16	--	<0.100	--	--	--	93	7.02	--	525	
10/29/2009	1.60	<1.000	0.64	14	--	3.1	--	--	--	--	6.7	--	514.4	a
2/26/2010	0.52	--	--	--	--	--	--	--	--	9	6.64	--	577.9	
8/16/2010	0.70	--	--	--	--	--	--	--	--	--	6.60	67.8	492.3	
2/3/2011	1.23	--	--	--	--	--	--	--	--	--	6.51	64.9	533	
8/22/2011	0.35	--	--	--	--	--	--	--	--	-1	6.89	69.62	459	
2/20/2012	0.61	--	--	--	--	--	--	--	--	141	7.05	66.56	476	
MW-3														
6/22/1994	2.9	--	--	--	--	--	--	--	--	--	--	--	--	
1/10/1995	3.8	--	--	--	--	--	--	--	--	--	--	--	--	
6/21/1995	7.4	--	--	--	--	--	--	--	--	--	--	--	--	
12/27/1995	7.3	--	--	--	--	--	--	--	--	--	--	--	--	
6/13/1996	6.8	--	--	--	--	--	--	--	--	--	--	--	--	
12/4/1996	6.7	--	--	--	--	--	--	--	--	--	--	--	--	
6/10/1997	6.1	--	--	--	--	--	--	--	--	--	--	--	--	
12/12/1997	5.6	--	--	--	--	--	--	--	--	--	--	--	--	
6/18/1998	5.3	--	--	--	--	--	--	--	--	--	--	--	--	
6/18/1998	5.3	--	--	--	--	--	--	--	--	--	--	--	--	
01/14/2004	--	--	--	--	--	--	--	--	--	--	8.1	--	--	
04/23/2004	--	--	--	--	--	--	--	--	--	--	6.8	--	--	
07/01/2004	--	--	--	--	--	--	--	--	--	--	6.4	--	--	

Table 4. Bio-Degradation Parameters

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in mg/L									ORP (mV)	pH	Temp (F)	Conductivity (µS/cm)	Footnote
	Dissolved Oxygen	Nitrate (NO3)	Ferrous Iron	Sulfate (SO4)	Dissolved Sulfide	Hydrogen Sulfide	Dissolved CO2	Methane	Total Alkalinity					
MW-3 Cont.														
10/28/2004	--	--	--	--	--	--	--	--	--	--	6.3	--	--	
01/10/2005	--	--	--	--	--	--	--	--	--	--	7.6	--	--	
04/13/2005	--	--	--	--	--	--	--	--	--	--	7.1	--	--	
07/11/2005	--	--	--	--	--	--	--	--	--	--	7.8	--	--	
10/17/2005	--	--	--	--	--	--	--	--	--	--	8.5	--	--	
01/17/2006	--	--	--	--	--	--	--	--	--	--	7.2	--	--	
04/21/2006	--	--	--	--	--	--	--	--	--	--	6.7	--	--	
7/17/2006	--	--	--	--	--	--	--	--	--	--	7.7	--	--	
7/26/2006	--	--	--	--	--	--	--	--	--	--	6.56	--	--	
10/31/2006	2.50	--	--	--	--	--	--	--	--	--	6.84	--	--	
1/8/2007	3.61	--	--	--	--	--	--	--	--	--	7.12	--	--	
4/10/2007	2.31	--	--	--	--	--	--	--	--	--	7.15	--	--	
7/10/2007	1.56	8.5	<0.100	19	--	<1.0	--	--	--	182.9	6.72	--	--	
10/24/2007	1.62	--	--	--	--	--	--	--	--	--	6.41	--	639	
1/22/2008	2.17	5.6	<0.100	17	--	<1.0	--	--	--	144	6.32	--	636	
4/15/2008	3.44	1.6	<0.100	21	--	<0.100	--	--	--	--	6.71	--	638	
7/8/2008	1.52	6.7	<0.100	18	--	--	--	--	--	--	7.01	--	651	
11/19/2008	1.60	6.1	0.5	15	--	--	--	--	--	--	6.83	--	651	
2/10/2009	1.66	5.4	0	22	--	<0.100	--	--	--	91	6.98	--	659	
5/7/2009	1.28	11.3	0.0	19	--	<0.100	--	--	--	87	6.86	--	643	
9/3/2009	1.33	8.1	0.0	15	--	<0.100	--	--	--	85	6.87	--	557	
10/29/2009	0.97	12	<0.10	17	--	2.4	--	--	--	-21	7.09	--	630	a
2/26/2010	0.74	--	--	--	--	--	--	--	--	17	6.69	--	665.6	
8/16/2010	0.52	--	--	--	--	--	--	--	--	108	6.59	70.2	643.9	
2/3/2011	1.92	--	--	--	--	--	--	--	--	--	6.68	66.2	601	
8/22/2011	0.45	--	--	--	--	--	--	--	--	--	6.98	71.24	547	
2/20/2012	0.58	--	--	--	--	--	--	--	--	145	7.08	67.82	631	
MW-4														
2/3/2011	3.45	--	--	--	--	--	--	--	--	--	6.51	59.0	765	
6/23/2011	1.37	--	--	--	--	--	--	--	--	--	6.87	60.08	2,970	

