Atlantic Richfield Company

Shannon Couch Operations Project Manager

RECEIVED

9:29 am, Aug 01, 2011 Alameda County Environmental Health

July 29, 2011

Re: Second Quarter 2011 Semi-Annual Monitoring Report Atlantic Richfield Company Station #2035 1001 San Pablo Avenue, Albany, California ACEH Case #RO0000100

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

Submitted by,

Shannon Couch Operations Project Manager

Attachment



PO Box 1257 San Ramon, CA 94583 Phone: (925) 275-3804 Fax: (925) 275-3815 E-Mail: shannon.couch@bp.com

Creating Valuable Solutions, Building Trust



July 29, 2011

Project No. 06-88-610

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

Attn: Ms. Shannon Couch

Re: Second Quarter 2011 Semi-Annual Monitoring Report, Atlantic Richfield Company Station #2035, 1001 San Pablo Avenue, Albany, Alameda County, California; ACEH Case #RO0000100

Dear Ms. Couch:

Attached is the Second Quarter 2011 Semi-Annual Monitoring Report for Atlantic Richfield Company (a BP affiliated company) Station #2035 located at 1001 San Pablo Avenue, Albany, Alameda County, California. Should you have questions regarding the work performed or results obtained, please do not hesitate to contact me at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Thomas A. Venus, P.E. Senior Engineer

Enclosures



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

SECOND QUARTER 2011 SEMI-ANNUAL MONITORING REPORT ARCO STATION # 2035, ALBANY, CALIFORNIA

Broadbent & Associates, Inc. (BAI) is pleased to present this *Second Quarter 2011 Monitoring Report* on behalf of Atlantic Richfield Company (a BP affiliated company) for ARCO Station #2035 located in Albany, Alameda County, CA. Quarterly reporting is being submitted to the Alameda County Environmental Health Services Agency (ACEH) consistent with their requirements under the legal authority of the California Regional Water Quality Control Board, as codified by the California Code of Regulations Title 23, Section 2652(d). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	ARCO Station #2035/ 1001 San Pablo Avenue, Albany
Client Project Manager / Title:	Ms. Shannon Couch
BAI Contact:	Tom Venus, PE / (530) 566-1400
BAI Project No.:	06-88-610
Primary Regulatory Agency / ID No.:	ACEH Case #RO0000100
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 (Second Quarter 2011):

- 1. Submitted First Quarter 2010 Monitoring Report (BAI, 4/29/2011).
- Conducted groundwater monitoring/sampling for Second Quarter 2011 at ARCO Station #2035 on May 11, 2011. BlaineTech Services conducted coordinated groundwater monitoring/sampling on May 11, 2011 at the adjacent Shell Station located at 999 San Pablo Avenue.
- 3. Submitted Vapor Intrusion Assessment Report (BAI, 6/13/2011).

WORK SCHEDULED FOR NEXT QUARTER (Third Quarter 2011):

- 1. Submit Second Quarter 2011 Semi-Annual Monitoring Report (contained herein).
- 2. No environmental field work is presently scheduled for Third Quarter 2011.

QUARTERLY MONITORING PLAN SUMMARY:

Groundwater level gauging:	MW-1 through MW-9, RW-1, S-5	(2Q & 4Q)
Groundwater sample collection:	MW-4, MW-7, MW-8, MW-9,	_
	RW-1, S-5	(2Q & 4Q)
	MW-5, MW-6	(4Q)
Biodegradation indicator parameter	MW-4, MW-7, MW-8, MW-9,	
monitoring:	RW-1, S-5	(2Q & 4Q)
-	MW-5, MW-6	(4Q)

QUARTERLY RESULTS SUMMARY:

	- •	
LNAPL		
LNAPL observed this quarter:	No	(yes\no)
LNAPL recovered this quarter:	None	(gal)
Cumulative LNAPL recovered:	N/A	(gal)
Groundwater Elevation and		
Gradient:		
Depth to groundwater:	6.98 (MW-7) to 12.35 (MW-6)	(ft below TOC)
Gradient direction:	West-Southwest	(compass direction)
Gradient magnitude:	0.03	(ft/ft)
Average change in elevation:	+0.44	(ft since last measurement)
Laboratory Analytical Data	GRO was detected in MW-7, MV	\overline{V} -8, RW-1, and S-5. Benzene
Summary:	and Total Xylenes were detected	in MW-8, RW-1, and S-5.
	Toluene was detected in S-5. Eth	ylbenzene was detected in
	MW-8 and S-5. MTBE was detec	ted in MW-4 and MW-9.

ACTIVITIES CONDUCTED & RESULTS:

Second Quarter 2011 groundwater monitoring was conducted on May 11, 2011 by BAI personnel in accordance with the current monitoring plan. No irregularities were noted during water level gauging at ARCO Station #2035. BlaineTech Services conducted coordinated groundwater monitoring at the adjacent Shell Station on May 11, 2011. Light, Non-Aqueous Phase Liquid (LNAPL, or free product) was not observed in the wells monitored during this event. Depth to water measurements ranged from 6.98 ft at MW-7 to 12.35 ft at MW-6. Resulting groundwater surface elevations ranged from 29.96 ft at MW-6 to 36.20 at MW-7. Groundwater elevations are summarized in Table 1. Water level elevations yielded a potentiometric horizontal groundwater gradient to the West-Southwest at approximately 0.03 ft/ft. Field methods used during groundwater monitoring are provided in Appendix A. Field data sheets for monitoring at ARCO Station #2035 are included in Appendix B. Historic groundwater elevation data is presented in Appendix C. Joint monitoring data is presented in Appendix D. A Site Location Map is presented as Drawing 1. Potentiometric groundwater elevation contours are presented in Drawing 2.

Groundwater samples were collected on May 11, 2011. No irregularities were reported during sampling. Samples were submitted under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. (Garden Grove, California) for analysis of Gasoline-Range Organics (GRO, C6-C12) by EPA Method 8015M; for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA), Tert-Butyl Alcohol (TBA) and Ethanol by EPA Method 8260. No significant irregularities were encountered during analysis of the samples with the following exceptions: The laboratory noted MW-7, MW-8, RW-1, and SW-5 GRO concentrations with "LW = Quantitation of unknown hydrocarbon(s) in sampled based on gasoline." The laboratory analytical report, including chain-of-custody documentation, is provided in Appendix E.

Hydrocarbons in the GRO range were detected above the laboratory reporting limit in four wells sampled at concentrations up to 1600 micrograms per liter ($\mu g/L$, parts per billion, ppb) in well RW-1. Benzene was detected above the laboratory reporting limit in three wells sampled at concentrations up to 290 $\mu g/L$ in well MW-8. Toluene was detected above the laboratory reporting limit in one of the wells sampled at a concentration of 0.58 $\mu g/L$ in well S-5. Ethylbenzene was detected above the laboratory reporting limit in two wells sampled at concentrations up to 57 $\mu g/L$ in well MW-8. Total Xylenes were detected above the laboratory reporting limit in three wells sampled at concentrations up to 4.5 $\mu g/L$ in well MW-8. MTBE was detected above the laboratory reporting limit in two wells sampled at concentrations up to 1.2 $\mu g/L$ in well MW-9. The remaining analytes were not detected above their laboratory reporting limits in the wells sampled this last monitoring event. Groundwater monitoring laboratory analytical results are summarized in Table 1, Table 2 and Appendix C. The most recent GRO, Benzene, and MTBE concentrations are also presented in Drawing 2. Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix F.

DISCUSSION:

Groundwater levels were between historic minimum and maximum elevations for the monitoring wells associated with ARCO Station #2035. Groundwater elevations yielded a potentiometric horizontal groundwater gradient to the West-Southwest at approximately 0.03 ft/ft, generally consistent with the historic gradient direction and magnitude 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 exceptions: MW-7 had new historic minimum concentrations for GRO (84 μ g/L), and BTEX (each non-detect at <0.50 μ g/L); MW-8 had new historic minimum

concentrations for Toluene and MTBE (each non-detect at <4.0 μ g/L), Total Xylenes (4.5 μ g/L), TBA (non-detect at <80 μ g/L), DIPE and 1,2-DCA (each non-detect at <4.0 μ g/L); MW-9 had a new historic minimum concentration for MTBE (1.2 μ g/L); and S-5 had new historic minimum concentrations for GRO (1,500 μ g/L), Benzene (19 μ g/L), Ethylbenzene (9.7 μ g/L), and Total Xylenes (2.2 μ g/L). Possible reasons for the new historic minimum concentrations might be dilution due to the increased groundwater elevations encountered during this sampling event. Recent and historic laboratory analytical results are summarized in Table 1 and Table 2.

RECOMMENDATIONS:

Groundwater monitoring and sampling is scheduled to be conducted at ARCO Station #2035 during the Fourth Quarter 2011, consistent with the current monitoring program. No sampling/monitoring is presently scheduled for Third Quarter 2011 at the Site. In the meantime, BP and BAI are awaiting comments from ACEH to the *Vapor Intrusion Assessment Report* (BAI, 6/13/2011) submitted in Second Quarter 2011. No other recommendations are presently proposed.

LIMITATIONS:

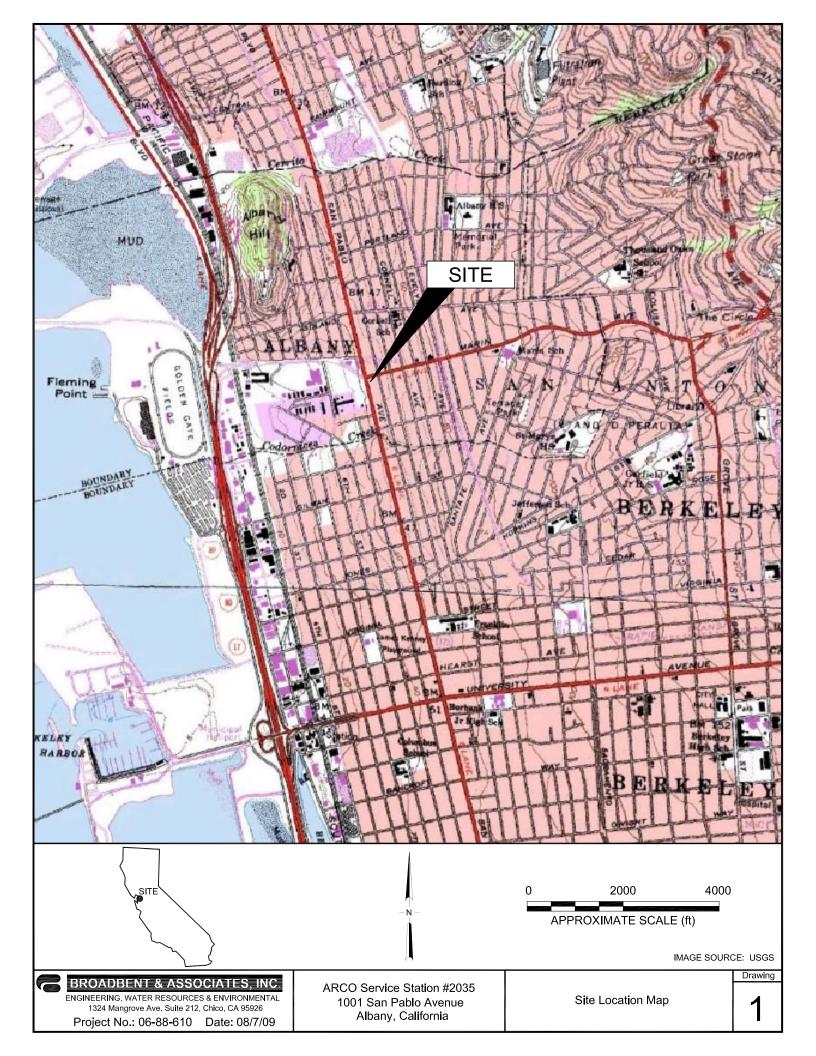
The findings presented in this report are based upon observations of field personnel, points investigated, results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California), and our understanding of ACEH requirements. Our services were performed in accordance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

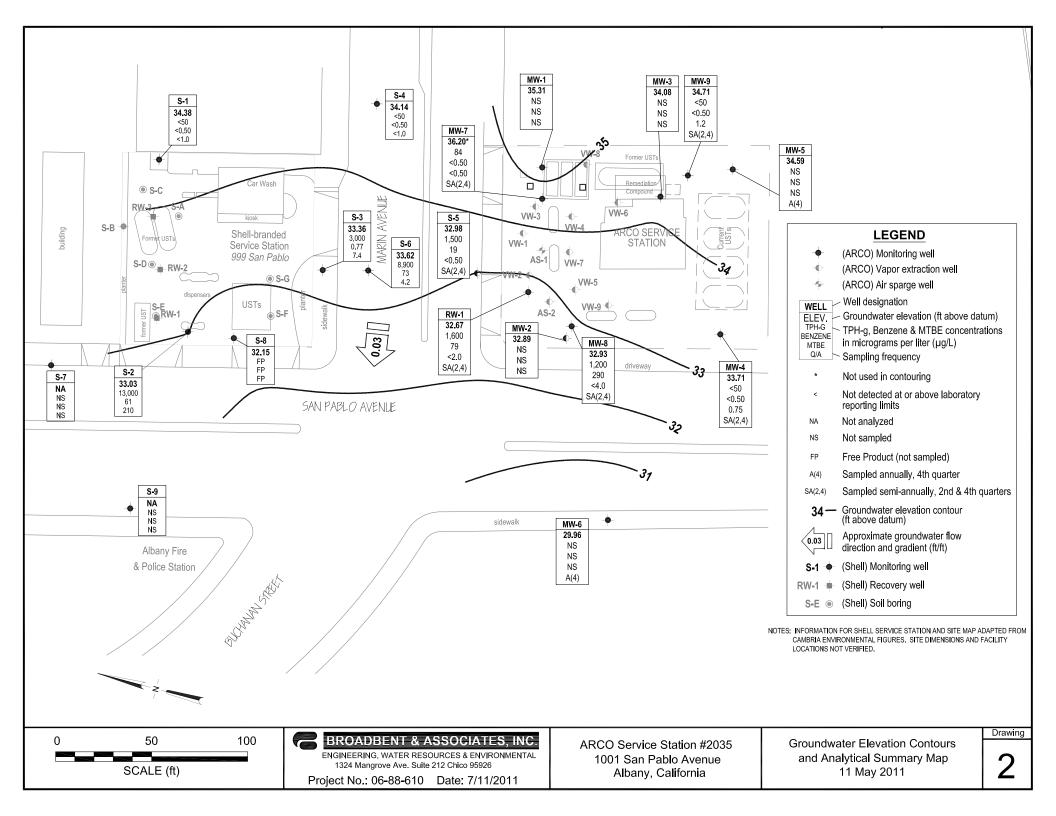
ATTACHMENTS:

Drawing 1: Drawing 2:	Site Location Map Groundwater Elevation Contours and Analytical Summary Map, 11 May 2011
Table 1:	Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
Table 2:	Summary of Fuel Additives Analytical Data
Table 3:	Historical Groundwater Gradient – Direction and Magnitude
Appendix A:	Field Methods
Appendix B:	Field Data Sheets
Appendix C:	Historic Groundwater Data Tables
Appendix D:	Joint Monitoring Data
Appendix E:	Laboratory Report and Chain-of-Custody Documentation
Appendix F:	GeoTracker Upload Confirmation Receipts

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

ACEH:	Alameda County Environmental Health	ft/ft:	feet per foot
BAI:	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





		тос	Depth to	LNAPL	Water Level			Concentra	ations in (µ	g/I.)				
Well and		Elevation	Water	Thickness	Elevation	GRO/		Souceful a	Ethyl-	g/L) Total		DO		
Sample Date	P/NP	(feet)	(feet)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MTBE	(mg/L)	pН	Footnote
MW-1														
4/11/2002	Р	41.41	10.73	0.00	30.68	800	360	<5.0	<5.0	<5.0	<50			
11/27/2002	Р		10.22	0.00	31.19	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.7	1.1		
6/3/2003			9.14	0.00	32.27	1,700	430	<5.0	24	11	8.6	1.7		
11/13/2003	Р	43.55	10.17	0.00	33.38	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.95	2.3	6.5	a
05/12/2004	Р		9.28	0.00	34.27	120	7.2	< 0.50	< 0.50	< 0.50	3.0	1.6	6.0	
12/01/2004	Р		9.16	0.00	34.39	<50	0.94	< 0.50	< 0.50	1.1	2.4	5.2	6.6	
05/02/2005	Р		8.58	0.00	34.97	1,300	390	<5.0	12	6.4	8.8	2.8	6.5	
11/16/2005	Р		9.50	0.00	34.05	<50	< 0.50	< 0.50	< 0.50	0.54	0.92	1.7	6.4	
5/31/2006	Р		7.36	0.00	36.19	850	200	<2.5	5.4	<2.5	4.0	2.4	6.5	
12/6/2006	Р		9.91	0.00	33.64	<50	0.52	< 0.50	< 0.50	< 0.50	0.72	4.50	6.99	
5/15/2007	Р		9.65	0.00	33.90	67	6.6	< 0.50	< 0.50	< 0.50	1.8	2.43	6.96	
11/29/2007	Р		9.11	0.00	34.44	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.98	4.51	6.81	
5/6/2008	Р		8.25	0.00	35.30	890	140	0.53	5.4	5.8	< 0.50	1.89	6.61	
11/24/2008	Р		10.55	0.00	33.00	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.83	6.67	
4/9/2009			9.02	0.00	34.53									d
11/24/2009			9.24	0.00	34.31									
5/26/2010			8.47	0.00	35.08									
11/30/2010			8.62	0.00	34.93									
2/16/2011	Р		8.64	0.00	34.91									
5/11/2011			8.24	0.00	35.31									
MW-2														
4/11/2002	Р	40.38	11.05	0.00	29.33	<50	< 0.50	< 0.50	< 0.50	< 0.50	24			
11/27/2002	Р		10.51	0.00	29.87	<50	< 0.50	< 0.50	< 0.50	< 0.50	5.4	2.6		
6/3/2003			9.78	0.00	30.60	<50	< 0.50	< 0.50	< 0.50	< 0.50	23	1.7		
11/13/2003	Р	42.52	10.69	0.00	31.83	<50	< 0.50	< 0.50	< 0.50	< 0.50	9.5	2.3	6.5	a
05/12/2004	Р		10.34	0.00	32.18	<250	<2.5	<2.5	<2.5	<2.5	27	2.2	6.6	
12/01/2004	Р		10.28	0.00	32.24	<50	< 0.50	< 0.50	< 0.50	0.70	17	3.9	6.6	
05/02/2005	Р		9.50	0.00	33.02	<50	< 0.50	< 0.50	< 0.50	< 0.50	25	3.1	6.6	
11/16/2005	Р		10.50	0.00	32.02	<50	< 0.50	< 0.50	< 0.50	0.50	7.6	2.8	6.4	
5/31/2006	Р		10.03	0.00	32.49	<50	< 0.50	< 0.50	< 0.50	< 0.50	24	2.0	6.6	

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

		тос	Depth to	LNAPL	Water Level			Concentra	tions in (µ	g/L)				
Well and Sample Date	P/NP	Elevation (feet)	Water (feet)	Thickness (feet)	Elevation (feet)	GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE	DO (mg/L)	pH	Footnote
MW-2 Cont.														
12/6/2006	Р	42.52	10.28	0.00	32.24	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.6	3.72	6.91	
5/15/2007	Р		10.00	0.00	32.52	<50	< 0.50	<0.50	<0.50	<0.50	44	2.90	6.69	
11/29/2007	Р		10.13	0.00	32.39	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.9	4.83	6.89	
5/6/2008	Р		9.55	0.00	32.97	<50	< 0.50	<0.50	<0.50	<0.50	35	1.88	6.62	
11/24/2008	Р		10.70	0.00	31.82	<50	< 0.50	< 0.50	< 0.50	< 0.50	4.3	1.83	6.74	
4/9/2009		42.57	9.68	0.00	32.89									d
11/24/2009			10.48	0.00	32.09									
5/26/2010			9.65	0.00	32.92									
11/30/2010			9.84	0.00	32.73									
2/16/2011	Р		9.39	0.00	33.18									
5/11/2011			9.68	0.00	32.89									
MW-3														
4/11/2002	Р	41.44	11.05	0.00	30.39	250	9.4	< 0.50	< 0.50	< 0.50	120			
11/27/2002	Р		10.49	0.00	30.95	<100	<1.0	<1.0	<1.0	2.5	56	2.2		
6/3/2003			9.44	0.00	32.00	130	< 0.50	<0.50	<0.50	<0.50	47	4.1		
11/13/2003	Р	43.62	10.68	0.00	32.94	53	< 0.50	< 0.50	< 0.50	< 0.50	36	3.8	6.8	а
05/12/2004	Р		9.95	0.00	33.67	65	< 0.50	<0.50	<0.50	<0.50	39	4.2	6.9	
12/01/2004	Р		10.32	0.00	33.30	140	< 0.50	< 0.50	< 0.50	< 0.50	37	4.3	6.9	
05/02/2005	Р		9.12	0.00	34.50	140	< 0.50	< 0.50	<0.50	< 0.50	23	3.1	6.7	
11/16/2005	Р		10.58	0.00	33.04	<50	< 0.50	< 0.50	< 0.50	< 0.50	32	4.1	6.5	
5/31/2006	Р		9.41	0.00	34.21	<50	< 0.50	<0.50	<0.50	<0.50	20	4.3	6.8	
12/6/2006	Р		10.25	0.00	33.37	<50	< 0.50	< 0.50	< 0.50	< 0.50	20	2.71	7.00	
5/15/2007	Р		9.70	0.00	33.92	<50	< 0.50	<0.50	<0.50	<0.50	40	5.89	7.07	
11/29/2007	Р		10.08	0.00	33.54	90	< 0.50	< 0.50	< 0.50	< 0.50	35	4.74	6.61	
5/6/2008	Р		10.02	0.00	33.60	<50	< 0.50	<0.50	<0.50	<0.50	14	2.05	6.61	
11/24/2008	Р		10.80	0.00	32.82	<50	<1.0	<1.0	<1.0	<1.0	28	1.98	6.77	
4/9/2009		43.63	9.55	0.00	34.08									d
11/24/2009			10.29	0.00	33.34									
5/26/2010			9.76	0.00	33.87									
11/30/2010			10.15	0.00	33.48									

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

		тос	Depth to	LNAPL	Water Level			Concentra	ations in (µ	g/L)				
Well and Sample Date	P/NP	Elevation (feet)	Water (feet)	Thickness (feet)	Elevation (feet)	GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE	DO (mg/L)	pН	Footnote
MW-3 Cont.														
2/16/2011	Р	43.63	9.22	0.00	34.41									
5/11/2011			9.55	0.00	34.08									
MW-4														
4/11/2002	NP	40.33	10.81	0.00	29.52	<50	< 0.50	<0.50	< 0.50	< 0.50	11			
11/27/2002	NP		10.09	0.00	30.24	<50	< 0.50	< 0.50	< 0.50	< 0.50	6.5	1.8		
6/3/2003			8.62	0.00	31.71	<250	<2.5	<2.5	<2.5	<2.5	120	1.1		
11/13/2003	NP	42.48	9.98	0.00	32.50	<50	< 0.50	< 0.50	< 0.50	< 0.50	20	1.3	6.2	а
05/12/2004	Р		9.48	0.00	33.00	<250	<2.5	<2.5	<2.5	<2.5	79	2.9	6.6	
12/01/2004	NP		9.60	0.00	32.88	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.8	1.9	6.7	
05/02/2005	NP		8.67	0.00	33.81	<50	< 0.50	<0.50	< 0.50	< 0.50	11	2.8	6.6	
11/16/2005	NP		10.00	0.00	32.48	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.93	1.7	6.3	
5/31/2006	NP		8.52	0.00	33.96	<50	< 0.50	< 0.50	< 0.50	< 0.50	2.4	1.0	7.0	
12/6/2006	NP		9.90	0.00	32.58	<50	< 0.50	< 0.50	< 0.50	< 0.50	7.8	0.85	7.10	
5/15/2007	NP		9.18	0.00	33.30	<50	< 0.50	< 0.50	< 0.50	< 0.50	2.2	1.37	6.85	
11/29/2007	NP		9.10	0.00	33.38	<50	< 0.50	< 0.50	< 0.50	< 0.50	9.1	1.81	7.14	
5/6/2008	Р		9.40	0.00	33.08	<50	< 0.50	<0.50	< 0.50	< 0.50	10	2.61	6.91	
11/24/2008	NP		10.20	0.00	32.28	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.67	6.88	
4/9/2009	Р	42.51	9.00	0.00	33.51	<50	< 0.50	<0.50	< 0.50	< 0.50	12	2.51	7.11	d
11/24/2009	Р		9.89	0.00	32.62	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.7	0.80	6.58	
5/26/2010	Р		8.79	0.00	33.72	<50	< 0.50	< 0.50	< 0.50	< 0.50	1.4	0.98	6.0	
11/30/2010	Р		9.31	0.00	33.20							1.40	6.4	f
2/16/2011	Р		8.50	0.00	34.01	<50	< 0.50	<0.50	< 0.50	< 0.50	2.1	0.91	7.1	
5/11/2011	Р		8.80	0.00	33.71	<50	<0.50	<0.50	<0.50	<0.50	0.75	1.43	6.8	
MW-5														
4/11/2002	NP	41.84	10.63	0.00	31.21	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0			
11/27/2002	NP		10.65	0.00	31.19									
6/3/2003			8.92	0.00	32.92	<50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	1.8		
11/13/2003	NP	44.03	10.58	0.00	33.45	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.79	1.4	5.7	а
05/12/2004			9.95	0.00	34.08									

		тос	Depth to	LNAPL	Water Level			Concentra	ntions in (µ	g/L)				
Well and		Elevation	Water	Thickness	Elevation	GRO/			Ethyl-	Total		DO		
Sample Date	P/NP	(feet)	(feet)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MTBE	(mg/L)	pН	Footnote
MW-5 Cont.														
12/01/2004	NP	44.03	10.05	0.00	33.98	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.55	1.8	6.3	
05/02/2005			8.75	0.00	35.28									
11/16/2005	NP		10.37	0.00	33.66	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.3	6.2	
5/31/2006			9.07	0.00	34.96									
12/6/2006	NP		10.25	0.00	33.78	<50	< 0.50	< 0.50	< 0.50	< 0.50	0.99	1.24	6.88	
5/15/2007			9.51	0.00	34.52									
11/29/2007	NP		9.95	0.00	34.08	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.93	6.98	
5/6/2008			9.67	0.00	34.36									
11/24/2008	NP		10.62	0.00	33.41	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.43	6.52	
4/9/2009			12.00	0.00	32.03									d
11/24/2009	Р		10.34	0.00	33.69	<50	< 0.50	1.4	< 0.50	< 0.50	0.89	0.94	6.1	
5/26/2010			9.21	0.00	34.82									
11/30/2010	Р		9.85	0.00	34.18								6.17	f
2/16/2011	Р		9.01	0.00	35.02	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.23	6.9	
5/11/2011			9.44	0.00	34.59									
MW-6														
4/11/2002	NP	40.13	11.42	0.00	28.71	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0			
11/27/2002	NP		13.11	0.00	27.02	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.3		
6/3/2003			12.48	0.00	27.65	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.1		
11/13/2003	NP	42.26	13.11	0.00	29.15	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	6.8	а
05/12/2004			12.68	0.00	29.58									
12/01/2004	NP		12.68	0.00	29.58	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.7	7.3	
05/02/2005			12.25	0.00	30.01									
11/16/2005	NP		12.98	0.00	29.28	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	6.7	
5/31/2006			12.35	0.00	29.91									
12/6/2006	NP	 	12.98	0.00	29.28	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.24	6.86	
5/15/2007			12.55	0.00	29.71									
11/29/2007	NP		12.75	0.00	29.51	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		6.93	
5/6/2008			12.91	0.00	29.35									
11/24/2008	NP		13.20	0.00	29.06	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.28	7.25	

		TOC	Depth to	LNAPL	Water Level			Concentra	ntions in (µ					
Well and		Elevation	Water	Thickness	Elevation	GRO/			Ethyl-	Total		DO		
Sample Date	P/NP	(feet)	(feet)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MTBE	(mg/L)	pН	Footnote
MW-6 Cont.														
4/9/2009		42.31	12.52	0.00	29.79									d
11/24/2009	Р		12.90	0.00	29.41	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.83	6.59	
5/26/2010			12.17	0.00	30.14									
11/30/2010	Р		12.45	0.00	29.86							1.20	7.2	f
2/16/2011	Р		11.95	0.00	30.36	<50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.02	6.9	
5/11/2011			12.35	0.00	29.96									
MW-7														
4/9/2009	Р	43.18	6.73	0.00	36.45	4,100	5.2	1.7	21	21	< 0.50	8.41	7.79	d
11/24/2009	Р		8.31	0.00	34.87	2,700	4.1	1.1	3.3	3.0	< 0.50	0.60	6.8	с
5/26/2010	Р		6.62	0.00	36.56	1,800	1.2	0.53	2.2	0.84	< 0.50	0.71	6.6	
11/30/2010	Р		6.84	0.00	36.34							0.79	6.7	f
2/16/2011	Р		5.44	0.00	37.74	2,000	1.4	0.84	8.0	1.4	< 0.50	0.56	7.0	g
5/11/2011	Р		6.98	0.00	36.20	84	<0.50	<0.50	<0.50	<0.50	<0.50	1.76	7.1	lw
MW-8														
4/9/2009	Р	42.36	9.50	0.00	32.86	4,300	940	260	150	590	110	2.09	7.62	d
11/24/2009	Р		10.25	0.00	32.11	28,000	9,900	670	1,300	2,200	<100	0.64	6.48	с
5/26/2010	Р		9.25	0.00	33.11	1,400	420	<10	21	<10	<10	0.78	6.6	
11/30/2010	Р		9.68	0.00	32.68							2.26	6.6	f
2/16/2011	Р		8.95	0.00	33.41	960	270	<5.0	50	<5.0	<5.0	3.35	6.9	g
5/11/2011	Р		9.43	0.00	32.93	1,200	290	<4.0	57	4.5	<4.0	0.94	7.2	lw
MW-9														
4/9/2009	Р	43.77	8.95	0.00	34.82	<50	< 0.50	< 0.50	< 0.50	< 0.50	2.1	2.81	7.58	d
11/24/2009	Р		10.11	0.00	33.66	<50	< 0.50	< 0.50	< 0.50	< 0.50	3.8		6.3	
5/26/2010	Р		8.88	0.00	34.89	<50	< 0.50	< 0.50	< 0.50	<0.50	1.9	0.66	5.7	
11/30/2010	Р		9.56	0.00	34.21							0.64	6.3	f
2/16/2011	Р		8.65	0.00	35.12	<50	< 0.50	< 0.50	< 0.50	< 0.50	3.8	0.55	6.6	
5/11/2011	Р		9.06	0.00	34.71	<50	<0.50	<0.50	<0.50	<0.50	1.2	1.22	6.6	
RW-1														

		mag						<i>a</i> .		(T)				
Well and		TOC Elevation	Depth to	LNAPL Thickness	Water Level Elevation	GRO/		Concentra	ations in (µ Ethyl-			DO		l
Sample Date	P/NP	Elevation (feet)	Water (feet)	(feet)	(feet)	TPHg	Benzene	Toluene	·	Total Xylenes	MTBE	(mg/L)	pН	Footnote
RW-1 Cont.														
4/11/2002	Р	40.33	9.20	0.00	31.13	15,000	750	2,000	380	2,000	1,500			
11/27/2002	Р		10.31	0.00	30.02	<2,500	720	<25	<25	<25	<25	1.8		
6/3/2003			9.54	0.00	30.79	470	78	0.97	4.3	9	48	1.4		
11/13/2003	Р	42.35	10.35	0.00	32.00	130	29	< 0.50	< 0.50	< 0.50	44	1.3	6.6	a
05/12/2004	Р		9.80	0.00	32.55	<250	66	<2.5	<2.5	<2.5	<2.5	1.9	6.9	
09/02/2004			10.42	0.00	31.93									
10/07/2004			10.36	0.00	31.99									
11/04/2004			9.93	0.00	32.42									
12/01/2004	Р		10.02	0.00	32.33	<250	96	<2.5	<2.5	<2.5	16	1.8	6.7	
05/02/2005	Р		9.20	0.00	33.15	230	100	<1.0	<1.0	<1.0	50	2.5	6.6	
11/16/2005	Р		10.96	0.00	31.39	<100	28	<1.0	<1.0	<1.0	32	1.0	6.5	
5/31/2006	Р		9.34	0.00	33.01	320	32	< 0.50	< 0.50	< 0.50	28	1.3	6.8	
12/6/2006	Р		10.10	0.00	32.25	50	27	< 0.50	< 0.50	< 0.50	19	1.49	7.54	
5/15/2007	Р		9.42	0.00	32.93	280	32	< 0.50	< 0.50	< 0.50	18	2.61	7.10	
11/29/2007	Р		9.75	0.00	32.60	<50	14	< 0.50	< 0.50	< 0.50	18	4.86	8.14	
5/6/2008	Р		9.71	0.00	32.64	610	110	<2.5	<2.5	<2.5	2.6	2.48	6.95	
11/24/2008	Р		10.48	0.00	31.87	73	31	< 0.50	< 0.50	< 0.50	11	2.53	6.88	
4/9/2009	Р	42.23	9.46	0.00	32.77	720	36	< 0.50	1.0	1.2	4.0	2.58	7.73	d
11/24/2009	Р		10.15	0.00	32.08	<50	2.0	< 0.50	< 0.50	< 0.50	6.5	0.85	6.6	
5/26/2010	Р		9.12	0.00	33.11	90	11	< 0.50	< 0.50	< 0.50	0.94	1.46	6.4	
11/30/2010	Р		9.38	0.00	32.85							2.10	7.2	f
2/16/2011	Р		9.15	0.00	33.08	1,600	370	2.9	2.6	2.9	1.3	0.76	7.0	
5/11/2011	Р		9.56	0.00	32.67	1,600	79	<2.0	<2.0	2.0	<2.0	0.91	7.4	lw
S-5														
4/11/2002	Р	40.33	10.17	0.00	30.16	30,000	390	1,400	410	7,400	<500			
11/27/2002	Р		9.77	0.00	30.56	55,000	1,300	450	1,400	13,000	<50	4.3		
6/3/2003			9.12	0.00	31.21	44,000	680	260	1,100	9,900	<25	1.9		
6/3/2003			9.03	0.00	31.30	44,000	680	260	1,100	9,900	<25	1.9		
6/3/2003			9.12	0.00	31.21						<25	1.4		
6/3/2003			9.03	0.00	31.30						<25	1.4		

		тос	Depth to	LNAPL	Water Level			Concentra	ntions in (µ	g/L)				
Well and		Elevation	Water	Thickness	Elevation	GRO/			Ethyl-	Total		DO		
Sample Date	P/NP	(feet)	(feet)	(feet)	(feet)	TPHg	Benzene	Toluene	Benzene	Xylenes	MTBE	(mg/L)	pН	Footnote
S-5 Cont.														
11/13/2003	Р	41.83	9.12	0.00	32.71	31,000	520	120	690	5,900	<50	1.4	6.5	a
05/12/2004	Р		9.95	0.00	31.88	28,000	760	79	910	5,000	<50	1.9	6.6	
12/01/2004	Р		9.61	0.00	32.22	26,000	1,500	64	1,400	4,000	<25		6.5	b
05/02/2005	Р		8.80	0.00	33.03	13,000	700	18	260	1,300	<5.0	1.8	6.4	
11/16/2005	Р		9.80	0.00	32.03	15,000	1,400	25	570	850	<5.0	1.1	6.3	
5/31/2006	Р		8.89	0.00	32.94	9,800	170	<5.0	490	390	<5.0	1.4	6.6	
12/6/2006	Р		9.65	0.00	32.18	16,000	1,100	<25	1,700	970	<25	1.23	6.95	
5/15/2007	Р		8.89	0.00	32.94	10,000	140	<5.0	340	310	<5.0	3.63	7.10	
11/29/2007	Р		9.48	0.00	32.35	13,000	770	8.6	500	360	<2.5	5.42	7.28	c (Benzene)
5/6/2008	Р		9.30	0.00	32.53	7,400	320	2.8	580	130	< 0.50	3.37	6.88	
11/24/2008	Р		10.00	0.00	31.83	7,700	400	<10	390	14	<10	3.22	6.43	
4/9/2009	Р		8.90	0.00	32.93	7,700	230	<10	370	35	<10	3.14	7.77	
11/24/2009														e
5/26/2010														e
11/30/2010	Р		8.92	0.00	32.91							0.62	6.6	f
2/16/2011	Р		8.57	0.00	33.26	2,700	26	< 0.50	11	3.2	< 0.50	1.34	7.5	
5/11/2011	Р		8.85	0.00	32.98	1,500	19	0.58	9.7	2.2	<0.50	0.72	6.8	lw

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

Symbols & Abbreviations: -- = Not analyzed/applicable/measured/available < = Not detected at or above laboratory reporting limit ft bgs = Feet below ground surface BTEX = Benzene, toluene, ethylbenzene and xylenes DO = Dissolved oxygen DTW = Depth to water in ft bgsGRO = Gasoline range organics, range C4-C12GWE = Groundwater elevation measured in ft mg/L = Milligrams per liter MTBE = Methyl tert butyl etherNP = Not purged before sampling P = Purged before sampling TOC = Top of casing measured in ftTPH-g = Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 8015, Modified $\mu g/L = Micrograms per liter$ SEQ/SEQM = Sequoia Analytical/Sequoia Morgan Hill Laboratories

Footnotes:

- a = Site resurveyed by URS on 10/15/03 to NAVD '88
- b = Sheen in well
- c = Sample taken from VOA vial with air bubble >6mm
- d = Well surveyed on 4/20/09
- e = Well not monitored or sampled due to traffic control safety concerns
- f = Samples were collected on 11/30/2010 but not able to be analyzed (frozen). Subsequent re-sampling could not occur in 4Q 2010
- g = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
- lw = Quantitated against gasoline