Table 4. Bio-Degradation Parameters

Former BP Station #11102, 100 MacArthur Blvd., Oakland, CA

Well ID and Date Monitored	Concentrations in mg/L									ORP (mV)	pH	Temp (F)	Conductivity (µS/cm)	Footnote
	Dissolved Oxygen	Nitrate (NO3)	Ferrous Iron	Sulfate (SO4)	Dissolved Sulfide	Hydrogen Sulfide	Dissolved CO2	Methane	Total Alkalinity					
MW-4 Cont.														
8/22/2011	--	--	--	--	--	--	--	--	--	--	6.96	61.16	272	
2/20/2012	1.57	--	--	--	--	--	--	--	--	180	7.09	60.08	2,920	
QC-2														

Symbols & Abbreviations:
< = Not detected at or above specified laboratory reporting limit
ORP = Oxygen reduction potential
DO = Dissolved oxygen
CO2 = Carbon dioxide
mV = Millivolts
µg/L = Micrograms per liter
mg/L = Milligrams per liter
CL = Initial analysis within holding time but required dilution

Footnotes:
a = Sample analyzed for total sulfide instead of hydrogen sulfide due to holding time requirements

APPENDIX A

FIELD METHODS

QUALITY ASSURANCE/QUALITY CONTROL
FIELD METHODS

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

1.0 Equipment Calibration

Equipment calibration was performed per equipment manufacturer specifications before use.

2.0 Depth to Groundwater and Light Non-Aqueous Phase Liquid Measurement

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

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

3.0 Well Purging and Groundwater Sample Collection

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

3.1 Purging a Predetermined Well Volume

Purging a predetermined well volume is performed per ASTM International (ASTM) D4448-01. This purging method has the objective of removing a predetermined volume of stagnant water from the well prior to sampling. The volume of stagnant water

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

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

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

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

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

3.2 Low-Flow Purging and Sampling

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

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

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

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

3.3 Minimal Purge, Discrete Depth, and Passive Sampling

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

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

4.0 Decontamination

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

5.0 Sample Containers, Labeling, and Storage

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

6.0 Chain of Custody Record and Procedure

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

7.0 Field Records

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

APPENDIX B

FIELD DATA SHEETS AND NON-HAZARDOUS WASTE DATA FORM

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

GROUNDWATER MONITORING SITE SHEET

Project: Arcadis 11107 Project No.: 09-88-643 Date: 2/20/12

Field Representative: JR Elevation: _____

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

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

WELL ID RECORD					WELL GAUGING RECORD					LAB ANALYSES						
Well ID	Well Sampling Order	As-Built Well Diameter (inches)	As-Built Well Screen Interval (ft)	Previous Depth to Water (ft)	Time (24:00)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)*	Depth to Water (ft)	Well Total Depth (ft)							
MW-1					1209			11.53	32.00							
MW-2					1241			13.09	32.59							
MW-3					1317			12.81	32.45							
MW-4					1351			12.61	30.00							

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

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

Signature: _____

Revision: 8/19/11

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

GROUNDWATER SAMPLING DATA SHEET

Project: Arcadis 11102 Project No.: 09-88-643 Date: 2/20/12

Field Representative: JR

Well ID: MW-1 Start Time: _____ End Time: _____ Total Time (minutes): _____

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

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

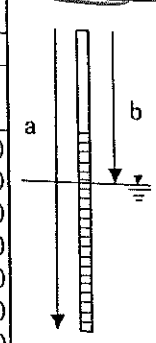
PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other: *(circle one)*

PREDETERMINED WELL VOLUME

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

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

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



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): 32.00 (ft)
Initial Depth to Water (b): 11.53 (ft)
Pump In-take Depth = b + (a-b)/2: 21.77 (ft)
Maximum Allowable Drawdown = (a-b)/8: 2.56 (ft)
Low-Flow Purge Rate: 0.17 (gpm)*
Comments:

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

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (° C)	pH	Conductivity (µS)	Other DO	ORP	NOTES Odor, color, sheen, turbidity, or other
1216	0	18.3	7.00	611	1.20	139	
1219	0.5	18.6	7.00	609	0.97	143	
1222	1.0	18.8	7.00	605	0.74	144	
1225	1.5	18.9	6.99	604	0.66	145	
Previous Stabilized Parameters							