Notes:

No sampling occurs at this site during the first and third quarters of each calendar year

TPH-g analyzed using EPA Method 8015, Modified and BTEX and MTBE by EPA method 8260B

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 DO and pH were obtained through field measurements

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present

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

Well and	Concentrations in (µg/L)								
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnote
MW-1									
4/11/2002			<50						
11/27/2002			1.7						
6/3/2003	<1000	<200	8.6	<5.0	<5.0	<5.0	<5.0	<5.0	
11/13/2003	<100	<20	0.95	< 0.50	< 0.50	< 0.50			
05/12/2004	<100	<20	3.0	< 0.50	<0.50	< 0.50	< 0.50	<0.50	
12/01/2004	<100	<20	2.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
05/02/2005	<1,000	220	8.8	<5.0	<5.0	<5.0	<5.0	<5.0	
11/16/2005	<100	<20	0.92	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	а
5/31/2006	<1,500	<100	4.0	<2.5	<2.5	<2.5	<2.5	<2.5	a
12/6/2006	<300	<20	0.72	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/15/2007	<300	<20	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/29/2007	<300	<20	0.98	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/6/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
MW-2									
4/11/2002			24						
11/27/2002			5.4						
6/3/2003	<100	<20	23	< 0.50	<0.50	< 0.50	0.94	< 0.50	
11/13/2003	<100	<20	9.5	< 0.50	< 0.50	< 0.50			
05/12/2004	<500	<100	27	<2.5	<2.5	<2.5	<2.5	<2.5	
12/01/2004	<100	<20	17	< 0.50	< 0.50	< 0.50	0.74	< 0.50	
05/02/2005	<100	75	25	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/16/2005	<100	<20	7.6	< 0.50	< 0.50	< 0.50	0.79	< 0.50	a
5/31/2006	<300	<20	24	< 0.50	< 0.50	< 0.50	0.66	< 0.50	a
12/6/2006	<300	<20	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	а
5/15/2007	<300	<20	44	< 0.50	<0.50	<0.50	1.2	<0.50	
11/29/2007	<300	<20	1.9	< 0.50	<0.50	<0.50	<0.50	<0.50	
5/6/2008	<300	<10	35	< 0.50	<0.50	< 0.50	0.93	< 0.50	
11/24/2008	<300	<10	4.3	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	
MW-3									

Well and				Concentratio					
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnote
MW-3 Cont.									
4/11/2002			120						
11/27/2002			56						
6/3/2003	<100	<20	47	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/13/2003	<100	<20	36	< 0.50	< 0.50	< 0.50			
05/12/2004	<100	<20	39	< 0.50	< 0.50	<0.50	<0.50	< 0.50	
12/01/2004	<100	<20	37	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
05/02/2005	<100	<20	23	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/16/2005	<100	<20	32	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
5/31/2006	<300	<20	20	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	a
12/6/2006	<300	<20	20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	а
5/15/2007	<300	<20	40	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/29/2007	<300	<20	35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/6/2008	<300	<10	14	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2008	<600	<20	28	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-4									
4/11/2002			11						
11/27/2002			6.5						
6/3/2003	<500	<100	120	<2.5	<2.5	<2.5	<2.5	<2.5	
11/13/2003	<100	<20	20	< 0.50	< 0.50	< 0.50			
05/12/2004	<500	<100	79	<2.5	<2.5	<2.5	<2.5	<2.5	
12/01/2004	<100	<20	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
05/02/2005	<100	75	11	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	
11/16/2005	<100	<20	0.93	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
5/31/2006	<300	<20	2.4	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	a
12/6/2006	<300	<20	7.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
5/15/2007	<300	<20	2.2	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	
11/29/2007	<300	<20	9.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/6/2008	<300	<10	10	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	
11/24/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
4/9/2009	<300	<10	12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2009	<300	<10	1.7	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	

Well and		Concentrations in (µg/L)							
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnote
MW-4 Cont.									
5/26/2010	<300	<10	1.4	<0.50	< 0.50	<0.50	< 0.50	<0.50	
2/16/2011	<300	<10	2.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/11/2011	<300	<10	0.75	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-5									
4/11/2002			<5.0						
6/3/2003	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/13/2003	<100	<20	0.79	< 0.50	< 0.50	<0.50			
12/01/2004	<100	<20	0.55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/16/2005	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
12/6/2006	<300	<20	0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
11/29/2007	<300	<20	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2009	<300	<10	0.89	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
2/16/2011	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
MW-6									
4/11/2002			<5.0						
11/27/2002			< 0.50						
6/3/2003	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/13/2003	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50			
12/01/2004	<100	<20	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/16/2005	<100	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
12/6/2006	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
11/29/2007	<300	<20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2008	<300	<10	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2009	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
2/16/2011	<300	<10	<0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	
MW-7									
4/9/2009	<300	<10	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	
11/24/2009	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	b
5/26/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Well and				Concentrati					
Sample Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnote
MW-7 Cont.									
2/16/2011	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/11/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	c
MW-8									
4/9/2009	<300	330	110	5.5	< 0.50	<0.50	34	<0.50	
11/24/2009	<60,000	<2,000	<100	<100	<100	<100	<100	<100	b
5/26/2010	<6,000	<200	<10	<10	<10	<10	<10	<10	
2/16/2011	<3,000	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
5/11/2011	<2,400	<80	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	c
MW-9									
4/9/2009	<300	<10	2.1	<0.50	< 0.50	<0.50	<0.50	<0.50	
11/24/2009	<300	<10	3.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/26/2010	<300	<10	1.9	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
2/16/2011	<300	<10	3.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/11/2011	<300	<10	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
RW-1									
4/11/2002			1,500						
11/27/2002			<25						
6/3/2003	<100	22	48	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/13/2003	<100	<20	44	< 0.50	< 0.50	< 0.50			
05/12/2004	<500	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
12/01/2004	<500	<100	16	<2.5	<2.5	<2.5	<2.5	<2.5	
05/02/2005	<200	<40	50	<1.0	<1.0	<1.0	<1.0	<1.0	
11/16/2005	<200	<40	32	<1.0	<1.0	<1.0	<1.0	<1.0	a
5/31/2006	<300	<20	28	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
12/6/2006	<300	<20	19	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	a
5/15/2007	<300	<20	18	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/29/2007	<300	<20	18	<0.50	< 0.50	<0.50	< 0.50	<0.50	
5/6/2008	<1,500	<50	2.6	<2.5	<2.5	<2.5	<2.5	<2.5	
11/24/2008	<300	<10	11	<0.50	< 0.50	<0.50	<0.50	<0.50	
4/9/2009	<300	<10	4.0	< 0.50	< 0.50	<0.50	<0.50	< 0.50	

Well and				Concentratio					
Sample Date	Ethanol	ТВА	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnote
RW-1 Cont.									
11/24/2009	<300	<10	6.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/26/2010	<300	<10	0.94	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
2/16/2011	<300	<10	1.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
5/11/2011	<1,200	<40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	c
S-5									
4/11/2002			<500						
11/27/2002			<50						
6/3/2003	<5,000	<1,000	<25	<25	<25	<25	<25	<25	
6/3/2003	<5,000	<1,000	<25	<25	<25	<25	<25	<25	
6/3/2003	<5,000	<1,000	<25	<25	<25	<25	<25	<25	
6/3/2003	<5,000	<1,000	<25	<25	<25	<25	<25	<25	
11/13/2003	<10,000	<2,000	<50	<50	<50	<50			
05/12/2004	<10,000	<2,000	<50	<50	<50	<50	<50	<50	
12/01/2004	<5,000	<1,000	<25	<25	<25	<25	<25	<25	
05/02/2005	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
11/16/2005	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	a
5/31/2006	<3,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	a
12/6/2006	<15,000	<1,000	<25	<25	<25	<25	<25	<25	a
5/15/2007	<3,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
11/29/2007	<1,500	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
5/6/2008	<300	<10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
11/24/2008	<6,000	<200	<10	<10	<10	<10	<10	<10	
4/9/2009	<6,000	<200	<10	<10	<10	<10	<10	<10	
2/16/2011	<300	<10	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	
5/11/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	с

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

Footnote:

a = Calibration verification for ethanol was within method limits but outside contract limits

b = Sample taken from VOA vial with air bubble > 6mm diameter

c = LW Quantitated against gasoline

Notes:

All volatile organic compounds analyzed using EPA Method 8260B

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

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
4/11/2002	Southwest	0.012
11/27/2002	West	0.021
6/3/2003	West	0.024
11/13/2003	West (offsite Northwest)	0.015
5/12/2004	West	0.020
12/1/2004	West	0.030
5/2/2005	West	0.02
11/16/2005	West	0.03
5/31/2006	West	0.04
12/6/2006	West	0.01
5/15/2007	West	0.02
11/29/2007	West	0.02
5/6/2008	West	0.007
11/24/2008	West	0.02
4/9/2009	West	0.02
11/24/2009	West	0.03
5/26/2010	West	0.02
11/30/2010	West-Southwest	0.02
2/16/2011	West	0.03
5/11/2011	West-Southwest	0.03

Table 3. Historical Groundwater Gradient - Direction and MagnitudeARCO Service Station #2035, 1001 San Pablo Ave., Albany, CA

Notes: Site resurveyed by URS on 10/15/03 by datum NAVD '88

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

APPENDIX A

FIELD METHODS

BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

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

A.1.1 Water Level & Free-Product Measurement

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

A.1.2 Monitoring Well Purging

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

A.1.3 Groundwater Sample Collection

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

A.1.4 Surface Water Sample Collection

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

A.1.5 Decontamination Protocol

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

A.1.6 Chain of Custody Procedures

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

Field Custody Procedures

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

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

Transfer of Custody and Shipment

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

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

A.1.7 Field Records

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

APPENDIX B

FIELD DATA SHEETS

BROADBENT & ASSOCIATES, INC. ENGINEERING, WATER RESOURCES & ENVIRONMENTAL	DAILY REPORT
Project: <u>BI/ARIO 2035</u> Project No.: <u>06-88-610</u>	2
Field Representative(s): SR & JR Day: Wednesday Date:	ŝ
Time Onsite: From: To: To: To:; From:; From:;	To:
X Signed HASP Y Safety Glasses Y Hard Hat Y Steel Toe Boots XUST Emergency System Shut-off Switches Located X Proper Gloves Y Proper Level of Barricading Other PPE (describe)	∑_ Safety Vest
Weather: <u>Cloudy</u>	
Equipment In Use:	
Visitors:	
TIME: WORK DESCRIPTION:	
0730 Brook Filling Out paper work and conducting	Sá fety
reeting	
0840 Setting up Truffic control	
6470 Set up on S-5 Sample W 0935	
0942 Set up on MW-7 Simple @ 0955	
1001 Set up on MW-4 Sample @ 1020 1020 Set up on MW-4 Sample @ 1050)
1026 Set up on MW-4 Sample @ 1030 1030 Statembe Off-Sil-e	4
1054 Set up on mw-8 Simpli @ 1110)
1115 Set up on RW-1 Simple @ 115	55
puraed 46 gallons total	
1250 jeft ste	·
Signature:	

or:

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

			m	w-4								
ne/Locat	ion:	BP/A	RIU									
Name:		SB		Date: 3 5//1/11								
	:	ba.	4									
-		bu	le.									
e: PVC			2				·					
meter:			L	finch		*UNIT	CASING VOLUMES					
Depth:			25.	<u> </u>	~	2" =	= 0.16 gal/lin ft.					
Vater:			- 25-	$\frac{1}{100}$ feet $8.8($	9	3" =	= 0.37 gal/lin ft.					
umn Thio	kness:		= <u>16.7</u>	<u> </u>		4" •	= 0.65 gal/lin ft.					
g Volum	e*:		× <u>0.6</u>	$\int_{-\infty}^{-\infty}$ gallon / fo	oot	6" :	= 1.47 gal/lin ft.					
ter Volu	me:		= <u>10</u> .	∑gallons								
lume:			×3	each								
Purge V	'olume:		=	6 gallons								
uct meas	suremei	nt (if pro	eșent):				1					
Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations					
	1.42	(mv)		1.0	1	1.8						
· · · · ·		~		455								
1051	×	×		415	17.0	0.0						
1040	×	×	X	413	17.2	6.7						
pyu	х	x	×	415	17.0	6.7						
(044	x	x	x	426	16.8	6-8						
	x	x	×									
	x	x	x									
	x	×	×									
ter Volu	me Purg	jed:	. .	8.0	gailon	_L S						
			ction:	.+Strutumookan,								
				10 51			urged Dry? (Y/(N))					
its:						ц.,.	\checkmark					
			<u>.</u>	·								
	lame: uipment: iquipmer e: PVC meter: Depth: Vater: umn Thic g Volum iter Volu lume: Purge V uct meas Time (24:00) /035 /035 /037 /040 (040 (040 (044 (044) uter Volu water a	Hame:	Hame: S_A Jipment: b_A Jupment: b_A Guipment: b_A e: PVC meter: Jopth: Jume Jum Thickness: g g Volume*: Jume: Jume: Jume: Purge Volume: Jume: Juter measurement (if provide the second of	he/Location: $BP/AR(U)$ Hame: $SB + (TR)$ Jipment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $Bn(4)$ Augupment: $SB + (TR)$ SB + (TR) Bn(4) Augupment: $Bn(4)$ TS - 25 Augupment: -25 TS - 25 TS - 25	Hame: $SR \neq TR$ Lipment: $Dailed$ Equipment: $Dailed$ e: PVC $Miled$ meter: $Dailed$ Depth: 25.02 feet Vater: -25.02 feet Vater: -25.02 feet Vater: -25.02 feet g Volume*: 25.02 feet g Volume*: -25.02 feet g Volume*: 25.02 feet g Volume*: -25.02 gallons nume: $x 3$ each Purge Volume: $=31.6$ gallons uut measurement (if present): $yreg (\mu S)$ 1035 1.43 1035 1.43 1037 x x 1040 x x 1040 x x 1040 x x x x x 1040 x x <td>BP/AR(0 203 S Pr Name: SB J TR D Jipment: Date D Jupment: Date D gulpment: Date D gulpment: Date D gulpment: Date D e: PVC Hereicon Get 8:80 meter: -25:02 feet Vater: -25:02 feet gulpment: -25:02 feet Vater: -25:02 feet Jum Thickness: = 10.5 gallons Jume: -25:02 feet gulpment: -25:03 gallons Jume: -25:03 gallons Jume: -3 each Purge Volume: =3 each Purge Volume: =3 each Jume DO ORP Fe Conductance (24:00) (mV) Fe Conductance Temperature (24:00) (mV) Fe Conductance Temperature (035) 1.43</td> <td>ne/Location: $\mathbb{SP}/A(U)$ $2/3,5$ Project #: tame: $5,6,7,1$ Date: \mathbb{D} ipment: $ball e^{2}$ $ball e^{2}$ \mathbb{D} \mathbb{D} iquipment: $ball e^{2}$ \mathbb{D} \mathbb{D} \mathbb{D} e: PVC \mathbb{D} \mathbb{D} \mathbb{P} \mathbb{D} \mathbb{P} Depth: 25.07 feet 2^n = 2^n = //ater: $-\frac{25.07}{25.07}$ feet 2^n = //ater: $-\frac{25.07}{25.07}$ feet 2^n = //ater: $-\frac{25.07}{25.07}$ feet 4^n = //ater: $x < 0.65$ gallon / foot 6^n = //ater: $x < 0.65$ gallons 1^n 1^n //ater: $x < 0.65$ gallons 1^n 1^n 1^n</td>	BP/AR(0 203 S Pr Name: SB J TR D Jipment: Date D Jupment: Date D gulpment: Date D gulpment: Date D gulpment: Date D e: PVC Hereicon Get 8:80 meter: -25:02 feet Vater: -25:02 feet gulpment: -25:02 feet Vater: -25:02 feet Jum Thickness: = 10.5 gallons Jume: -25:02 feet gulpment: -25:03 gallons Jume: -25:03 gallons Jume: -3 each Purge Volume: =3 each Purge Volume: =3 each Jume DO ORP Fe Conductance (24:00) (mV) Fe Conductance Temperature (24:00) (mV) Fe Conductance Temperature (035) 1.43	ne/Location: $\mathbb{SP}/A(U)$ $2/3,5$ Project #: tame: $5,6,7,1$ Date: \mathbb{D} ipment: $ball e^{2}$ $ball e^{2}$ \mathbb{D} \mathbb{D} iquipment: $ball e^{2}$ \mathbb{D} \mathbb{D} \mathbb{D} e: PVC \mathbb{D} \mathbb{D} \mathbb{P} \mathbb{D} \mathbb{P} Depth: 25.07 feet 2^n = 2^n = //ater: $-\frac{25.07}{25.07}$ feet 2^n = //ater: $-\frac{25.07}{25.07}$ feet 2^n = //ater: $-\frac{25.07}{25.07}$ feet 4^n = //ater: $x < 0.65$ gallon / foot 6^n = //ater: $x < 0.65$ gallons 1^n 1^n //ater: $x < 0.65$ gallons 1^n 1^n 1^n					



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

Well I.D.:		_		/V	1W-7			
Project Na	me/Loca	tion:	BP/1	K(07	035	P	roject #:	CA 06-88-616
Sampler's	Name:	, 	SBE	-TK		•	Date: ζ	-111/11
Purging Ec	uipment	:: _	buil	er				, , , ,
Sampling	Equipme	nt: _	Duri	·1e/				, , , , , , , , , , , , , , , , , , ,
Casing Typ	pe: PVC							
Casing Dia	meter:		· · · · · · · · · · · · · · · · · · ·	<u> </u>	inch		*UNIT	CASING VOLUMES
Total Well	······································			_16.0			2" :	= 0.16 gal/lin ft.
Depth to \				- <u>96</u>			3"	= 0.37 gal/lin ft.
Water Col				= <u> </u>	1 <u>2</u> feet		4"	= 0.65 gal/lin ft.
Unit Casir	ig Volum	e*:	•	x_ <u>O</u> ,(65_gallon / fo	pot	6"	= 1.47 gal/lin ft.
Casing Wa	-	ime:		=	<u>%</u> gallons			
Casing Vo			·	×	3each			
Estimated				= <u>17.</u>	<u>5</u> gallons			
Free prod	uct mea	suremer	nt (if pre	esent):				
Purged (gallons)	Птте (24;00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	рН	Observations
0	0946	1.76	(- Classic Company and a second	Constant and the second se	610	17.3	7.0	
2	0989	х	х	х	Cory.	17.4	7.1	
4	0951	х	x	X	6201	17.4	7.1	
		x	x	_ X				· · ·
	ļ	×	x	х				· · · · · · · · · · · · · · · · · · ·
		×	x	×				
		×	<u>.</u> х	x				
		x	X	X				
Total Wa		_			4.0	gallons	-1 5_	1
Depth to				tion:		feel	<u>t</u>	
Sample	Collecti	on Tím	e:		<u> </u>	55	_ Pu	rged Dry?(Y/创
Commen	ts:			·				
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					· · · · · · · · · · · · · · · · · · ·			
**************************************		· · · · · · · · · · · · · · · · · · ·		<u> </u>	· · · · · · · · · · · · · · · · · · ·			