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

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:
Sample ID: MW-1 (2/20/12) Sample Collection Time: 1230 (24:00)
Containers (#): 3 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: _____ ___ Other: _____
___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1225	0.66
Ferrous Iron (mg/L)		
Redox Potential (mV)	1225	145
Alkalinity (mg/L)		
Other:		
Other:		

Signature: _____

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

GROUNDWATER SAMPLING DATA SHEET

Project: Arcadis 11102 Project No.: 09-80-643 Date: 2/20/12

Field Representative: JR

Well ID: MW-2 Start Time: _____ End Time: _____ Total Time (minutes): _____

PURGE EQUIPMENT

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

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

Good Improvement Needed *(circle one)*

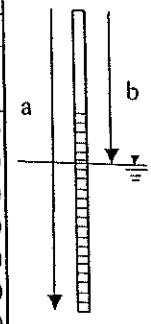
PURGING/SAMPLING METHOD Predetermined Well Volume Low-Flow Other: *(circle one)*

PREDETERMINED WELL VOLUME

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

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

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



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): 32.39 (ft)
Initial Depth to Water (b): 13.09 (ft)
Pump In-take Depth = b + (a-b)/2: 22.74 ~~22.80~~ (ft)
Maximum Allowable Drawdown = (a-b)/8: 2.41 (ft)
Low-Flow Purge Rate: 0.17 (gpm)*
Comments: _____

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

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	Other ORP	NOTES Odor, color, sheen, turbidity, or other
1247	0	18.5	7.18	~~478~~ 478	1.54	150	
1250	0.5	18.9	7.08	476	0.93	152	
1253	1.0	19.1	7.06	476	0.63	147	
1256	1.5	19.2	7.05	476	0.61	141	
Previous Stabilized Parameters							

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

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)

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

Sample ID: MW-2 (2/20/12) Sample Collection Time: 1300 (24:00)

Containers (#): 3 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: _____ ___ Other: _____
___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1256	0.61
Ferrous Iron (mg/L)		
Redox Potential (mV)	1256	141
Alkalinity (mg/L)		
Other:		
Other:		

Signature: _____

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

GROUNDWATER SAMPLING DATA SHEET

Project: Arcadis 11102 Project No.: 09-80-643 Date: 2/20/12

Field Representative: JR

Well ID: MW-3 Start Time: _____ End Time: _____ Total Time (minutes): _____

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

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

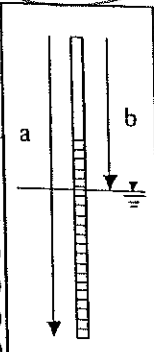
PURGING/SAMPLING METHOD Predetermined Well Volume (Low-Flow) Other: *(circle one)*

PREDETERMINED WELL VOLUME

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

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

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



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): 32.45 (ft)
Initial Depth to Water (b): 12.01 (ft)
Pump In-take Depth = b + (a-b)/2: 22.63 (ft)
Maximum Allowable Drawdown = (a-b)/8: 2.46 (ft)
Low-Flow Purge Rate: 0.17 (gpm)*
Comments:

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

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (µS)	Other DO	NOTES ORP — Odor, color, sheen, turbidity, or other
1321	0	18.8	7.08	547	0.89	138
1324	0.5	19.0	7.07	554	0.79	140
1327	1.0	19.5	7.07	622	0.80	145
1330	1.5	19.8	7.08	630	0.61	147
1333	2.0	19.9	7.08	631	0.58	145
Previous Stabilized Parameters						

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

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)

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

Sample ID: MW-3 (2/20/12) Sample Collection Time: 1335 (24:00)

Containers (#): 3 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: _____ ___ Other: _____
___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1333	0.58
Ferrous Iron (mg/L)		
Redox Potential (mV)	1333	145
Alkalinity (mg/L)		
Other:		
Other:		

Signature: _____

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

GROUNDWATER SAMPLING DATA SHEET

Project: Aradis 11102 Project No.: 09-88-643 Date: 2/20/12

Field Representative: JR

Well ID: MW-4 Start Time: _____ End Time: _____ Total Time (minutes): _____

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

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

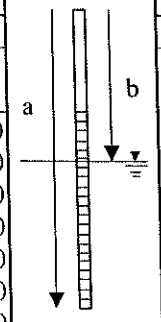
PURGING/~~SAMPLING~~ METHOD Predetermined Well Volume Low-Flow Other: *(circle one)*

PREDETERMINED WELL VOLUME

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

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

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



LOW-FLOW

Previous Low-Flow Purge Rate: _____ (gpm)
Total Well Depth (a): ~~20.00~~ 20.05 (ft)
Initial Depth to Water (b): 12.61 (ft)
Pump In-take Depth = b + (a-b)/2: 16.31 (ft)
Maximum Allowable Drawdown = (a-b)/8: 0.92 (ft)
Low-Flow Purge Rate: 0.17 (gpm)*
Comments: _____