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Well I.D.:				3/2014	MW-8_					
Project Nan	ne/Locat	ion:	BP/AI	<u>lio I</u>	035	Pr	roject #: 0(0-38-6/0			
Sampler's N	Name:		<u> 15 7</u>	JR_	•	D	ate: <u>5</u> /	11/11		
Purging Equ	uipment:	:	pal,	Q. 10000			-			
Sampling E	iquipmer	nt:	Va.	<u>e/</u>	,,,,					
Casing Typ	e: PVC			1				·		
Casing Dia	meter:			-4	inch		*UNIT (CASING VOLUMES		
Total Well	Depth:		<u> </u>	<u>[4.0</u>	<u> </u>		2" =	= 0.16 gal/lin ft.		
Depth to V	Vater:			- 9.47	5feet		3" =	= 0.37 gal/lin ft.		
Water Colu	umn Thio	kness:		= <u>9.5</u>	feet		4" =	= 0.65 gal/lin ft.		
Unit Casin	g Volum	e*:		x6	<u>S</u> gallon / fo	ot	6" -	= 1.47 gal/lin ft.		
Casing Wa	ter Volu	me:		=_6.2	C gallons					
Casing Vo	lume:		<u></u>		Beach					
Estimated	Purge V	olume:	<u>.</u>	= 18.	6 gallons					
Free prod	uct meas	suremer	nt (if pro	eșent):			······································	, <u> </u>		
Purged	Time	DO	ORP	Fe	Conductance	Temperature	рН	Observations		
(gallons)	(24:00)	S DI	(mV)		(µS)	(Ealifenheit)				
\cup	657	0-94	~		872	16.8	1.			
2	1100	Х	X	×	879.	17.2	7.1			
4	1102	х	х	x	905	17.3	7.2			
6	1105	х	х	×	922	17.3	7.2			
		x	×	x						
		x	x	×	· · · · · · · · · · · · · · · · · · ·			· · ·		
		x	x	х				-		
		x	×	X						
Total Wa	ter Volu	me Purg	jed:		6.0	gallon	 s			
Depth to	Water a	st Samp	le Colle	ction:		fee				
Sample					1110			irged Dry? (Y/N)		
•						· · · · · · · · · · · · · · · · · · ·				
Commer	nts:									
<u> </u>							····· , ··· - ···			
		··· ·		······				······································		

BROADBENT & ASSOCIATES, INC. ENGINEERING WATER RESOURCES & ENVIRONMENTAL

ell I.D.:					Mn-9			
oject Nar	ne/Locati	ion:	BP/A	L(0	2035	Pr	oject #:	06-53-610
ampler's N			5630	SR	· · · · · · · · · · · · · · · · · · ·	D	ate: S	111/11
' Irging Equ			bula	<u>۱</u>				, ,
ampling E			build	25				
asing Typ	e: PVC							
asing Dia	meter:				inch		*UNIT	CASING VOLUMES
otal Well	Depth:			160	0feet		2" =	= 0.16 gal/lin ft.
epth to M	/ater:			<u> </u>			3" =	= 0.37 gal/lin ft.
Vater Colu	imn Thic	kness:		= <u>6.9</u>			4" ±	= 0.65 gal/lin ft.
Init Casin	g Volume	<u>e*:</u>		x_0.6	<u> </u>	ot	6" :	= 1.47 gal/lin ft.
asing Wa	ter Volu	me:	==	=_4.9	gailons			
Casing Vol	lume:			×3				
stimated	Purge V	olume:		= <u>13</u>	<u> </u>			
Free produ	uct meas	uremer	nt (if pre	sent):				
Purged	Time	DO	ORP	Fe	Conductance	Temperature	pН	Observations
(gallons)	(24:00)	1 a 4	(mV)		(μS)	(Eabrenbeit)	1 5	
<u> </u>	/007	1.22	Alter and the state of the stat	sources.	454	16.4	6.5	
2	1016	х	х	х	450	17.0	6.5	
4	1012	х	х	х	459	17:0	6.6	
W (0	1015	х	х	х	460	17.0	6.6	
<u> </u>	-	х	х	х		· · · · · · · · · · · · · · · · · · ·	1	· .
		x	x	×			1	
	-	x	x	x			-	
		x	×	x		-		
Total Wa	Ler Volu	l	L	<u> </u>	[o.0	gallon	_l	
		-		ction:	<u> </u>	fee		
Depth to Water at Sample Collection: Sample Collection Time:					1020	100		und Decl (V (A)
Jampie	Concea						FC	urged Dry? (Y/N)
Commen	nts:							
							_	
<u></u>	······································						••••••	
					<u> </u>			
				<u> </u>				

BROADBENT & ASSOCIATES, INC.

ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Groundwater Sampling Data Sheet

4			j j					
Well I.D.:			<u> </u>	<u> </u>				
Project Nan	ne/Locat	ion:	<u> </u>	PLA1	2(0 203	<u>S Pr</u>	oject #:	06-88-610
Sampler's I	Name:	••	<u> </u>	36418	* ·	Da	ate:	5/11/11
Purging Eq	uipment:	:	<u> </u>	41LE	2		····· •• · · · · · · · · · · · · · · ·	• · · · · · · · · · · · · · · · · · · ·
Sampling E	Equipmer	nt: _	<u> </u>	AIL	<u> </u>			<u> </u>
Casing Typ	e: PVC			1				
Casing Dia	meter:				inch			CASING VOLUMES
Total Well	Depth:			-27	<u>jo</u> feet			= 0.16 gal/lin ft.
Depth to V			·······	- <u> </u>	<u>s 6</u> feet			= 0,37 gal/lin ft.
Water Colu				= <u>13</u>	<u>(()</u> feet			= 0.65 gal/lin ft.
Unit Casin				×	<u> </u>	ot	6"	= 1.47 gal/lin ft.
Casing Wa		me:		= <u> [9 </u>	<u>, ga</u> llons			
Casing Vo				X				
Estimated					<u>33</u> gallons			
Free prod	uct meas	sureme	nt (if pre	eșent):				
Purged	Time	DO	ORP (mV)	Fe	Conductance	Temperature (Fahrenheit)	рН	Observations
(gallons)	(24:00) [134	6.91		Carl Contraction	(15) 829	17.6	7.3	
5	1138	x	x	х	\$ 37	17.9	7.3	· · · · · · · · · · · · · · · · · · ·
10	N42	x	x	х	850	17.8	7.4	
15	1147	x	x	x	\$75	17.6	7.4	· ·
20	115	х	x	х	844	17.6	7.4	
		×	×	×	· ·			
		x	×	x				-
		x	×	×				
Total Wa	iter Volu	me Purg	jed:			galion	5	
Depth to	Water a	at Samp	le Colle	ction:	When the second se	fee	t	
Sample	Collecti	ion Tí n	e:		1155		 Ρι	urged Dry? (Y/N)
							_	
Commer	115:							
					,			
					 			
		•• ••						

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ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Well I.D.:					5-5							
Project Na	me/l ocal	ion:	RP/A	2070	20	Project #: 0 (2-88-61()						
Sampler's			CR	J JR	<u>· · · · · · · · · · · · · · · · · · · </u>		ate: ζ					
Purging Eq		-	bail				<u></u>					
Sampling I		_	hu	Vic		• , <u> </u>						
Casing Typ			<u></u>			······································		·				
Casing Dia				2	inch		*!!NTT	CASING VOLUMES				
Total Well				151	7 feet			= 0.16 gal/lin ft.				
Depth to V		·		- 8.8	5 feet			= 0.10 gal/lin ft.				
Water Col		knose	··	= (1.8	Z feet			÷ ·				
Unit Casin				x C-3				= 0.65 gal/lin ft.				
Casing Wa				× <u> </u>	7 gallon / fo	UL .	0	= 1.47 gal/lin ft.				
Casing Vo					<u>gallons</u>							
Estimated		(olumo:		×								
		····	at (if or		<u>gallons</u>							
Free prod	· · · · · ·				······································							
Purged (gallons)			ORP (mV)	Fe	Conductance (µS)	Temperature (F ahrenhe tt)	рН	Observations				
		0.72	(III*)	ويستعنب	<u> (µ3)</u> 2(, 7	16.9	1 7					
				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\frac{c \psi}{2}$	19.1	<u> V</u>	- 19- 10				
	6430	X	X	X	(97.	11.2	6.7					
5	0932	X	×	X	307	17.3	6.8					
The second		X	х	x				-				
		х	х	x								
		x	x	×								
		x	x	X				· · · · · · · · · · · · · · · · · · ·				
		x	×	x			1					
Total Wa	ter Volu	ne Purc	l	<b>I</b>	Z	gallon	_1					
Depth to				rtion:		fee						
Sample					093							
oumpre					<u> </u>	<u></u>	_ PU	irged Dry? (Y/N)				
Commen	its:											
								·····				
							·					
						· · · · · · · · · · · · · · · · · · ·		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
<u></u>				· · ·								
<u> </u>		<u> </u>	<u> </u>									

# FIELD DATA REPORT

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

TE:	5/11/1		- V 2		CONANA	ENTS &	20/AQ	88-610 (0 20	-			
RSO	5/11/11 NNEL:	<u>56 2-0</u>	<u> </u>		Equip:	Geosquir	Tubing	Bailers	DΟ	wli	Ec/pH	- · · · · · · · · · · · · · · · · · · ·
EATH	IER: (	Tours-				1						
Vell ID	Time	MEASURING	DTW (FT)	PRODUCT THICKNESS	рH	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	lron (mg/l)	Alk. (mg/l)	WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC
	1945	TUC	8.84						<u> </u>			
<u>wí (</u>	0945 0848		9.68									
<u>, ^ 6</u>	0070		\$9,55						<u> </u>			
<u>w~ &gt;</u>	0842		8.80				Ì					
<u>w-4</u>	1031		9.44					ļ		<u> </u>		
<u>nw~5</u>	0990		12.35									down to go to a construction of the construction o
viv - Vo	1238		100.05			the second s	and an other states and the states of the st			Contraction of the second	i n colemni (Jari 1) obišlani oso	
<u>* †</u>					100401/725730300000000000	and a second defension of the second s			and the second	10	an and a state of the state of	
<b>Z</b> -5	and the second s		6.98									
<u>/w 7</u>	0942		9,83									
w - 8	1053		0.00		<u></u>				<u> </u>	ļ		
w-9	1004		9.06									
2w - 1	1123		9.30		+							
5-5	0923		8.95									
											-	
							+	-				
								-				
								-				
	1											
	1				+							
						_						

NO. 857381

# **NON-HAZARDOUS WASTE DATA FORM**

				1. BES	\$  #							
	2. Consenterio Nomo and Mollic & Address											
	2. Generator's Name and Mailing Address		Generator's Site Add	ress (if differ	rent than ma	illing address)						
	BP WEST COAST PRODUCTS, LLC P.C. BOX 80249		BP 212035 1001 San Pablo Ave. Albany, CA									
	RANCHO SANTA MARGARITA, CA 92688	1001 San Pablo Ave.										
	రాజు సామానికరావి రాజు రాజు కూరం కార్ కారికి ఉందాలో ఉన్న కిర్యాల్ రాజుక్రార్.		Albany, CA									
	10401 400 2000											
	Generator's Phone: (949) 400-5200 3. Transporter 1 Company Name	24-HOUR EMERGENCY PHONE: (949) 699-3706 Phone #										
	Broadbent & Associates, Inc.	(530) 566-1400										
	4. Transporter 2 Company Name	Phone #										
	Gomes Excavaling				707) 374-	-2881						
	5. Designated Facility Name and Site Address					one # =====						
	INTRAT, INC. 1105 AIRPORT RD #C					530) 7 <b>5</b> 3	-1978					
	RIO VISTA. CA 94571											
	shi war e chanter y anzi wa twa s											
~	6. Waste Shipping Name and Description			7. Cont	······	8. Total Quantity	9. Unit Wt/Vol	10, Pr	ofile No.			
GENERATOR	A.	· · · · · · · · · · · · · · · · · · ·		No.	Туре							
Å	NON-HAZARDOUS WATER			4	T	46	G					
С П						· · ·						
Z	B.											
ш ()			***									
	C.											
					<u></u>							
	D.											
	11. Special Handling Instructions and Additional Information				1	L						
	WEAR ALL APPROPRIATE PROTECTIVE CLO	THING										
	WELL PURGING / DECON WATER											
	12. GENERATOR'S CERTIFICATION: I certify the materials described above on this	data form are nor	-hazardous.									
		Signature		10	_			Month	Day	Year		
	James Kamos		(m)	pr	and the second s			<u> </u> >	20	<u> </u>		
						한 영양 가슴 가슴. 같은 것은 같은 가슴.	19월일 - 12일 년 1993년 - 19일 - 19일 년 1993년 - 19일 - 19일 년	시에 가 같다. 같은 것 같다. 같				
б	13. Transporter Acknowledgment of Receipt of Materials		·······									
μ	Transporter 1 Printed/Typed Name	ame fen 5 20							Year			
Ш		Signature	- p	en	*******			A Month	Day	Year		
ğ									24,			
Ž							ana an					
TRANSPORT									이 가지 않는다. 같은 것 같은 것			
F	14 Designated Earlith: Owner or Operator: Certification of applies of such that	and by this state										
FACILITY	14. Designated Facility Owner or Operator; Certification of receipt of materials cove Printed/Typed Name	Signature						Month	Day	Year		
FAC										ĺ		

GENERATOR (ORIGINAL)

## **APPENDIX C**

## HISTORIC GROUNDWATER DATA TABLES

# ARCO Service Station No. 2035 1001 San Pablo Avenue, Albany, California

Woll Number	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	МТВЕ 8021В* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
MW-I	41.41	6.21	0.00	35.20	03-23-91	8,800	3,600	<0	62	99				
MW-1	41.41	9.37	0.00	32.04	05-23-91	4,800	2,000	<20	52	<20				
MW-1	41.41	10.30	0.00	31.11	08-21-91	780	310	<2,5	12	<2.5	14			
MW-1	41.41	12.25	0.00	29.16	11-08-91	58	14	<0.5	<0,5	<0.5				
MW-I	41.41	9.08	0.00	32.33	02-26-92	2,700	930	12	18	32	51			
MW-1	41_41	9.11	0.00	32.30	04-21-92	2,700	1,000	<10	22	<10	<60			
MW-I	41.41	10.37	0.00	31.04	08-14-92	300	52	<0.5	0.9	<0.5	22			
MW-I	41.41	8.79	0.00	32.62	12-09-92	270	63	0.7	<0.5		25		••	
MW-I	41.41	9.80	0.00	31.61	03-26-93	1,500	610	<5	15	. 7	56			• •
MW-1	41.41	9.65	0.00	31.76	05-21-93	110	6	<0.5	<0.5	0.7	10			
MW-I	41.41	10.22	0.00	31.19	09-03-93	180	40	<0.5	1.2	0.5	26			
MW-1	41.41	10.68	0.00	30.73	11-02-93	83	8	<0.5	<0.5	<0.5	13			
MW-I	41.41	6.92	0.00	34.49	02-19-94	1,800	540	7	27	31	46			••
MW-I	41.41	9.28	0.00	32.13	05-17-94	4,500	1,300	20	57	20	<60			
MW-1	41.41	10.05	0.00	31.36	08-20-94	530	110	<5	<5	<5	400			
MW-I	41.41	10.42	0.00	30.99	10-19-94	66	9.1	<0.5	<0.5	<0.5				••
M₩-1	41.41	8.10	0.00	33.31	02-15-95	1,200	390	<5	<5	6	45		* -	
MW-1	41.41	9.53	0.00	31.88	05-23-95	1,300	600	3	13	3	26			
MW-1	41.41	10.03	0.00	31.38	08-23-95	100	21	1.3	<0.5	<0.5	8			
MW-1 MW-1	41.41	9.80	0.00	31.61	11-15-95	99	10	0.6	<0.5	<	7		0.55	P
DUP I	41.41	8.82	0.00	32.59	02-01-96	400	93	1.6	3.6	3.7	19		2.1	P
MW-I					06-20-96	416	88.4	<2.50	4.61	1.56	<5.00		1.0	P
	41.41	9.60	0.00	31.81	06-20-96	444	100	<2.50	4.15	<2.50	15.9			
MW-1	41.41	9.50	0.00	31.91	11-05-96	73.2	17.8	<0.500	<0.500	<0.500	7.80		1.7	P
MW-1	41.41	9.28	0.00	32.13	05-03-97	714	392	<5.00	<5.00	<5.00	26.1		1.04	Р
MW-I	41.41	10.50	0.00	30.91	10-02-97	<50	< 0.50	<0.50	<0.50	<0.50	20.1 <2.5			P
DUP I		* =		••	10-02-97	<50	<0.50	<0.50	<0.50	0.52	<2.5		0.59	P 

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## ARCO Service Station No. 2035 1001 San Pablo Avenue, Albany, California

	TOC	Depth	FP	Groundwater					Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg	Benzene	Toluenc	benzene	Xylenes	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(feet)	(feet)	(ft-MSL)	Sampled	(µg/L)	(µg/L)	(μg/ <u>L</u> )	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(P/NP)
MW-2	40.38	6.96	0.00	33.42	03-23-91	<50	<0.5	<0.5	<0.5	<0.5			<u> </u>	
MW-2	40.38	10.02	0.00	30.36	05-23-91	Not sampled:					third onarte			
M₩-2	40.38	10.87	0.00	29.51	08-21-91	<50		<0.5	<0.5	<0.5	3			
MW-2	40.38	13.12	0.00	27.26	11-08-91	Not sampled:	weli sample	ed semi-ann						
MW-2	40.38	10.25	0.00	30.13	02-26-92	<50		<0.5	<0.5	<0.5	<3			
MW-2	40.38	9.98	0.00	30.40	04-21-92	Not sampled:	well sample	≥d semi-ann	ually, during					
MW-2	40.38	11.10	0.00	29.28	08-14-92	<50	<0.5	<0.5	<0.5	<0.5	4			_
MW-2	40.38	10.00	0.00	30.38	12-09-92	Not sampled:	well sample	d semi-ann	ually, during					••
MW-2	40.38	10,38	0.00	30.00	03-26-93	<50		<0.5	<0.5	<0.5	12	·••		
MW-2	40.38	10.65	0.00	29.73	05-21-93	Not sampled:	well sample	d semi-ann						• •
MW-2	40.38	10.87	0.00	29.51	09-03-93	<50		<0.5	ع	<0.5	19			
MW-2	40.38	11.25	0.00	29.13	11-02-93	<50	<0.5	<0.5	<0.5	<0.5	18			
MW-2	40.38	7.69	0.00	32.69	02-19-94	<50	0.5	<0.5	<0.5	<0.5	12			
MW-2	40.38	9.88	0.00	30.50	05-17-94	<50	<0.5	<0.5	<0.5	<0.5	10			
MW-2	40.38	10.62	0.00	29.76	08-20-94	<50	<0.5	<0.5	<0.5	<0.5	3			
MW-2	40.38	11.00	0.00	29.38	10-19-94	<50	<0.5	<0.5	<0.5	<0.5	31			
MW-2	40.38	9.04	0.00	31.34	02-15-95	<50	<0.5	<0.5	<0.5	<0.5	13			
MW-2	40.38	9.90	0.00	30.48	05-23-95	0ئ>	0.6	<0.5	<0.5	<0.5	47			
MW-2	40.38	10.60	0.00	29.78	08-23-95	<50	<0.5	<0.5	<0.5	<0.5	20		0.88	 P
MW-2	40.38	10.45	0.00	29.93	11-15-95	<50	<0.5	<0.5	<0.5	<1	<3			-
MW-2	40.38	9.49	0.00	30.89	02-01-96	<50	<0.5	<0.5	<0.5	<1	59		2.5	P
MW-2	40.38	10.30	0.00	30.08	06-20-96	<50.0	< 0.500	<0.500	<0.500	<0.500	4.17		1.0	Р
MW-2	40.38	10.19	0.00	30.19	11-05-96	<50.0	< 0.500	< 0.500	<0.500	<0.500	4.17 30.6		1.5	Р
MW-2	40.38	10,15	0.00	30.23	05-03-97	<50.0	< 0.500	<0.500	<0.500	<0.500			1.27	Р
DUP				•-	05-03-97	<50.0	<0.500	<0.500	<0.500		32.7	•-	••	Р
MW-2	40.38	10.97	0.00	29.41	10-02-97	<50	<0.50	<0.50	<0.50	1.18	31.5			••
						~00	~~~~~	<0.30	<0.50	<0.50	<2.5	• -	0.63	P