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

GROUNDWATER STABILIZATION PARAMETER RECORD

Time (24:00)	Cumulative Volume (gal)	Temperature (°C)	pH	Conductivity (mS/cm)	Other DO	NOTES ORP	Odor, color, sheen, turbidity, or other
1355	0	15.7	7.07	2.97	1.60	199	
1358	0.5	15.7	7.11	2.91	1.64	194	
1401	1.0	15.6	7.10	2.92	1.62	175	
1404	1.5	15.6	7.09	2.92	1.57	180	
Previous Stabilized Parameters							

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

SAMPLE COLLECTION RECORD

Depth to Water at Sampling: _____ (ft)
Sample Collected Via: ___ Disp. Bailer ___ Dedicated Pump Tubing
X Disp. Pump Tubing Other:
Sample ID: MW-4 (2/20/12) Sample Collection Time: 1410 (24:00)
Containers (#): 3 VOA (X preserved or ___ unpreserved) ___ Liter Amber
___ Other: _____ ___ Other: _____
___ Other: _____ ___ Other: _____

GEOCHEMICAL PARAMETERS

Parameter	Time	Measurement
DO (mg/L)	1404	1.57
Ferrous Iron (mg/L)		
Redox Potential (mV)	1404	180
Alkalinity (mg/L)		
Other:		
Other:		

Signature: _____

NO. 684585

NON-HAZARDOUS WASTE DATA FORM

BESI #

GENERATOR

Generator's Name and Mailing Address

BP WEST COAST PRODUCTS, LLC
P.O. BOX 80249
RANCHO SANTA MARGARITA, CA 92688

Generator's Site Address (if different than mailing address)

FORMER ARCO 11102
100 MACARTHUR BLVD
OAKLAND, CA

Generator's Phone: 949-460-5200

Container type removed from site:

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

☐ Other _____

Quantity 1.70

Container type transported to receiving facility:

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

☐ Other _____

Quantity _____ Volume 1.70 gallons

WASTE DESCRIPTION NON-HAZARDOUS WATER

GENERATING PROCESS WELL PURGING / DECON WATER

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

COMPONENTS OF WASTE	PPM	%
3.		
4.		

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

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.

Generator Printed/Typed Name Emily Learmonth On behalf of BP West Coast Products, LLC | Signature | Month Day Year

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

TRANSPORTER

Transporter 1 Company Name: Broadbent & Associates, Inc. | Phone#: 530-566-1400

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

Transporter Acknowledgment of Receipt of Materials

Transporter 2 Company Name | Phone#

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

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address

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

Phone#
530-753-1829

Printed/Typed Name | Signature | Month Day Year

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

APPENDIX C

LABORATORY REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-40478-1
Client Project/Site: BP #11102, Oakland

For:
ARCADIS U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco, California 94104

Attn: Hollis Phillips

Authorized for release by:
2/23/2012 11:45:56 AM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com

Table of Contents

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-40478-1

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative
720-40478-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-1 (2/20/12) — Lab Sample ID: 720-40478-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	14		0.50		ug/L	1		8260B/CA_LUFTM	Total/NA
TBA	6.5		4.0		ug/L	1		8260B/CA_LUFTM	Total/NA

Client Sample ID: MW-2 (2/20/12) — Lab Sample ID: 720-40478-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	300		2.5		ug/L	5		8260B/CA_LUFTM	Total/NA
TBA	2600		20		ug/L	5		8260B/CA_LUFTM	Total/NA
TAME	4.0		2.5		ug/L	5		8260B/CA_LUFTM	Total/NA

Client Sample ID: MW-3 (2/20/12) — Lab Sample ID: 720-40478-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	1700		10		ug/L	20		8260B/CA_LUFTM	Total/NA
TBA	110		80		ug/L	20		8260B/CA_LUFTM	Total/NA
TAME	22		10		ug/L	20		8260B/CA_LUFTM	Total/NA

Client Sample ID: MW-4 (2/20/12) — Lab Sample ID: 720-40478-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
MTBE	12		0.50		ug/L	1		8260B/CA_LUFTM	Total/NA

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-1 (2/20/12)
Date Collected: 02/20/12 12:30
Date Received: 02/20/12 17:25