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	TOC	Depth	FP	Groundwater					Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg	Benzene	Toluene	benzene	Xylencs	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(fcci)	(feet)	(ft-MSL)	Sampled	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L.)	(µg/L)	(μg/L)	(mg/L)	(P/NP)
MW-3	41.44	7.29	0.00	34.15	03-23-91	51	0.8	<0.5	2.4	<0.5				
MW-3	41.44	9.53	0.00	31.91	05-23-91	<50	<0.5	<0.5	<0.5	<0.5		••		
MW-3	41.44	11.19	0.00	30.25	08-21-91	<50	<0.5	<0.5	<0.5	<0.5	79			
MW-3	41.44	12.77	0.00	28.67	11-08-91	<50	<0.5	<0.5	<0.5	<0.5				
MW-3	41.44	9.41	0.00	32.03	02-26-92	120	3.6	<0.5	2.2	3.7	90			
MW-3	41.44	9.63	0.00	31.81	04-21-92	<50	<0.5	<0.5	<0,5	<0.5	90			
MW-3	41.44	11.12	0.00	30.32	08-14-92	<50	<0.5	<0.5	<0.5	<0.5	54			
MW-3	41.44	10.34	0.00	31.10	12-09-92	71	<0.5	<0.5	<0.5	<0.5	130			
MW-3	41.44	10.28	0.00	31.16	03-26-93	<100	<1	<1	<1	<1	170			
MW-3	41.44	10.40	0.00	31.04	05-21-93	<100	<i< td=""><td>&lt;1</td><td><!--</td--><td>&lt;1</td><td>95</td><td></td><td></td><td><b>.</b> .</td></td></i<>	<1	</td <td>&lt;1</td> <td>95</td> <td></td> <td></td> <td><b>.</b> .</td>	<1	95			<b>.</b> .
MW-3	41.44	10.75	0.00	30.69	09-03-93	<50	<0.5	<0.5	<0.5	<0.5	37			
MW-3	41.44	11.44	0.00	30.00	11-02-93	<200	<2	2	2	<2	130			
MW-3	41.44	7.48	0.00	33.96	02-19-94	<200	~2	5	<2	8	140			
MW-3	41.44	9.87	0.00	31.57	05-17-94	<100	<1	<1	</td <td>&lt;1</td> <td>150</td> <td></td> <td></td> <td></td>	<1	150			
MW-3	41.44	10,72	0.00	30.72	08-20-94	<200	2	<2	4	<2	210			
MW-3	41.44	11.30	0.00	30.14	10-19-94	<200	2	2	2	<2	270			
MW-3	41.44	8.60	0.00	32.84	02-15-95	<500	থ	ৎ	ব	ර	700			
MW-3	41.44	9.87	0.00	31.57	05-23-95	<50	<0.5	<0,5	<0.5	<0.5	150			
MW-3	41.44	10.83	0.00	30.61	08-23-95	<50	<0.5	<0.5	<0.5	<0.5	54	71	0.41	P
MW-3	41.44	10.54	0.00	30.90	11-15-95	100	<0.5	3.3	<0.5	<1	500		6.2	P
MW-3	41.44	5.69	0.00	35.75	02-01-96	18,000	1,000	45	1,500	940	100		2.12	P
MW-3	41.44	9.99	0.00	31.45	06-20-96	90.9	1.52	<0.500	<0.500	<0.500	187		2.12	P
MW-3	41.44	10.15	0.00	31.29	11-05-96	138	2.37	<0.500	<0.500	< 0.500	216		0.47	P
MW-3	41.44	10.17	0.00	31.27	05-03-97	316	15,7	1.14	<0.500	<0.500	178			r P
MW-3	41.44	10.99	0.00	30.45	10-02-97	120	<0.50	<0.50	< 0.50	<0.50	120		0.47	P P
										-0.00	ي) تلده		0.47	r

	TOC	Depth	FP	Groundwater					Ethyl-	Total	мтве	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg '	Benzene	Tolucne	benzene	Xylenes	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(feet)	(feet)	(ft-MSL)	Sampled	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(P/NP)
MW-4	40.33	5.92	0.00	34.41	03-23-91	<50	<0.5	<0.5	<0.5	<0.5				
MW-4	40.33	9.23	0.00	31.10	05-23-91	<50	<0.5	<0.5	<0.5	<0.5				
MW-4	40.33	10.61	0.00	29.72	08-21-91	<10	<0.5	<0.5	< 0.5	<0.5	99			
MW-4	40.33	11.97	0.00	28.36	11-08-91	<50	<0.5	<0.5	<0.5	<0.5		89		
MW-4	40.33	8.84	0.00	31.49	02-26-92	<50	0.8	<0.5	<0.5	<0.5	<3			
MW-4	40.33	9.15	0.00	31.18	04-21-92	Not sampled:	well sample	d annually,	during the fi		-			• -
MW-4	40.33	10.35	0.00	29.98	08-14-92	Not sampled:								
MW-4	40.33	8.70	0.00	31.63	12-09-92	Not sampled:								
MW-4	40.33	9.75	0.00	30.58	03-26-93	<5,000	<50	<50	<50		4,200		- •	* <b>-</b>
MW-4	40.33	9.91	0.00	30.42	05-21-93	Not sampled:	well sample	d annually,	during the fi	ist quarter				
MW-4	40.33	10.25	0.00	30.08	09-03-93	Not sampled:							••	
MW-4	40.33	10.79	0.00	29.54	11-02-93	<0	<0.5	<0.5	<0.5	- <0.5	<3			
MW-4	40.33	6.78	0.00	33.55	02-19-94	<2,000	<20	<20	<20	<20	3,300			
MW-4	40.33	9.26	0.00	31.07	05-17-94	<50	<0.5	<0.5	<0.5	<0.5	<3			
MW-4	40.33	10.10	0.00	30.23	08-20-94	<50	<0.5	<0.5	<0.5	<0.5	9		• -	
MW-4	40.33	10.43	0.00	29,90	10-19-94	<50	<0.5	<0.5	<0.5	<0.5	17	÷ -		
M₩-4	40.33	8.56	0.00	31.77	02-15-95	<500	<5	<5	<5	ব	400			
MW-4	40.33	9.52	0.00	30.81	05-23-95	<50	<0.5	<0.5	<0.5	<0.5	10	7.6		
M\-4	40.33	9.99	0.00	30.34	08-23-95	<2,500	<25	<25	<25	<25	1,200	1,300	0.84	NP
MW-4	40.33	9.80	0.00	30.53	II-15-95	<50	<0.5	<0.5	<0.5	<1	<3		0.0	NP
MW-4	40.33	9.11	0.00	31.22	02-01-96	<50	د0>	<0.5	<0.5	<	1,200		1.0	NP
MW-4	40.33	9.60	0.00	30.73	06-20-96	<50.0	<0.500	<0.500	<0.500	<0.500	60.5		1.3	NP
MW-4	40.33	9.53	0.00	30.80	11-05-96	<50.0	<0.500	<0.500	<0.500	<0.500	14.0		0.71	
MW-4	40.33	9.21	0.00	31.12	05-03-97	<50.0	<0.500	<0.500	<0.500	<0.500	83.6			NP
MW-4	40.33	10.74	0.00	29.59	10-02-97	<50	< 0.50	<0.50	<0.50	<0.50	260		0.59	NP NP

	TOC	Depih	FP	Groundwater					Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg	Benzene	Toluene	benzene	Xylenes	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(fect)	(feet)	(ft-MSL)	Sampled	(μg/L)	(µg/L)	<u>(μg/L)</u>	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(mg/L)	(P/NP)
MW-5	41.84	6.23	0.00	35.61	03-23-91	<0>	<0.5	<0.5	<0.5	<0,5				
MW-5	41.84	9.61	0.00	32.23	05-23-91	Not sampled:	well sample	ed annually.	, during the fi	irst quarter				
MW-5	41.84	11.12	0.00	30.72	08-21-91	Not sampled:								
MW-5	41.84	12.52	0.00	29.32	11-08-91	Not sampled:								
MW-5	41.84	9.52	0.00	32.32	02-26-92	<50	<0.5			. <0.5	්			
MW-5	41.84	9.44	0.00	32.40	04-21-92	Not sampled:	well sample	ed annually	, during the f	irst quarter	-			
MW-5	41.84	10.83	0.00	31.01	08-14-92	Not sampled:								
MW-5	41.84	9.20	0.00	32.64	12-09-92	Not sampled:								
MW-5	41.84	10.10	0.00	31.74	03-26-93	<50	<0.5			<0.5	3			
MW-5	41.84	10.28	0.00	31.56	05-21-93	Not sampled:	well sample	ed annually			~			
MW-5	41.84	10.73	0.00	31.11	09-03-93	Not sampled:								
MW-5	41.84	11.23	0.00	30.61	11-02-93	Not sampled:								
M₩-5	41.84	6.67	0.00	35.17	02-19-94	<50	<0.5	<0.5		<0.5	<3			
MW-5	41.84	9.61	0.00	32.23	05-17-94	Not sampled:	well sample	ed annually	, during the f	irst quarter				
MW-5	41.84	10.58	0.00	31.26	08-20-94	Not sampled:								
MW-5	41.84	10.66	0.00	31.18	10-19-94	Not sampled:								
MW-5	41.84	8.35	0.00	33.49	02-15-95	Not sampled	•		, ,					••
MW-5	41.84	9.95	0.00	31.89	05-23-95	<50	<0.5	<0.5	<0.5	<0.5	<3			
MW-5	41.84	10.51	0.00	31.33	08-23-95	<50	<0.5	<0.5	<0.5	<0.5	ං ය			•-
MW-5	41.84	10.37	0.00	31.47	11-15-95	Not sampled:							0.79	NP
MW-5	41.84	9.35	0.00	32.49	02-01-96	<50	<0.5	<0.5	<0.5	متانيول ورومين  >			••	
M₩-5	41.84	10.03	0.00	31.81	06-20-96	<50.0	<0.500	<0.500	<0.500	<0.500	<del>ک</del>	• -	1.0	NP
MW-5	41.84	9.89	0.00	31.95	11-05-96	Not sampled:					<2.50		3.1	NP
MW-5	41.84	9,42	0.00	32.42	05-03-97	<50.0	<0.500	-0.500	00110g me so <0.500					÷ -
MW-5	41.84	10.55	0.00	31.29	10-02-97	Not sampled:				<0.500	<2.50			NP
						. or sampled	, web samp	រកប លាយដង	ay, uuring ti	ie secona qu	arter			

	TOC	Depth	FP	Groundwater		······	•		Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg	Benzene	Toluene	benzene	Xylencs	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(feet)	(feet)	(ft-MSL)	Sampled	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(mg/L)	(P/NP)
MW-6	40.13	9.03	0.00	31.10	03-23-91	<50	<0.5	<0.5	<0.5	<0.5				
MW-6	40.13	12.45	0.00	27.68	05-23-91	Not sampled:	well sample	d annually,	during the fi	irst quarter				
MW-6	40.13	13.32	0.00	26.81	08-21-91	Not sampled:								
MW-6	40.13	14.13	0.00	26.00	11-08-91	Not sampled:								
MW-6	40.13	11.86	0.00	28.27	02-26-92	<50	<0.5	<0.5	<0.5	<0.5	<3			••
MW-6	40.13	12.35	0.00	27.78	04-21-92	Not sampled:	well sample	d annually,	during the fi	irst quarter				• •
MW-6	40.13	13.18	0.00	26.95	08-14-92	Not sampled:								
MW-6	40.13	11.94	0.00	28.19	12-09-92	Not sampled:								•••
MW-6	40.13	13.10	0.00	27.03	03-26-93	<50	<0.5	<0.5	<0.5	<0.5	ব			
МЖ-б	40.13	13.00	0.00	27.13	05-21-93	Not sampled:	well sample	d annually.	during the fi		-		•	•-
MW-6	40,13	13.30	0.00	26.83	09-03-93	Not sampled:	well sample	ed annually,	during the fi	rst quarter				••
MW-6	40.13	13.42	0.00	26.71	11-02-93	<50	<0.5	<0.5	<0.5	<0.5	19			
MW-6	40.13	10.57	0.00	29.56	02-19-94	<100	<1	</td <td>&lt;1</td> <td>&lt;1</td> <td>95</td> <td></td> <td></td> <td></td>	<1	<1	95			
MW-6	40.13	12.64	0.00	27.49	05-17-94	<100	<1	<1	<	<1	180			
MW-6	40.13	13.13	0.00	27.00	08-20-94	<100	<1	<1	<1	<1	180			
MW-6	40.13	13.48	0.00	26.65	10-19-94	<100	<1	<1	<1	<1	180			
MW-6	40.13	11.92	0.00	28.21	02-15-95	<200	~	<2	<2	<2	200			
MW-6	40.13	12.80	0.00	27.33	05-23-95	<50	<0.5	<0.5	<0.5	<0.5	120			
MW-6	40.13	13.03	0.00	27.10	08-23-95	<50	<0.5	<0.5	<0.5	<0.5	44		0.46	NP
MW-6	40.13	12.70	0.00	27.43	11-15-95	< 0	<0.5	<0.5	<0.5	<	17	17	0.0	NP
MW-6	40.13	8.61	0.00	31.52	02-01-96	<50	<0.5	<0.5	<0.5	<	6		0.0	NP
MW-6	40.13	12.88	0.00	27.25	06-20-96	<50.0	<0.500	<0.500	<0.500	<0,500	2.57		2.8	NP
MW-6	40.13	12.74	0.00	27.39	11-05-96	<50.0	<0.500	<0.500	<0.500	<0.500	3.77		2.8 1.51	
DUP		• -	<del>.</del> -		11-05-96	<50.0	<0.500	<0.500	<0.500	<0.500	4.03			NP
MW-6	40.13	11.29	0.00	28.84	05-03-97	<50.0	<0.500	<0.500	<0.500	<0.500	-4.05	12.3		
MW-6	40.13	11.35	0.00	28.78	10-02-97	<50	<0.50	<0.50	<0.50	<0.500	5.8		••	NP
									~0.00	~0.30	5.8	4.8	0.61	NP

## ARCO Service Station No. 2035 1001 San Pablo Avenue, Albany, California

	тос	Depth	FP	Groundwater					Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHg	Benzene	Toluene	benzene	Xylenes	8021B*	8240/8260	Oxygen	Not Purged
Number	(ft-MSL)	(feet)	(feet)	(ft-MSL)	Sampled	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µይ/L)	(μg/L)	(µg/L)	(mg/L)	(P/NP)
RW-1	40.33	9.32	0.01	31.02	03-23-91	11,000	560	660	150	1.700				
RW-I	40.33	9.75	0.03	30.60	05-23-91	Not sampled:	well contain	ned floating	product					
RW-1	40.33	10.86	0.02	29.48	08-21-91	Not sampled:	well contain	ned floating	product					
RW-1	40.33	20.61	0.00	19.72	11-08-91	1,600	79	46	13	240				
RW-1	40.33	16.56	0.00	23.77	02-26-92	210	44	7.5	2.5	24	Ż9			
RW-1	40.33	9.65	0.00	30.68	04-21-92	36,000	7,400	3,700	580	3,400	<300			
RW-I	40.33	10.60	0.00	29.73	08-14-92	1,800	31	38	15	150	<30			
RW-I	40.33	8.72	0.00	31.61	12-09-92	25,000	1,900	1,000	330	3,200	<100			
RW-1	40.33	10.33	0.00	30.00	03-26-93	7,200	1,900	59	95	240	480			
RW-1	40.33	10.10	0.00	30.23	05-21-93	3,000	630	84	45	340	<60	• -		
RW-I	40.33	10.42	0.00	29.91	09-03-93	7,100	120	55	14	160	<60			
RW-I	40.33	9.10	0.00	31.23	11-02-93	<200	14	19	3	19	140			
RW-I	40.33	7.49	0.00	32.84	02-19-94	3,800	1.000	85	64	220	950			
RW-I	40.33	8.90	0.00	31.43	05-17-94	<200	45	<2	2	4	220		•-	
RW-1	40.33	11.06	0.00	29.27	08-20-94	480	200	~	<2	30	180			
RW-1	40.33	11.12	0.00	29.21	10-19-94	110	36	2.9	<0.5	4.1	5			
RW-1	40.33	7.70	0.00	32.63	02-16-95	250	61	2.5	2		94			••
RW-I	40.33	11.12	0.00	29.21	05-23-95	4,500	2,000	7	<2	180	35			÷ -
RW-1	40.33	10.15	0.00	30.18	08-23-95	2,600	1.100	б.З	2.3	100	39			
RW-I	40.33	9.95	0.00	30.38	11-15-95	1,200	2,600	16	86	41	140		0.52	NP
RW-I	40.33	11.88	0.00	28,45	02-01-96	11,000	980	230	200	1,400	38		1.4	P
RW-1	40.33	9.83	0.00	30.50	06-20-96	899	278	<2.50	B.70	8,46	56 61.1		1.0	NP
RW-1	40.33	8.45	0.00	31.88	11-05-96	156,000	3,260	28.800	4,570	25,700			1.3	NP
RW-1	40.33	8.57	0.00	31.76	05-03-97	244,000	8,420	56,000	5,660	25,700 36,200	26,200		0.63	P
RW-1	40.33	9.13	0.00	31.20	10-02-97	120,000	2,500	33,000	3,800	• • • •	23,400	11,000		Р
						2003000	2000	223000	J1000	21,000	3,300		0.38	Р

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## ARCO Service Station No. 2035 1001 San Pablo Avenue, Albany, California

	TOC	Depth	FP	Groundwater					Ethyl-	Total	MTBE	MTBE	Dissolved	Purged/
Well	Elevation	to Water	Thickness	Elevation [1]	Date	TPHE	Benzene	Toluene	benzene	Xylenes	8021B*	8240/8260	Oxygen	Not Purged
Number	(fi-MSL)	(feet)	(feet)	(ft-MSL)	Sampled	(µg/L)	(μ <u>ε</u> /Ĺ)	(µg/L)	(µg/L)	- (μg/L)	(µg/L)	(μg/L)	(mg/L)	(P/NP)
S-5					05 10 07						<u>vra</u> =/		(uBt)	(ITTT)
	* *				05-30-97	310,000	3,000	11,000	4,000	34,000	<2,500			
S-5		10.00			10-02-97	70,000	1,800	7,800	1,400	20,000	<120		0.25	NP

TOC: top of casing

ft-MSL: elevation in feet, relative to mean sea level

TPH: total petroleum hydrocarbons as gasoline, California DHS LUFT Method

BTEX: benzene, toluene, enhylbenzene, totul xylenes by EPA method 8021B. (EPA method 8020 prior to 11/16/99).