Lab Sample ID: 720-40478-1
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**14**		0.50		ug/L			02/21/12 11:29	1
Benzene	ND		0.50		ug/L			02/21/12 11:29	1
EDB	ND		0.50		ug/L			02/21/12 11:29	1
1,2-DCA	ND		0.50		ug/L			02/21/12 11:29	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 11:29	1
Toluene	ND		0.50		ug/L			02/21/12 11:29	1
Xylenes, Total	ND		1.0		ug/L			02/21/12 11:29	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			02/21/12 11:29	1
TBA	**6.5**		4.0		ug/L			02/21/12 11:29	1
Ethanol	ND		250		ug/L			02/21/12 21:29	1
DIPE	ND		0.50		ug/L			02/21/12 11:29	1
TAME	ND		0.50		ug/L			02/21/12 11:29	1
Ethyl t-butyl ether	ND		0.50		ug/L			02/21/12 11:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*02/21/12 11:29*	*1*
4-Bromofluorobenzene	*97*		*67 - 130*		*02/21/12 21:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 138*		*02/21/12 11:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 138*		*02/21/12 21:29*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*02/21/12 11:29*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*02/21/12 21:29*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-2 (2/20/12)
Date Collected: 02/20/12 13:00
Date Received: 02/20/12 17:25

Lab Sample ID: 720-40478-2
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**300**		2.5		ug/L			02/21/12 13:02	5
Benzene	ND		2.5		ug/L			02/21/12 13:02	5
EDB	ND		2.5		ug/L			02/21/12 13:02	5
1,2-DCA	ND		2.5		ug/L			02/21/12 13:02	5
Ethylbenzene	ND		2.5		ug/L			02/21/12 13:02	5
Toluene	ND		2.5		ug/L			02/21/12 13:02	5
Xylenes, Total	ND		5.0		ug/L			02/21/12 13:02	5
Gasoline Range Organics (GRO) -C6-C12	ND		250		ug/L			02/21/12 13:02	5
TBA	**2600**		20		ug/L			02/21/12 13:02	5
Ethanol	ND		1300		ug/L			02/21/12 22:00	5
DIPE	ND		2.5		ug/L			02/21/12 13:02	5
TAME	**4.0**		2.5		ug/L			02/21/12 13:02	5
Ethyl t-butyl ether	ND		2.5		ug/L			02/21/12 13:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*02/21/12 13:02*	*5*
4-Bromofluorobenzene	*97*		*67 - 130*		*02/21/12 22:00*	*5*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 138*		*02/21/12 13:02*	*5*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 138*		*02/21/12 22:00*	*5*
Toluene-d8 (Surr)	*95*		*70 - 130*		*02/21/12 13:02*	*5*
Toluene-d8 (Surr)	*98*		*70 - 130*		*02/21/12 22:00*	*5*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-3 (2/20/12)
Date Collected: 02/20/12 13:35
Date Received: 02/20/12 17:25

Lab Sample ID: 720-40478-3
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**1700**		10		ug/L			02/21/12 13:33	20
Benzene	ND		10		ug/L			02/21/12 13:33	20
EDB	ND		10		ug/L			02/21/12 13:33	20
1,2-DCA	ND		10		ug/L			02/21/12 13:33	20
Ethylbenzene	ND		10		ug/L			02/21/12 13:33	20
Toluene	ND		10		ug/L			02/21/12 13:33	20
Xylenes, Total	ND		20		ug/L			02/21/12 13:33	20
Gasoline Range Organics (GRO) -C6-C12	ND		1000		ug/L			02/21/12 13:33	20
TBA	**110**		80		ug/L			02/21/12 13:33	20
Ethanol	ND		5000		ug/L			02/21/12 22:30	20
DIPE	ND		10		ug/L			02/21/12 13:33	20
TAME	**22**		10		ug/L			02/21/12 13:33	20
Ethyl t-butyl ether	ND		10		ug/L			02/21/12 13:33	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*67 - 130*		*02/21/12 13:33*	*20*
4-Bromofluorobenzene	*96*		*67 - 130*		*02/21/12 22:30*	*20*
1,2-Dichloroethane-d4 (Surr)	*85*		*75 - 138*		*02/21/12 13:33*	*20*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 138*		*02/21/12 22:30*	*20*
Toluene-d8 (Surr)	*95*		*70 - 130*		*02/21/12 13:33*	*20*
Toluene-d8 (Surr)	*96*		*70 - 130*		*02/21/12 22:30*	*20*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-4 (2/20/12)
Date Collected: 02/20/12 14:10
Date Received: 02/20/12 17:25