MTBE: Methyl tert-butyl ether

µg/L: micrograms per liter

mg/L: milligroms per liter

- -: not analyzed or not applicable

<: denotes concentration not present ut or above laboratory detection limit stated to the right.

[1] = Computed by adding correction factor to groundwater elevation. Correction factor = free product thickness times 0.73 (upproximate specific gravity of gasoline).

*: EPA method 8020 prior to 11/16/99

**: For previous historical groundwater elevation and analytical data please refer to Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 2035, Albany, California, (EMCON, Murch 25, 1996).

DUP: duplicate sample

#### Table 3 Historical Groundwater Analytical Data Petroleum Hydrocarbons and Their Constituents 1994 - Present*

ARCO Service Station 2035

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1001 San Pablo Avenue, Albany, California

Date: 12-22-03

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Kell Designation	Water Sample Field Dale	7/54 TPHC	Henzene 1/54 BO20	1/64 Tolucne	EPA 8020	Total Xylenes FPA 8020	764 1020 764	1)/6# #3/6#	V SN 5520B&F	the CA1 and Grease √55 Sut 55200	7,61 and Crease 7,53 S32 OF	اللامط The EPA 418.1	10410 V ¹¹ LUFT Kelhod
-1 ₩-1	1 01-31-90	<50	13	<0,5	0,5	0.6							<del></del>
MW-1		590	290	3.5	18	14							
ለዝ~1	07-28-90	760	280	<2,5	7.1	<2.5							
MH - 1	11-14-90	570	150	7.3	<2.5	30							
₩ <b>~</b> 1	03-23-91	8800	3600	<50	62	99							
MW 1	05-23-91	4800	2000	<20	52	<20							
WW-1	08-21-91	780	310	<2.5	12	<2.5	14						
M₩-1	11-08-91	58	14	<0.5	<0.5	<0.5							
WW 1		2700	930	12	IB	32	51						
NW- 1	04-21-9 <u>2</u>	2700	1000	<10	22	<10	<60						
	a1 11 00		-0.5										
ми-2 КЖ-2	01-31-90 04-25-90	<50	<0.5	< 0.5	<0.5	<0.5							
MU-7 MA-5		<50 <50	<0.5	<0.5	<0.5	<0.5							
M₩-2		<50 <50	c0.5 c0.5	<0.5	<0.5	<0.5							
MW-2		<50	<0.5	<0.5 <0.5	<0.5	<0.5							
111-2					<0.5	<0,5							
жү-2		<50	(0.5 C	<0,5	< 0.5	< 0.5	3						
NW-2							0						
MW-2	02-26-92	<50	<0.5	< 0.5	<0.5	< 0.5	<3						
MW-2				eduled fo	r chemico	l noolveis	10						
NH-3	0131-90	<50	1.9	<0.5	2.1	<0.5				<500	<500		
	04-25-90	ሩናው	1.1	<0.5	2.4	0.9						<600	
	072890	<50	<0.5	<0.5	<0.5	<0.5						600	
10H-7	11-14-90	<50	<0.5	<0,5	<0.5	<0,5						<500	
14-7		51	0.B	<0.5	2.4	<0.5						<500	
	05-23-91	<50	<0.5	<0.5	<0.5	<0.5						<500	
<u>ж</u> ₩-3	08-21-91	<50	<0.5	<0.5	<0.5	<0.5	79					<500	
МЦ-3	11-08-91	<50	<0.5	<0.5	<0.5	<0.5						600	
HM-7	02-26-92	120	-3.5	<0.5	2.2	3.7	90					<0.5	
MM-7	04-21-92	<50	<0.5	<0.5	<0.5	<0.5	90						
MW-4	01-31-90	<50	<0.5	<0.5	<0.5	<0.5							
₩₩-4	04-25-90	<50	<0.5	<0.5	<0.5	<0.5							
W-4	07-28-90	<50	<0.5	<0.5	<0.5	<0.5							
жү-4	11-14-90	220	12	40.0 19	CU.5 0,9	su.5 39					~ -		
80-4 89-4	03-23-91	< <u>50</u>	<0.5	19 (0,5	<0.5	-19 <0.5							
KW-4	05-23-91	<50	<0.5	<0.5	<0.5 <0.5	<0.5							
KW-4	08-21-91	<50	<0.5	<0.5	<0.5	<0.5	99						
XW-4	11-08-91	<50	<0.5	(0.5	<0.5	<0.5	77	69					
4W-4	02-26-92	<50	0.8	<0.5	<0.5	<0.5	<3	03					
M77-4	04-21-92 Not						×.J						
					en gran di kali								

#### Table 3 Historical Groundwater Analytical Data Petroleum Hydrocarbons and Their Constituents 1994 - Present*

ARCO Service Station 2035

1001 San Pablo Avenue, Albany, California

Date: 12-22-03

Well Besinsatina	Valer Somple Field Date	7) Turi kelbod	7) EPA 8020	1, The Bogo	人名 Effyibenzenc アA 8020	Vite Tolol Xylenes Vite EPA 6020	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Dil and Grease	7. SH 5520C	Var Chand Grease	EPA 418.1	TPH0 UIT Method
				<i></i>	-9/5	- 127		<i>Py/L</i>	ру/с 	<i>р</i> у/с	ну/с 	րց/լ	µg/L
MW-	-5 013190	<50	<0.5	<0.5	<0.5	<0.5							
MM-	-5 042590	<b>c</b> 50	<0,5	<0.5	<0.5	<0.5							
Υ.W		<50	<0.5	<0.5	<0.5	<0.5							
М₩-	5 11-14-90	<50	<0.5	<0.5	<0.5	<0,5							
ዚዝ-		<50	<0.5	<0.5	<0.5	<0.5							
Min-		Not sampl	ed: not so	heduled fo	or chemica	u analysis							
MM-	5 08-21-91	Not sampl	ed; not se	heduled fo	e chemica	i onotysis							
KU¥-		Nol sompl	ed: nol so	heduled fo	r chemico	l analysis							
М¥-		<50	<0.5	<0.5	<0.5	<0.5	<3						
WA-400	5 04-21-921	Not sompli	ed: not sc	heduled fa	r chemico	i analysis							
MW-		<50	<0.5	<0.5	<0.5	<0.5							
WW		<50	<0.5	<0.5	<0.5	<0.5							
HYI-	== ==	<50	<0.5	<0.5	<0.5	<0.5							
M#-		<50	<0.5	<0.5	<0,5	<0.5							
М₩-		<50	<0.5	₹0.5	<0.5	<0.5							
Mi¥-I													
₩₩~-i		ol sample	d: not set	ieduled foi	r chemicol	analysis							
MH-1						•							
MW-6		<50	<0,5	<0.5	<0.5	<0.5	<3						
10¥-4	6 04-21-92 N	ol sample	d: nol sch	eduied for	chemical	analysis							
Dat a	01 71 60 1												
R¥-1 R¥-1		ai somplei	1: WEH COJ	inected to	the teme	diation sys	len						
R₩-1		ol samplei	I: WEN COL	laned llo	anud blaq	uct							
R\-1		ot sompled	L WELL CON	itoineo Ito	anug blag	ucl							
R#-1		or sampler 11000											
109-1 RW-1			560	660 I-1-1-1	150	1700							
パガート 発催ー1													
RW-1	11-08-91	74 Sompled 1600											
RW-1	02~26-92	210	79 44	46 7.5	13 2.5	240							
RW-1	02-28-92	36000	99 7400	7.5 3700	2.5 580	24	29						
au1	φ121-9Z	าณาก	7400	21110	200	3400	<300						

IPHC: lotal petroleum hydrocarbons as gasoline, California DHS LUFT Melhod

Payle micrograms per liter EPA: United Statest Environmental Protection Agency NIBE: Methyl-lett-bulyl ether

SM: standard method

IRPH: Ialal recoverable petroleum hydrocarbons

IPHO: total petroleum hydrocarbons as diesel, Calitarnia DHS LUFT Method

- - : nol analyzed

* For previous historical analytical and please refer to Yourin Warter 1990 Woundwater Monutoring Program Resurts and hemetholica.

רצרמרחמתכב בימאוסוגמה הבסטון, אתנט שביתכב שומשמת משש, אוסמתי, נבאונטוא, אוסרכת בש, וששטן.

## **APPENDIX D**

JOINT MONITORING DATA

S-1       05/13/1991       1,500       20       2.6       86       74           42.73       8.24       34.49          S-1       08/23/1991       2,900       27       <2.5       75       18           42.73       8.37       34.36          S-1       11/07/1991       2,900       8.0       2.5       46       26           42.73       8.30       34.43          S-1       01/28/1992       2,000       11       <2.5       60       20            42.73       8.30       34.43          S-1       01/28/1992       2,000       11       <2.5       60       20            42.73       7.84       34.89          S-1       05/06/1992       1,200       5.5       <2.5       80       36            42.73       7.95       34.78          S-1       08/26/1992       2,000	0		GW Elevation	Depth to Water	тос	TAME	ETBE	DIPE	TBA	MTBE 8260	MTBE 8020	X	E	T	В	TPHg	Date	Well ID
S-1       08/23/1991       2,900       27       <2.5       75       18          42.73       8.37       34.36          S-1       11/07/1991       2,900       8.0       2.5       46       26          42.73       8.37       34.36          S-1       01/28/1992       2,000       11       <2.5       60       20           42.73       7.84       34.89          S-1       01/28/1992       2,000       11       <2.5       60       20           42.73       7.84       34.89          S-1       05/06/1992       1,200       5.5       <2.5       80       36           42.73       7.95       34.78          S-1       08/26/1992       2,000       9.4       <2.5       130       <2.5            42.73       8.24       34.49          S-1       08/26/1992       2,000       9.4       <2.5       130       <2.5	(ppm)	(ft)	(ft MSL)	(ft TOC)	(ft MSL)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)		
S-1       11/07/1991       2,900       8.0       2.5       46       26           42.73       8.30       34.43          S-1       01/28/1992       2,000       11       <2.5			34.49	8.24	42.73							74	86	2.6	20	1,500	05/13/1991	S-1
S-1       01/28/1992       2,000       11       <2.5			34.36	8.37	42.73							18	75	<2.5	27	2,900	08/23/1991	S-1
S-1       05/06/1992       1,200       5.5       <2.5			34.43	8.30	42.73							26	46	2.5	8.0	2,900	11/07/1991	S-1
S-1 08/26/1992 2,000 9.4 <2.5 130 <2.5 42.73 8.24 34.49			34.89	7.84	42.73							20	60	<2.5	11	2,000	01/28/1992	S-1
			34.78	7.95	42.73							36	80	<2.5	5.5	1,200	05/06/1992	S-1
S-1 10/28/1992 1 300 27 3 2 72 13 42 73 8 52 24 21			34.49	8.24	42.73							<2.5	130	<2.5	9.4	2,000	08/26/1992	S-1
<u> </u>			34.21	8.52	42.73							13	72	3.2	27	1,300	10/28/1992	S-1
S-1 01/19/1993 1,500 13 3.0 29 31 42.73 6.54 36.19			36.19	6.54	42.73							31	29	3.0	13	1,500	01/19/1993	S-1
S-1 04/29/1993 2,000 15 <2.5 82 <6.5 42.73 7.93 34.80			34.80	7.93	42.73							<6.5	82	<2.5	15	2,000	04/29/1993	S-1
S-1 07/22/1993 620 1.1 4.2 3.5 13 42.73 8.09 34.64			34.64	8.09	42.73							13	3.5	4.2	1.1	620	07/22/1993	S-1
S-1 10/21/1993 1,200 34 25 15 9.5 42.73 9.43 33.30			33.30	9.43	42.73							9.5	15	25	34	1,200	10/21/1993	S-1
S-1 01/04/1994 860 <2.5 <2.5 5.7 5.3 42.73 8.25 34.48			34.48	8.25	42.73							5.3	5.7	<2.5	<2.5	860	01/04/1994	S-1
S-1 04/13/1994			34.71	8.02	42.73												04/13/1994	S-1
S-1 07/25/1994 1,200 8.3 7.4 15 20 42.73 8.22 34.51			34.51	8.22	42.73							20	15	7.4	8.3	1,200	07/25/1994	S-1
S-1 10/10/1994			34.44	8.29	42.73												10/10/1994	S-1
S-1 01/26/1995 1,000 12 0.60 12 420 42.73 6.88 35.85			35.85	6.88	42.73							420	12	0.60	12	1,000	01/26/1995	S-1
S-1 04/21/1995			35.08	7.65	42.73												04/21/1995	S-1
S-1 07/28/1995 660 7.2 1.0 11 8.9 42.73 7.90 34.83	4		34.83	7.90	42.73							8.9	11	1.0	7.2	660	07/28/1995	S-1
S-1 10/31/1995			35.01	7.72	42.73												10/31/1995	S-1
S-1 01/10/1996 1,100 3.5 7.0 5.1 9.4 42.73 8.24 34.49	7.4		34.49	8.24	42.73							9.4	5.1	7.0	3.5	1,100	01/10/1996	S-1
S-1 04/25/1996			34.99	7.74	42.73												04/25/1996	S-1
S-1 07/23/1996 <50 <0.50 <0.50 <0.50 <0.50 <2.5 42.73 7.92 34.81	2.7		34.81	7.92	42.73						<2.5	< 0.50	< 0.50	< 0.50	< 0.50	<50	07/23/1996	S-1
S-1 12/10/1996	0.6		35.17	7.56	42.73												12/10/1996	S-1
S-1 02/20/1997 <50 <0.50 <0.50 <0.50 <0.50 <2.5 42.73 7.95 34.78	3		34.78	7.95	42.73						<2.5	< 0.50	< 0.50	< 0.50	< 0.50	<50	02/20/1997	S-1
S-1 05/22/1997	0.5		34.62	8.11	42.73												05/22/1997	S-1
S-1 08/22/1997 810 18 <2.0 5.1 4.4 18 42.73 7.86 34.87	3		34.87	7.86	42.73						18	4.4	5.1	<2.0	18	810	08/22/1997	S-1
S-1 11/03/1997	1.1		34.38	8.35	42.73												11/03/1997	S-1
S-1 02/20/1998 <50 <0.50 <0.50 <0.50 <0.50 <2.5 42.73 6.09 36.64	2.9		36.64	6.09	42.73						<2.5	< 0.50	< 0.50	< 0.50	< 0.50	<50	02/20/1998	S-1
S-1 05/18/1998	1.1		35.04	7.69	42.73												05/18/1998	S-1
S-1 08/20/1998 390 6.7 <0.50 0.64 <0.50 14 42.73 8.20 34.53	1.9		34.53	8.20	42.73						14	< 0.50	0.64	< 0.50	6.7	390	08/20/1998	S-1
S-1 11/06/1998			34.50	8.23	42.73												11/06/1998	S-1
S-1 02/16/1999 <50 <0.50 <0.50 <0.50 <0.50 <2.5 42.73 7.47 35.26	1.5		35.26	7.47	42.73						<2.5	< 0.50	< 0.50	< 0.50	< 0.50	<50	02/16/1999	S-1
S-1 05/28/1999 42.73 7.60 35.13	1.3		35.13	7.60	42.73												05/28/1999	S-1

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg	B	T	E	X	8020	8260	TBA	DIPE	ETBE	TAME	ТОС	Water		Thickness	
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-1	08/24/1999	72.4	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						42.73	7.95	34.78		1.4
S-1	11/16/1999												42.73	7.87	34.86		1.3
S-1	02/02/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<5.00						42.73	7.26	35.47		1.4
S-1	05/09/2000												42.73	8.13	34.60		1.0
S-1	08/03/2000	209	6.42	< 0.500	< 0.500	< 0.500	<2.50						42.73	8.12	34.61		1.4
S-1	11/15/2000												42.73	8.06	34.67		1.0
S-1	02/14/2001	179	4.46	< 0.500	< 0.500	< 0.500	8.72						42.73	8.08	34.65		1.1
S-1	05/31/2001												42.73	8.05	34.68		1.0
S-1	08/15/2001	270	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					42.73	8.40	34.33		1.3
S-1	12/31/2001												42.73	7.42	35.31		0.4
S-1	02/06/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					42.73	7.60	35.13		2.2
S-1	06/04/2002												42.73	8.16	34.57		0.8
S-1	07/25/2002	230	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					42.57	7.84	34.73		0.9
S-1	11/27/2002												42.57	8.01	34.56		0.6
S-1	01/30/2003	310	< 0.50	< 0.50	3.6	1.6		<5.0					42.57	7.56	35.01		1.5
S-1	06/03/2003												42.57	7.87	34.70		1.6
S-1	08/08/2003	730	< 0.50	< 0.50	12	6.4		< 0.50					42.57	7.95	34.62		1.3
S-1	11/13/2003												42.57	7.90	34.67		0.8
S-1	02/04/2004	220	< 0.50	< 0.50	1.8	1.1		< 0.50					42.57	7.37	35.20		1.2
S-1	05/12/2004												42.57	8.05	34.52		1.1
S-1	08/23/2004	110 g	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					42.57	8.10	34.47		0.6
S-1	12/01/2004												42.57	7.84	34.73		
S-1	02/07/2005	53 h	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					42.57	7.48	35.09		0.49
S-1	05/02/2005												42.57	8.05	34.52		
S-1	08/04/2005	850	< 0.50	< 0.50	4.5	1.0		< 0.50					42.57	8.05	34.52		0.01
S-1	11/16/2005												42.57	8.19	34.38		
S-1	03/02/2006	170	< 0.50	< 0.50	2.4	0.91		< 0.50					42.57	7.58	34.99		0.32
S-1	05/31/2006												42.57	8.03	34.54		
S-1	08/29/2006	<50.0	< 0.500	< 0.500	< 0.500	< 0.500		< 0.500					42.57	7.99	34.58		1.05
S-1	12/06/2006												42.57	8.07	34.50		0.4
S-1	01/30/2007	640	< 0.50	< 0.50	1.9	<1.0		< 0.50					42.57	8.32	34.25		1.20
S-1	05/15/2007												42.57	7.85	34.72		0.16
S-1	08/29/2007	980 j	0.371	<1.0	3.3	<1.0		<1.0	<10	<2.0	<2.0	<2.0	42.57	7.87	34.70		2.54

Well II	Date	TPHg	B	T	E	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	TOC	Depth to Water	GW Elevation		0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-1	11/29/2007												42.57	8.18	34.39		0.28
S-1	02/21/2008	430 j	< 0.50	<1.0	<1.0	<1.0		<1.0					42.57	7.94	34.63		0.27
S-1	05/06/2008												42.57	8.00	34.57		0.1
S-1	08/27/2008	170	< 0.50	<1.0	<1.0	<1.0		<1.0					42.57	8.45	34.12		0.21
S-1	11/24/2008												42.57	8.49	34.08		0.06
S-1	01/28/2009	390	< 0.50	<1.0	<1.0	<1.0		<1.0					42.57	8.29	34.28		1.70
S-1	05/26/2009												42.57	8.11	34.46		
S-1	11/24/2009	230	< 0.50	<1.0	<1.0	<1.0		<1.0					42.57	8.34	34.23		1.47
S-1	05/26/2010	490	< 0.50	<1.0	1.3	2.1		<1.0					42.57	7.99	34.58		0.38
S-1	11/30/2010	220	1.7	<1.0	<1.0	<1.0		<1.0					42.57	7.98	34.59		0.65
S-1	05/11/2011	<50	<0.50	<0.50	<0.50	1.0		<1.0					42.57	8.19	34.38		1.49
S-2	05/13/1991	23,000	3,900	230	1,100	3,200							40.73	8.50	32.23		
S-2	08/23/1991	23,000	4,400	260	1,900	2,400							40.73	8.80	31.93		
S-2	11/07/1991	40,000	4,000	160	1,020	3,400							40.73	8.61	32.12		
S-2	01/28/1992	22,000	1,600	70	420	1,700							40.73	7.80	32.93		
S-2	05/06/1992	20,000	2,600	110	860	1,900							40.73	8.10	32.63		
S-2	08/26/1992	42,000	5,000	160	1,100	3,500							40.73	8.37	32.36		
S-2	10/28/1992	34,000	4,800	330	1,600	2,900							40.73	8.64	32.09		
S-2	01/19/1993	20,000	2,300	370	660	1,300							40.73	5.82	34.91		
S-2	04/29/1993	40,000	2,000	67	900	1,900							40.73	7.70	33.03		
S-2	07/22/1993	22,000	3,000	120	1,000	1,600							40.73	8.38	32.35		
S-2 (D	07/22/1993	17,000	3,000	110	1,000	1,500							40.73	8.38	32.35		
S-2	10/21/1993	14,000	2,800	74	870	1,100							40.73	8.58	32.15		
S-2 (D	10/21/1993	13,000	3,200	53	960	820							40.73	8.58	32.15		
S-2	01/04/1994	21,000	2,100	67	990	770							40.73	7.70	33.03		
S-2 (D	01/04/1994	22,000	2,000	64	910	750							40.73	7.70	33.03		
S-2	04/13/1994												40.73	7.62	33.11		
S-2	07/25/1994	43,000	2,600	490	990	1,300							40.73	7.86	32.87		
S-2	10/10/1994												40.73	8.12	32.61		
S-2	01/26/1995	21,000	790	12	290	570							40.73	6.38	34.35		5.5
S-2	04/21/1995												40.73	7.01	33.72		
S-2	07/28/1995	14,000	2,400	360	960	370							40.73	7.82	32.91		4

Well ID	Date	TPHg	В	Т	Ε	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	ТОС	Depth to Water	GW Elevation		0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-2	10/31/1995												40.73	7.57	33.16		
S-2	01/10/1996	17,000	1,400	<50	480	170							40.73	8.13	32.60		7.2
S-2	04/25/1996												40.73	7.72	33.01		
S-2	07/23/1996	16,000	2,700	69	1,100	110	9,500						40.73	8.10	32.63		2.2
S-2 (D)	07/23/1996	11,000	2,600	68	1,000	96	10,000	11,000					40.73	8.10	32.63		2.2
S-2	12/10/1996												40.73	8.57	32.16		0.5
S-2	02/20/1997	10,000	500	<10	90	130	6,400						40.73	8.15	32.58		4
S-2	05/22/1997												40.73	8.79	31.94		1.1
S-2	08/22/1997	23,000	1,300	65	740	290	4,500						40.73	8.05	32.68		3.2
S-2 (D)	08/22/1997	20,000	1,200	<100	630	250	3,900						40.73	8.05	32.68		3.2
S-2	11/03/1997												40.73	8.75	31.98		1.2
S-2	02/20/1998	450	28	1.3	7.4	12	35						40.73	6.34	34.39		0.4
S-2	05/18/1998												40.73	7.95	32.78		0.8
S-2	08/20/1998	22,000	290	44	420	410	7,300						40.73	7.73	33.00		1.9
S-2	11/06/1998												40.73	8.47	32.26		
S-2	02/16/1999	27,000	200	<200	770	840	5,400						40.73	7.24	33.49		1.4
S-2	05/28/1999												40.73	7.82	32.91		1.3
S-2	08/24/1999	13,400	196	<25.0	439	113	597						40.73	8.61	32.12		1.2
S-2	11/16/1999												40.73	8.17	32.56		1.1
S-2	02/02/2000	7,850	176	88.0	134	111	540						40.73	7.57	33.16		1.2
S-2	05/09/2000												40.73	7.94	32.79		1.3
S-2	08/03/2000	35,000	255	122	842	224	905	726e					40.73	8.07	32.66		1.1
S-2	11/15/2000												40.73	8.13	32.60		1.3
S-2	02/14/2001	13,000	147	<25.0	309	54.4	581						40.73	6.39	34.34		1.4
S-2	05/31/2001												40.73	7.21	33.52		1.5
S-2	08/15/2001	15,000	67	4.1	220	33		440					40.73	8.27	32.46		0.6
S-2	12/31/2001							270					40.73	6.07	34.66		0.2
S-2	02/06/2002	15,000	53	2.8	120	31		220					40.73	7.98	32.75		1.8
S-2	06/04/2002												40.73	6.70	34.03		0.2
S-2	07/25/2002	9,000	75	4.0	180	24		460					40.63	7.67	32.96		0.9
S-2	11/27/2002												40.63	7.84	32.79		0.7
S-2	01/30/2003	15,000	26	<2.5	92	22		210					40.63	7.29	33.34		15.6
S-2	06/03/2003	17,000	<25	<25	130	<50		290					40.63	7.87	32.76		5.4

Well ID	Date	TPHg	B	T	E	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	TOC	Depth to Water		SPH Thickness	0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-2	08/08/2003	4,500	<2.5	<2.5	9.4	<5.0		140					40.63	8.18	32.45		16.2
S-2	11/13/2003	10,000	18	<10	47	21		180					40.63	7.98	32.65		19.5
S-2	02/04/2004	5,700	54	<10	54	<20		270					40.63	7.21	33.42		>15
S-2	05/12/2004	8,200	18	<10	<10	<20		250					40.63	8.07	32.56		3.1
S-2	08/23/2004	4,100	<10	<10	<10	<20		84	<100	<40	<40	<40	40.63	8.52	32.11		10.7
S-2	12/01/2004	2,000	3.4	<2.5	6.2	<5.0		77					40.63	8.70	31.93		11.8
S-2	02/07/2005	7,400	32	1.6	29	3.1		210					40.63	7.58	33.05		0.11
S-2	05/02/2005	8,100	84	4.9	83	5.5		320					40.63	7.45	33.18		0.6
S-2	08/04/2005	4,900	48	2.1	19	2.8		330	55	<4.0	<4.0	<4.0	40.63	7.90	32.73		0.4
S-2	11/16/2005	13,700	43.8	2.79	25.1	5.92		156					40.63	8.33	32.30		0.5
S-2	03/02/2006	5,800	44	3.2	20	5.6		190					40.63	6.74	33.89		0.63
S-2	05/31/2006	11,100	72.0	4.20	22.4	5.36		308					40.63	7.46	33.17		0.6
S-2	08/29/2006	37,400	72.1	5.08	39.6	6.89		377	46.7	< 0.500	< 0.500	< 0.500	40.63	8.02	32.61		0.70
S-2	12/06/2006	5,000	41	3.2	11	5.2		170					40.63	8.04	32.59		0.5
S-2	01/30/2007	4,200	24	1.7	5.9	2.3		140					40.63	8.08	32.55		0.11
S-2	05/15/2007	8,100 j	48	3.5	19	6.21		180					40.63	8.05	32.58		0.11
S-2	08/29/2007	8,400 j	60	3.8	12	4.681		270	64	<4.0	<4.0	<4.0	40.63	8.01	32.62		1.02
S-2	11/29/2007	4,100 j	48	4.8 m	11	12.3		280					40.63	8.25	32.38		0.55
S-2	02/21/2008	7,300 j	57	4.0	13	4.7		250					40.63	7.25	33.38		0.40
S-2	05/06/2008	8,900	42	3.1	9.8	4.1		270					40.63	6.30	34.34	0.01	0.10/2.0
S-2	08/27/2008	9,400	67	<5.0	27	6.0		240	67	<10	<10	<10	40.63	8.33	32.30		0.15
S-2	11/24/2008	7,100	55	<5.0	9.3	<5.0		210					40.63	8.43	32.20		0.7
S-2	01/28/2009	6,000	29	<5.0	6.5	<5.0		130					40.63	8.19	32.44		0.15
S-2	05/26/2009	20,000	52	3.2	13	6.0		330					40.63	7.85	32.78		0.43
S-2	11/24/2009	5,200	19	<2.0	6.8	4.7		120	80	<4.0	<4.0	<4.0	40.63	8.32	32.31		0.18
S-2	05/26/2010	7,500	78	<5.0	11	<5.0		330					40.63	7.62	33.01		0.34
S-2	11/30/2010	7,000	32	2.7	4.5	5.0		170	86	<4.0	<4.0	<4.0	40.63	7.74	32.89		0.65
S-2	05/11/2011	13,000	61	4.0	16	7.0		210					40.63	7.60	33.03		0.97
S-3	05/13/1991	3,300	30	3.6	26	13							41.46	7.90	33.56		
S-3	08/23/1991	2,000	25	4.0	9.3	4.5							41.46	8.14	33.32		
S-3	11/07/1991	4,000	20	3.9	5.0	4.9							41.46	7.91	33.55		
S-3	01/28/1992	2,100	21	7.6	6.7	15							41.46	7.53	33.93		

Well ID	Date	TPHg	В	Т	Ε	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	тос	Depth to Water	GW Elevation	SPH Thickness	DO Reading
	Duite	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-3 (D)	01/28/1992	2,100	18	6.1	7.1	14							41.46	7.53	33.93		
S-3	05/06/1992	6,600	38	51	45	65							41.46	7.55	33.91		
S-3	08/26/1992	5,800	18	12	29	60							41.46	7.53	33.93		
S-3	10/28/1992	3,000	55	11	16	32							41.46	7.95	33.51		
S-3	01/19/1993	3,100	<5	5.1	11	16							41.46	6.12	35.34		
S-3	04/29/1993	3,000	31	22	<5	14							41.46	7.27	34.19		
S-3	07/22/1993	2,600	3.1	43	23	53							41.46	7.62	33.84		
S-3	10/21/1993	2,500	73	14	16	32							41.46	7.81	33.65		
S-3	01/04/1994	4,800	13	21	<12.5	33							41.46	7.49	33.97		
S-3	04/13/1994												41.46	7.32	34.14		
S-3	07/25/1994	2,600	6.1	4.0	3.8	12							41.46	7.66	33.80		
S-3	10/10/1994												41.46	7.49	33.97		
S-3	01/26/1995	3,600	30	6.8	5.6	19							41.46	6.50	34.96		
S-3 (D)	01/26/1995	2,200	9.9	15	14	22							41.46	6.50	34.96		
S-3	04/21/1995												41.46	6.79	34.67		
S-3	07/28/1995	3,700	27	9.3	20	34							41.46	7.28	34.18		4
S-3	10/31/1995												41.46	6.74	34.72		
S-3	01/10/1996	4,000	10	< 0.50	13	28							41.46	7.48	33.98		6.1
S-3	04/25/1996												41.46	6.90	34.56		
S-3	07/23/1996	2,100	20	< 0.50	< 0.50	< 0.50	<25						41.46	7.04	34.42		2.1
S-3	12/10/1996												41.46	7.96	33.50		0.7
S-3	02/20/1997	3,500	83	<5.0	18	16	130						41.46	7.44	34.02		3
S-3 (D)	02/20/1997	3,000	69	<5.0	14	12	70						41.46	7.44	34.02		3
S-3	05/22/1997												41.46	7.13	34.33		0.6
S-3	08/22/1997	4,700	60	12	19	21	40						41.46	6.81	34.65		2.9
S-3	11/03/1997												41.46	7.40	34.06		0.9
S-3	02/20/1998	3,400	<10	<10	14	18	85						41.46	6.55	34.91		0.8
S-3 (D)	02/20/1998	3,100	8.6	7.8	12	16	57						41.46	6.55	34.91		0.8
S-3	05/18/1998												41.46	6.81	34.65		0.7
S-3	08/20/1998	4,400	67	23	9.8	22	240						41.46	6.98	34.48		2.2
S-3	11/06/1998												41.46	6.96	34.50		
S-3	02/16/1999	2,000	6.9	6.2	3.7	4.8	47						41.46	6.93	34.53		2.0
S-3	05/28/1999												41.46	6.74	34.72		1.8

## GROUNDWATER DATA SHELL-BRANDED SERVICE STATION 999 SAN PABLO AVENUE, ALBANY, CALIFORNIA

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg (µg/L)	В (µg/L)	Τ (μg/L)	E (µg/L)	X (µg/L)	8020 (μg/L)	8260 (μg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Water (ft TOC)	Elevation (ft MSL)	Thickness (ft)	0
		(µgL)	(µg)L)	(µg/L)	(μχ)L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µyL)	(µgL)	(µyL)	(ji Misl)	( <i>i</i> 100)	( <i>tt</i> <b>NISL</b> )	<i>(jt)</i>	(ppm)
S-3	08/24/1999	4,170	54.8	14.2	6.65	13.7	43.4						41.46	9.05	32.41		1.9
S-3	11/16/1999												41.46	7.09	34.37		1.6
S-3	02/02/2000	2,410	133	112	24.9	104	46.0						41.46	6.59	34.87		1.9
S-3	05/09/2000												41.46	7.13	34.33		1.9
S-3	08/03/2000	3,890	17.2	21.9	<10.0	<10.0	166						41.46	6.82	34.64		1.8
S-3	11/15/2000												41.46	6.98	34.48		1.6
S-3	02/14/2001	2,800	35.8	5.57	3.83	2.94	1,070	1,250					41.46	6.57	34.89		1.1
S-3	05/31/2001												41.46	6.72	34.74		1.6
S-3	08/15/2001	2,700	2.0	0.52	< 0.50	2.0		140					41.46	7.44	34.02		0.6
S-3	12/31/2001	2,300	<2.0	<2.0	<2.0	<2.0		470					41.46	6.62	34.84		0.6
S-3	02/06/2002	2,000	2.6	1.6	4.3	7.8		170					41.46	7.22	34.24		2.2
S-3	06/04/2002	2,400	1.0	1.1	0.54	4.5		120					41.46	7.34	34.12		0.5
S-3	07/25/2002	3,100	0.86	< 0.50	< 0.50	2.0		92					41.37	6.98	34.39		1.0
S-3	11/27/2002	2,600	2.0	0.55	< 0.50	2.1		44					41.37	7.62	33.75		0.7
S-3	01/30/2003	1,200	2.1	1.3	1.6	3.4		42					41.37	7.14	34.23		13.6
S-3	06/03/2003	2,700	2.9	< 0.50	0.50	2.8		43					41.37	7.25	34.12		1.7
S-3	08/08/2003	1,400	2.4	0.71	< 0.50	2.2		32					41.37	7.67	33.70		>20
S-3	11/13/2003	5,200	5.1	2.4	<1.0	5.6		69					41.37	7.56	33.81		19.6
S-3	02/04/2004	2,800	1.9	<1.0	1.0	2.6		20					41.37	7.12	34.25		>15
S-3	05/12/2004	1,900	2.8	<1.0	<1.0	2.2		9.7					41.37	7.94	33.43		4.0
S-3	08/23/2004	1,400	7.6	1.1	<1.0	2.9		13	<10	<4.0	<4.0	<4.0	41.37	8.09	33.28		13.3
S-3	12/01/2004	950	1.9	<1.0	<1.0	<2.0		5.6					41.37	8.21	33.16		13.0
S-3	02/07/2005	1,800	1.4	<1.0	<1.0	2.1		9.9					41.37	7.69	33.68		0.25
S-3	05/02/2005	4,000	2.3	1.1	1.6	3.0		9.9					41.37	7.20	34.17		0.5
S-3	08/04/2005	3,600	2.1	<1.0	<2.0	3.6		8.5	33	<4.0	<4.0	<4.0	41.37	8.14	33.23		0.2
S-3	11/16/2005	6,000	2.24	0.800	0.660	3.35		3.83					41.37	8.39	32.98		0.6
S-3	03/02/2006	1,500	1.3	< 0.50	0.57	2.0		5.1					41.37	7.09	34.28		0.52
S-3	05/31/2006	5,560	1.71	0.730	1.24	3.89		8.01 i					41.37	7.95	33.42		0.5
S-3	08/29/2006	4,850	1.82	0.680	1.19	2.22		3.16	<10.0	< 0.500	< 0.500	< 0.500	41.37	6.35	35.02		0.88
S-3	12/06/2006	2,900	1.1	< 0.50	< 0.50	2.2		< 0.50					41.37	8.41	32.96		0.3
S-3	01/30/2007	2,100	1.0	< 0.50	0.53	1.8		5.7					41.37	8.31	33.06		0.36
S-3	05/15/2007	3,500 j	1.1	0.511	0.761	2.381		8.0					41.37	7.60	33.77		0.11
S-3	08/29/2007	<50 j	1.5	0.481	0.501	2.811		<1.0	<10	<2.0	<2.0	<2.0	41.37	8.64	32.73		0.57
	•	,															