Lab Sample ID: 720-40478-4
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	**12**		0.50		ug/L			02/21/12 14:04	1
Benzene	ND		0.50		ug/L			02/21/12 14:04	1
EDB	ND		0.50		ug/L			02/21/12 14:04	1
1,2-DCA	ND		0.50		ug/L			02/21/12 14:04	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 14:04	1
Toluene	ND		0.50		ug/L			02/21/12 14:04	1
Xylenes, Total	ND		1.0		ug/L			02/21/12 14:04	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			02/21/12 14:04	1
TBA	ND		4.0		ug/L			02/21/12 14:04	1
Ethanol	ND		250		ug/L			02/21/12 23:01	1
DIPE	ND		0.50		ug/L			02/21/12 14:04	1
TAME	ND		0.50		ug/L			02/21/12 14:04	1
Ethyl t-butyl ether	ND		0.50		ug/L			02/21/12 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*67 - 130*		*02/21/12 14:04*	*1*
4-Bromofluorobenzene	*98*		*67 - 130*		*02/21/12 23:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 138*		*02/21/12 14:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 138*		*02/21/12 23:01*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*02/21/12 14:04*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*02/21/12 23:01*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-108287/4
Matrix: Water
Analysis Batch: 108287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			02/21/12 08:26	1
Benzene	ND		0.50		ug/L			02/21/12 08:26	1
EDB	ND		0.50		ug/L			02/21/12 08:26	1
1,2-DCA	ND		0.50		ug/L			02/21/12 08:26	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 08:26	1
Toluene	ND		0.50		ug/L			02/21/12 08:26	1
Xylenes, Total	ND		1.0		ug/L			02/21/12 08:26	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			02/21/12 08:26	1
TBA	ND		4.0		ug/L			02/21/12 08:26	1
Ethanol	ND		250		ug/L			02/21/12 08:26	1
DIPE	ND		0.50		ug/L			02/21/12 08:26	1
TAME	ND		0.50		ug/L			02/21/12 08:26	1
Ethyl t-butyl ether	ND		0.50		ug/L			02/21/12 08:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*67 - 130*		*02/21/12 08:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 138*		*02/21/12 08:26*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*02/21/12 08:26*	*1*

Lab Sample ID: LCS 720-108287/5
Matrix: Water
Analysis Batch: 108287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	25.0	22.4		ug/L		90	62 - 130
Benzene	25.0	25.2		ug/L		101	79 - 130
EDB	25.0	23.9		ug/L		96	70 - 130
1,2-DCA	25.0	21.3		ug/L		85	61 - 132
Ethylbenzene	25.0	25.1		ug/L		100	80 - 120
Toluene	25.0	25.2		ug/L		101	78 - 120
m-Xylene & p-Xylene	50.0	50.9		ug/L		102	70 - 142
o-Xylene	25.0	25.0		ug/L		100	70 - 130
TBA	500	457		ug/L		91	70 - 130
DIPE	25.0	26.0		ug/L		104	69 - 134
TAME	25.0	23.2		ug/L		93	79 - 130
Ethyl t-butyl ether	25.0	21.6		ug/L		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*81*		*75 - 138*
Toluene-d8 (Surr)	*96*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-108287/7
Matrix: Water
Analysis Batch: 108287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C12			500	563		ug/L		113	58 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 138*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 720-108287/6
Matrix: Water
Analysis Batch: 108287

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE			25.0	23.5		ug/L		94	62 - 130	5	20
Benzene			25.0	25.4		ug/L		102	79 - 130	1	20
EDB			25.0	24.8		ug/L		99	70 - 130	4	20
1,2-DCA			25.0	22.0		ug/L		88	61 - 132	3	20
Ethylbenzene			25.0	24.9		ug/L		100	80 - 120	1	20
Toluene			25.0	25.1		ug/L		100	78 - 120	0	20
m-Xylene & p-Xylene			50.0	50.7		ug/L		101	70 - 142	0	20
o-Xylene			25.0	25.2		ug/L		101	70 - 130	1	20
TBA			500	453		ug/L		91	70 - 130	1	20
DIPE			25.0	26.4		ug/L		106	69 - 134	2	20
TAME			25.0	24.0		ug/L		96	79 - 130	3	20
Ethyl t-butyl ether			25.0	22.3		ug/L		89	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 138*
Toluene-d8 (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 720-108287/8
Matrix: Water
Analysis Batch: 108287

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			500	566		ug/L		113	58 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*86*		*75 - 138*
Toluene-d8 (Surr)	*96*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: 720-40478-1 MS
Matrix: Water
Analysis Batch: 108287

Client Sample ID: MW-1 (2/20/12)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	14		25.0	38.6		ug/L		100	60 - 138
Benzene	ND		25.0	25.5		ug/L		102	60 - 140
EDB	ND		25.0	25.6		ug/L		102	60 - 140
1,2-DCA	ND		25.0	22.2		ug/L		89	60 - 140
Ethylbenzene	ND		25.0	24.8		ug/L		99	60 - 140
Toluene	ND		25.0	24.9		ug/L		100	60 - 140
m-Xylene & p-Xylene	ND		50.0	50.5		ug/L		101	60 - 140
o-Xylene	ND		25.0	25.1		ug/L		100	60 - 140
TBA	6.5		500	458		ug/L		90	60 - 140
DIPE	ND		25.0	26.8		ug/L		107	60 - 140
TAME	ND		25.0	24.7		ug/L		98	60 - 140
Ethyl t-butyl ether	ND		25.0	22.7		ug/L		91	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 138*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: 720-40478-1 MSD
Matrix: Water
Analysis Batch: 108287

Client Sample ID: MW-1 (2/20/12)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE	14		25.0	36.5		ug/L		92	60 - 138	6	20
Benzene	ND		25.0	24.5		ug/L		98	60 - 140	4	20
EDB	ND		25.0	24.0		ug/L		96	60 - 140	6	20
1,2-DCA	ND		25.0	21.3		ug/L		85	60 - 140	4	20
Ethylbenzene	ND		25.0	24.0		ug/L		96	60 - 140	3	20
Toluene	ND		25.0	24.0		ug/L		96	60 - 140	4	20
m-Xylene & p-Xylene	ND		50.0	48.7		ug/L		97	60 - 140	4	20
o-Xylene	ND		25.0	24.3		ug/L		97	60 - 140	3	20
TBA	6.5		500	443		ug/L		87	60 - 140	3	20
DIPE	ND		25.0	25.8		ug/L		103	60 - 140	4	20
TAME	ND		25.0	23.6		ug/L		94	60 - 140	5	20
Ethyl t-butyl ether	ND		25.0	21.8		ug/L		87	60 - 140	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*84*		*75 - 138*
Toluene-d8 (Surr)	*95*		*70 - 130*

Lab Sample ID: MB 720-108343/4
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			02/21/12 18:26	1
Benzene	ND		0.50		ug/L			02/21/12 18:26	1
EDB	ND		0.50		ug/L			02/21/12 18:26	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-108343/4
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-DCA	ND		0.50		ug/L			02/21/12 18:26	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 18:26	1
Toluene	ND		0.50		ug/L			02/21/12 18:26	1
Xylenes, Total	ND		1.0		ug/L			02/21/12 18:26	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			02/21/12 18:26	1
TBA	ND		4.0		ug/L			02/21/12 18:26	1
Ethanol	ND		250		ug/L			02/21/12 18:26	1
DIPE	ND		0.50		ug/L			02/21/12 18:26	1
TAME	ND		0.50		ug/L			02/21/12 18:26	1
Ethyl t-butyl ether	ND		0.50		ug/L			02/21/12 18:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*02/21/12 18:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 138*		*02/21/12 18:26*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*02/21/12 18:26*	*1*

Lab Sample ID: LCS 720-108343/5
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	25.0	25.3		ug/L		101	62 - 130
Benzene	25.0	26.3		ug/L		105	79 - 130
EDB	25.0	26.2		ug/L		105	70 - 130
1,2-DCA	25.0	22.7		ug/L		91	61 - 132
Ethylbenzene	25.0	25.7		ug/L		103	80 - 120
Toluene	25.0	25.5		ug/L		102	78 - 120
m-Xylene & p-Xylene	50.0	52.1		ug/L		104	70 - 142
o-Xylene	25.0	26.2		ug/L		105	70 - 130
TBA	500	501		ug/L		100	70 - 130
Ethanol	500	520		ug/L		104	31 - 216
DIPE	25.0	25.7		ug/L		103	69 - 134
TAME	25.0	27.2		ug/L		109	79 - 130
Ethyl t-butyl ether	25.0	24.3		ug/L		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 138*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: LCS 720-108343/7
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	500	481		ug/L		96	58 - 120

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-108343/7
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 138*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 720-108343/6
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE			25.0	27.3		ug/L		109	62 - 130	8	20
Benzene			25.0	26.4		ug/L		106	79 - 130	0	20
EDB			25.0	27.6		ug/L		110	70 - 130	5	20
1,2-DCA			25.0	23.4		ug/L		94	61 - 132	3	20
Ethylbenzene			25.0	25.2		ug/L		101	80 - 120	2	20
Toluene			25.0	25.4		ug/L		102	78 - 120	0	20
m-Xylene & p-Xylene			50.0	51.5		ug/L		103	70 - 142	1	20
o-Xylene			25.0	26.0		ug/L		104	70 - 130	1	20
TBA			500	495		ug/L		99	70 - 130	1	20
Ethanol			500	512		ug/L		102	31 - 216	2	30
DIPE			25.0	26.5		ug/L		106	69 - 134	3	20
TAME			25.0	28.9		ug/L		116	79 - 130	6	20
Ethyl t-butyl ether			25.0	25.6		ug/L		102	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 138*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 720-108343/8
Matrix: Water
Analysis Batch: 108343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			500	488		ug/L		98	58 - 120	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*100*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 138*
Toluene-d8 (Surr)	*101*		*70 - 130*

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

GC/MS VOA

Analysis Batch: 108287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-40478-1	MW-1 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-1 MS	MW-1 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-1 MSD	MW-1 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-2	MW-2 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-3	MW-3 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-4	MW-4 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-108287/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-108287/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-108287/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-108287/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-108287/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 108343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-40478-1	MW-1 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-2	MW-2 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-3	MW-3 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
720-40478-4	MW-4 (2/20/12)	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-108343/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-108343/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-108343/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-108343/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-108343/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Client Sample ID: MW-1 (2/20/12)

Lab Sample ID: 720-40478-1

Date Collected: 02/20/12 12:30
Matrix: Water
Date Received: 02/20/12 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	108287	02/21/12 11:29	LL	TAL SF
Total/NA	Analysis	8260B/CA_LUFTMS		1	108343	02/21/12 21:29	AC	TAL SF

Client Sample ID: MW-2 (2/20/12)

Lab Sample ID: 720-40478-2

Date Collected: 02/20/12 13:00
Matrix: Water
Date Received: 02/20/12 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		5	108287	02/21/12 13:02	LL	TAL SF
Total/NA	Analysis	8260B/CA_LUFTMS		5	108343	02/21/12 22:00	AC	TAL SF

Client Sample ID: MW-3 (2/20/12)

Lab Sample ID: 720-40478-3

Date Collected: 02/20/12 13:35
Matrix: Water
Date Received: 02/20/12 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		20	108287	02/21/12 13:33	LL	TAL SF
Total/NA	Analysis	8260B/CA_LUFTMS		20	108343	02/21/12 22:30	AC	TAL SF

Client Sample ID: MW-4 (2/20/12)

Lab Sample ID: 720-40478-4

Date Collected: 02/20/12 14:10
Matrix: Water
Date Received: 02/20/12 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	108287	02/21/12 14:04	LL	TAL SF
Total/NA	Analysis	8260B/CA_LUFTMS		1	108343	02/21/12 23:01	AC	TAL SF

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica San Francisco	California	State Program	9	2496

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL SF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11102, Oakland

TestAmerica Job ID: 720-40478-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-40478-1	MW-1 (2/20/12)	Water	02/20/12 12:30	02/20/12 17:25
720-40478-2	MW-2 (2/20/12)	Water	02/20/12 13:00	02/20/12 17:25
720-40478-3	MW-3 (2/20/12)	Water	02/20/12 13:35	02/20/12 17:25
720-40478-4	MW-4 (2/20/12)	Water	02/20/12 14:10	02/20/12 17:25

San Francisco
1220 Quarry Lane

Pleasanton, CA 94566
phone 925.484.1919 fax 925.600.3002

720-40478

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
136050
TestAmerica Laboratories, Inc.

2/23/2012

Client Contact	Project Manager: Sam Barkley	Site Contact:	Date:	COC No:
Broadbent and Associates	Tel/Fax: (707) 455-7290/ (707) 455-7295	Lab Contact:	Carrier:	____ of ____ COCs
875 Cotting Lane, Suite G	**Analysis Turnaround Time**			Job No.
Vacaville, CA 95688	Calendar (C) or Work Days (W) ____			
(707) 455-7290	TAT if different from Below ____ STD X			
(707) 455-7295	☐ 2 weeks			SDG No.
Project Name: BP 11102	☐ 1 week			
Site: 100 Macarthur Boulevard, Oakland	☐ 2 days			
P O # GP09BPNA.C111	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	GRO by 8015	BTEX/5 FO + EDB by 8260	1,2-DCA and Ethanol by 8260	Sample Specific Notes:
MW-1 (2/20/12)	2-20-12	1230	GRAB	AQ	3		X	X	X	
MW-2 (2/20/12)		1300	GRAB	AQ	3		X	X	X	
MW-3 (2/20/12)		1335	GRAB	AQ	3		X	X	X	
MW-4 (2/20/12)		~~1340~~ 1410	GRAB	AQ	3		X	X	X	
TB -11102- 02202012	2-20-12	1415		AQ	1					ON HOLD

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other ____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Special Instructions/QC Requirements & Comments:

Please report separately from BP 4944

Temp 2.3°c

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	BROADBENT	2/20/12 1430		TASF	2/20/12 1430
	TASF	2/20/12 1725		TASF	2/20/12 1725

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 720-40478-1

Login Number: 40478

List Source: TestAmerica San Francisco

List Number: 1

Creator: Apostol, Anita

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

APPENDIX D

GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_WELL FILE

SUCCESS

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

Submittal Type:	**GEO_WELL**
Submittal Title:	**1Q12 GEO_WELL 11102**
Facility Global ID:	**T0600100908**
Facility Name:	**BP #11102**
File Name:	**GEO_WELL.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**3/21/2012 9:45:36 AM**
Confirmation Number:	**5625975847**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

Submittal Type:	**EDF - Monitoring Report - Semi-Annually**
Submittal Title:	**1Q12 GW Monitoring**
Facility Global ID:	**T0600100908**
Facility Name:	**BP #11102**
File Name:	**720-40478-1.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**3/21/2012 9:44:08 AM**
Confirmation Number:	**7710219621**

VIEW QC REPORT

VIEW DETECTIONS REPORT