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Well ID	Date	TPHg (µg/L)	Β (μg/L)	Т (µg/L)	Е (µg/L)	Х (µg/L)	МТВЕ 8020 (µg/L)	МТВЕ 8260 (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	SPH Thickness (ft)	DO Reading (ppm)
S-3	11/29/2007	3,800 j	1.8	0.80 l,m	0.65 1	3.341		5.9					41.37	8.36	33.01		0.22
S-3	02/21/2008	2,900 j	0.60	<1.0	<1.0	1.2		5.0					41.37	7.35	34.02		0.44
S-3	05/06/2008	2,400	1.2	<1.0	<1.0	1.7		<1.0					41.37	8.00	33.37		0.2/1.4
S-3	08/27/2008	3,100	1.5	<1.0	<1.0	2.3		<1.0	<10	<2.0	<2.0	<2.0	41.37	8.56	32.81		0.13
S-3	11/24/2008	2,900	1.5	<1.0	<1.0	2.2		<1.0					41.37	8.71	32.66		0.32
S-3	01/28/2009	3,900	1.4	<1.0	<1.0	2.2		<1.0					41.37	8.22	33.15		0.48
S-3	05/26/2009	3,600	1.1	<1.0	<1.0	1.5		5.2					41.37	8.23	33.14		1.54
S-3	11/24/2009	2,200	0.98	<1.0	<1.0	1.7		<1.0	<10	<2.0	<2.0	<2.0	41.37	8.71	32.66		0.42
S-3	05/26/2010	2,800	1.0	<1.0	<1.0	2.4		7.8					41.37	7.80	33.57		0.32
S-3	11/30/2010	3,800	0.94	<1.0	<1.0	1.9		4.5	<10	<2.0	<2.0	<2.0	41.37	7.65	33.72		0.87
S-3	05/11/2011	3,000	0.77	0.51	<0.50	1.8		7.4					41.37	8.01	33.36		0.80
S-4	05/13/1991	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.44	33.66		
S-4	08/23/1991	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	8.32	32.78		
S-4	11/07/1991	260	< 0.50	< 0.50	< 0.50	< 0.50							41.10	8.32	32.78		
S-4	01/28/1992	110c	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.40	33.70		
S-4	05/06/1992	54	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.21	33.89		
S-4	08/26/1992	67	< 0.50	< 0.50	< 0.50	< 0.50							41.10	8.13	32.97		
S-4	10/28/1992	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	8.73	32.37		
S-4	01/19/1993	86	1.2	0.70	2.7	15							41.10	5.86	35.24		
S-4	04/29/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.02	34.08		
S-4 (D)	04/29/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.02	34.08		
S-4	07/22/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.76	33.34		
S-4	10/21/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	8.53	32.57		
S-4	01/04/1994	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	7.92	33.18		
S-4	04/13/1994												41.10	7.71	33.39		
S-4	07/25/1994												41.10	7.82	33.28		
S-4	10/10/1994												41.10	8.15	32.95		
S-4	01/26/1995	<50	< 0.50	< 0.50	< 0.50	< 0.50							41.10	5.73	35.37		
S-4	04/21/1995												41.10	6.26	34.84		
S-4	07/28/1995												41.10	7.80	33.30		
S-4	10/31/1995												41.10	8.45	32.65		
S-4	01/10/1996	<50	1.0	2.8	< 0.50	2.1							41.10	8.26	32.84		2.8

Well ID	Date	TPHg	В	Т	Ε	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	тос	Depth to Water	GW Elevation	SPH Thickness	DO Reading
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-4	04/25/1996												41.10	7.14	33.96		
S-4	07/23/1996	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						41.10	8.18	32.92		3.8
S-4	12/10/1996												41.10	7.04	34.06		3.9
S-4	02/20/1997	<50	< 0.50	< 0.50	< 0.50	< 0.50	6.7						41.10	7.07	34.03		5
S-4	05/22/1997												41.10	6.63	34.47		0.8
S-4	08/22/1997												41.10	7.69	33.41		3.7
S-4	11/03/1997												41.10	8.26	32.84		1.3
S-4	02/20/1998	130	6.9	4.6	5.2	17	2.8						41.10	5.57	35.53		1.8
S-4	05/18/1998												41.10	7.13	33.97		1.4
S-4	08/20/1998												41.10	7.77	33.33		4.0
S-4	11/06/1998												41.10	7.85	33.25		
S-4	02/16/1999	<50	< 0.50	< 0.50	< 0.50	< 0.50	23						41.10	6.51	34.59		3.6
S-4	05/28/1999												41.10	7.00	34.10		3.2
S-4	08/24/1999												41.10	9.13	31.97		1.9
S-4	11/16/1999												41.10	7.79	33.31		1.7
S-4	02/02/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	< 5.00						41.10	7.19	33.91		1.9
S-4	05/09/2000												41.10	7.51	33.59		1.8
S-4	08/03/2000												41.10	7.83	33.27		1.9
S-4	11/15/2000												41.10	7.69	33.41		1.5
S-4	02/14/2001	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						41.10	6.20	34.90		1.6
S-4	05/31/2001												41.10	6.56	34.54		1.6
S-4	08/15/2001												41.10	7.90	33.20		0.6
S-4	12/31/2001												41.10	5.62	35.48		2.7
S-4	02/06/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					41.10	7.29	33.81		0.2
S-4	06/04/2002												41.10	7.45	33.65		0.6
S-4	07/25/2002												41.04	7.39	33.65		0.8
S-4	11/27/2002												41.04	7.60	33.44		
S-4	01/30/2003	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					41.04	8.45	32.59		
S-4	06/03/2003												41.04	6.82	34.22		
S-4	08/08/2003												41.04	7.36	33.68		
S-4	11/13/2003												41.04	7.56	33.48		
S-4	02/04/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					41.04	6.47	34.57		
S-4	05/12/2004												41.04	7.10	33.94		

Well ID	Date	TPHg (µg/L)	В (µg/L)	Т (µg/L)	Е (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	SPH Thickness (ft)	DO Reading (ppm)
S-4	08/23/2004												41.04	7.60	33.44		
S-4	12/01/2004												41.04	7.23	33.81		
S-4	02/07/2005	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					41.04	6.12	34.92		
S-4	05/02/2005												41.04	6.50	34.54		
S-4	08/04/2005												41.04	7.13	33.91		
S-4	11/16/2005												41.04	7.43	33.61		
S-4	03/02/2006	<50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50					41.04	6.05	34.99		
S-4	05/31/2006												41.04	6.64	34.40		
S-4	08/29/2006												41.04	7.25	33.79		
S-4	12/06/2006												41.04	7.39	33.65		
S-4	01/30/2007	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					41.04	7.24	33.80		
S-4	05/15/2007												41.04	6.60	34.44		
S-4	08/29/2007												41.04	7.42	33.62		
S-4	11/29/2007												41.04	7.22	33.82		
S-4	02/21/2008	<50 j	< 0.50	<1.0	<1.0	<1.0		<1.0					41.04	6.20	34.84		
S-4	05/06/2008												41.04	7.19	33.85		
S-4	08/27/2008												41.04	7.52	33.52		
S-4	11/24/2008												41.04	7.73	33.31		
S-4	01/28/2009	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					41.04	7.21	33.83		
S-4	05/26/2009												41.04	6.95	34.09		
S-4	11/24/2009	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					41.04	7.43	33.61		
S-4	05/26/2010												41.04	6.68	34.36		
S-4	11/30/2010	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					41.04	6.87	34.17		
S-4	05/11/2011	<50	<0.50	<0.50	<0.50	<1.0		<1.0					41.04	6.90	34.14		
S-5	05/13/1991												39.99	14.60	30.57	6.48	
S-5	08/23/1991												39.99	15.14	29.25	5.50	
S-5	11/07/1991												39.99	15.10	29.17	5.35	
S-5	01/28/1992												39.99	14.05	29.86	4.90	
S-5	05/06/1992												39.99	14.31	30.21	5.66	
S-5	08/26/1992												39.99	14.31 14.26	28.77	3.80	
S-5	10/28/1992												39.99 39.99	14.20 14.22	28.82	3.81	
3-5 S-5	01/19/1993												39.99 39.99	14.22	30.80	3.96	
3-5	01/19/1993												37.77	12.00	30.80	5.90	

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg	В	Т	Ε	X	8020	8260	TBA	DIPE	ETBE	TAME	ТОС	Water		Thickness	
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-5	04/29/1993												39.99	9.64	31.07	0.90	
S-5	07/22/1993												39.99	9.55	31.16	0.90	
S-5	10/21/1993												39.99	11.23	29.34	0.73	
S-5	01/04/1994												39.99	11.69	29.82	1.90	
S-5	04/13/1994												39.99	11.42	29.87	1.62	
S-5	07/25/1994												39.99	12.01	29.41	1.79	
S-5	10/10/1994												39.99	12.05	29.38	1.80	
S-5	01/26/1995												39.99	8.42	32.95	1.72	
S-5	04/21/1995												39.99	10.03	30.90	1.17	
S-5	07/28/1995												39.99	11.42	30.07	1.87	
S-5	10/31/1995												39.99	13.21	27.21	0.54	
S-5	01/10/1996												39.99	12.05	28.04	0.13	
S-5	04/25/1996												39.99	9.68	30.33	0.03	
S-5	07/23/1996												39.99	9.82	30.20	0.04	
S-5	12/10/1996	270,000	8,800	29,000	5,200	37,000	<2,500						39.99	9.10	30.91	0.03	
S-5 (D)	12/10/1996	400,000	9,200	32,000	7,200	50,000	<2,500						39.99	9.10	30.91	0.03	
S-5	02/20/1997	88,000	2,000	11,000	1,600	19,000	<500						39.99	8.93	31.06		5
S-5	05/22/1997												39.99	10.07	29.94	0.02	
S-5	08/22/1997												39.99	10.24	29.77	0.02	
S-5	11/03/1997												39.99	10.91	29.10	0.02	
S-5	02/20/1998												39.99	7.81	32.20	0.03	
S-5	05/18/1998												39.99	9.64	30.37	0.02	
S-5	05/31/2001												39.99	10.13	29.86		
S-6	05/13/1991	13,000	600	140	210	310							40.12	7.82	32.30		
S-6	08/23/1991	9,800	480	80	120	150							40.12	9.58	30.54		
S-6	11/07/1991	6,200	240	23	25	27							40.12	10.86	29.26		
S-6	01/28/1992	5,600	250	15	41	36							40.12	8.97	31.15		
S-6	05/06/1992	7,100	330	29	110	210							40.12	8.27	31.85		
S-6	08/26/1992	13,000	240	<50	56	780							40.12	9.57	31.55		
S-6	10/28/1992	10,000	470	210	67	170							40.12	8.90	32.22		
S-6	01/19/1993	4,800	100	26	27	45							40.12	4.84	35.28		
S-6	04/29/1993	7,000	430	20	<12.5	42							40.12	5.61	34.51		

Well ID	Date	TPHg	B	Ţ	E	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	ТОС	Depth to Water		SPH Thickness	0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-6	07/22/1993	5,800	260	120	65	150							40.12	6.56	33.56		
S-6	10/21/1993	5,500	270	69	120	140							40.12	8.73	31.39		
S-6	01/04/1994	7,100	180	58	63	62							40.12	7.14	32.98		
S-6	04/13/1994												40.12	7.21	32.91		
S-6	07/25/1994	12,000	190	52	30	39							40.12	6.85	33.27		
S-6 (D)	07/25/1994	7,200	170	32	31	34							40.12	6.85	33.27		
S-6	10/10/1994												40.12	6.20	33.92		
S-6	01/26/1995	5,800	120	23	24	44							40.12	4.89	35.23		
S-6	04/21/1995												40.12	5.61	34.51		
S-6	07/28/1995	4,400	210	23	34	60							40.12	5.30	34.82		3
S-6 (D)	07/28/1995	6,100	230	20	38	59							40.12	5.30	34.82		3
S-6	10/31/1995												40.12	4.98	35.14		
S-6	01/10/1996	6,800	170	87	35	105							40.12	5.67	34.45		2.2
S-6 (D)	01/10/1996	7,800	230	120	50	210							40.12	5.67	34.45		2.2
S-6	04/25/1996												40.12	5.23	34.89		
S-6	07/23/1996	2,600	170	< 0.50	< 0.50	8.5	<25						40.12	5.40	34.72		1.4
S-6	12/10/1996												40.12	6.68	33.44		0.7
S-6	02/20/1997	6,300	160	7.7	14	31	77						40.12	5.70	34.42		2
S-6	05/22/1997												40.12	5.49	34.63		0.9
S-6	08/22/1997	6,200	160	26	15	27	49						40.12	5.71	34.41		2.8
S-6	11/03/1997												40.12	6.15	33.97		1.4
S-6	02/20/1998	4,100	150	<10	<10	15	55						40.12	5.25	34.87		0.4
S-6	05/18/1998												40.12	5.69	34.43		0.4
S-6	08/20/1998	7,800	240	38	16	39	110						40.12	6.04	34.08		1.5
S-6 (D) b	08/20/1998	8,400	270	30	19	31	130						40.12	6.04	34.08		1.5
S-6	11/06/1998												40.12	6.10	34.02		
S-6	02/16/1999	6,000	190	19	14	20	<2.5						40.12	5.84	34.28		1.7
S-6	05/28/1999												40.12	9.51	30.61		1.9
S-6	08/24/1999	6,870	193	32.1	18.8	36.4	<25.0						40.12	8.29	31.83		2.7
S-6	11/16/1999												40.12	5.93	34.19		2.6
S-6	02/02/2000	2,310	164	122	28.6	133	63.1						40.12	5.33	34.79		2.6
S-6	05/09/2000												40.12	6.41	33.71		2.4
S-6	08/03/2000	5,600	188	27.4	<10.0	25.2	174						40.12	5.84	34.28		2.7

Well ID	Date	TPHg	В	T	E	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	тос	Depth to Water	GW Elevation		0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-6	11/15/2000												40.12	5.58	34.54		2.3
S-6	02/14/2001	6,140	126	13.2	8.01	18.0	205						40.12	5.50	34.62		1.3
S-6	05/31/2001												40.12	5.52	34.60		1.2
S-6	08/15/2001	6,000	160	9.1	5.8	24		51					40.12	6.04	34.08		0.4
S-6	12/31/2001	6,900	120	12	6.6	24		44					40.12	5.52	34.60		0.4
S-6	02/06/2002	4,300	110	7.3	4.8	18		39					40.12	6.34	33.78		0.5
S-6	06/04/2002	4,300	140	8.4	4.9	22		26					40.12	6.19	33.93		0.4
S-6	07/25/2002	3,900	140	9.0	5.5	23		31					39.92	6.05	33.87		0.7
S-6	11/27/2002	5,200	160	9.6	4.9	24		26					39.92	6.26	33.66		
S-6	01/30/2003	4,700	200	9.6	5.5	25		30					39.92	5.73	34.19		
S-6	06/03/2003	3,900	160	10	<10	25		30					39.92	5.52	34.40		
S-6	08/08/2003	2,900	150	8.8	3.6	18		18					39.92	6.14	33.78		
S-6	11/13/2003	8,300	220	19	11	35		28					39.92	5.85	34.07		
S-6	02/04/2004	7,400	310	17	10	31		30					39.92	5.51	34.41		
S-6	05/12/2004	4,000	230	10	5.5	24		21					39.92	6.10	33.82		
S-6	08/23/2004	6,000	260	16	9.0	32		19					39.92	6.38	33.54		
S-6	12/01/2004	9,600	280	23	11	47		24					39.92	6.41	33.51		
S-6	02/07/2005	7,100	300	14	8.4	35		21					39.92	5.94	33.98		
S-6	05/02/2005	6,100	250	12	8.1	30		16					39.92	5.90	34.02		
S-6	08/04/2005	5,200	180	13	8.0	31		15					39.92	6.67	33.25		
S-6	11/16/2005	9,950	147	15.3	9.82	32.3		10.8					39.92	6.64	33.28		
S-6	03/02/2006	2,400	72	9.2	7.0	21		6.4					39.92	5.92	34.00		
S-6	05/31/2006	9,460	182	13.6	8.80	33.5		11.4 i					39.92	6.28	33.64		
S-6	08/29/2006	8,840	108	26.6	12.4	37.7		10.1					39.92	7.19	32.73		
S-6	12/06/2006	4,900	130	17	8.2	35		9.4					39.92	7.06	32.86		
S-6	01/30/2007	4,500	100	22	12	38		8.1					39.92	6.94	32.98		
S-6	05/15/2007	6,900 j	120	9.2	6.7	27.6		6.4					39.92	6.30	33.62		
S-6	08/29/2007	9,300 j	110	30	14	52		6.4	<50	5.31	<10	<10	39.92	7.27	32.65		
S-6	11/29/2007	4,300 j	110	19 m	14	53		8.7					39.92	6.87	33.05		
S-6	02/21/2008	5,600 j	110	8.6	5.0	28.3		6.4					39.92	5.75	34.17		
S-6	05/06/2008	5,900	110	12	7.5	30.1		<1.0					39.92	6.60	33.32		
S-6	08/27/2008	6,200	58	15	7.0	27.9		<2.0					39.92	7.40	32.52		
S-6	11/24/2008	6,100	80	20	12	40		<2.0					39.92	7.30	32.62		

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg (ug/L)	B	T	Ε (μg/L)	X	8020	8260	TBA (µg/L)	DIPE (µg/L)	ETBE	TAME	TOC (ft MSL)	Water (ft TOC)	Elevation (ft MSL)	Thickness (ft)	0
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µgL)	(µg/L)	(µg/L)	( <i>ji</i> MSL)	( <i>ji</i> 100)	( <i>t</i> 1/15L)	()()	(ppm)
S-6	11/24/2008	6,100	80	20	12	40		<2.0					39.92	7.30	32.62		
S-6	01/28/2009	5,300	80	10	6.3	26		<1.0					39.92	6.61	33.31		
S-6	05/26/2009	6,600	130	6.6	4.4	21		4.9					39.92	6.70	33.22		
S-6	11/24/2009	6,200	69	13	8.4	32		4.5					39.92	7.03	32.89		
S-6	05/26/2010	5,100	130	8.3	4.8	27		6.1					39.92	6.24	33.68		
S-6	11/30/2010	5,500	74	10	6.2	32		5.6					39.92	6.12	33.80		
S-6	05/11/2011	8,900	73	7.8	6.8	31		4.2					39.92	6.30	33.62		
S-7	05/13/1991	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.56	29.54		
S-7	08/23/1991	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	11.16	28.94		
S-7	11/07/1991	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	11.48	28.62		
S-7	01/28/1992	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.72	29.38		
S-7	05/06/1992	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.34	29.76		
S-7	08/26/1992	160	< 0.50	< 0.50	< 0.50	< 0.50							40.10	11.13	28.97		
S-7	10/28/1992	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	11.52	28.58		
S-7	01/19/1993	50	1.1	0.60	1.9	9.2							40.10	8.68	31.42		
S-7	04/29/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	9.90	30.20		
S-7	07/22/1993	Well inac											40.10				
S-7	10/21/1993	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	11.10	29.00		
S-7	01/04/1994	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.40	29.70		
S-7	04/13/1994	<50	1.4	0.61	< 0.50	0.64							40.10	10.20	29.90		
S-7 (D)	04/13/1994	<50	1.4	0.61	< 0.50	0.66							40.10	10.20	29.90		
S-7	07/25/1994	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.48	29.62		
S-7 a	10/10/1994	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.64	29.46		
S-7	01/26/1995	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	7.75	32.35		4.6
S-7	04/21/1995	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	8.51	31.59		
S-7	07/28/1995	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.20	29.90		3
S-7	10/31/1995	<50	< 0.50	< 0.50	< 0.50	< 0.50							40.10	10.86	29.24		4.9
S-7	01/10/1996	<50	< 0.50	2.0	< 0.50	2.6							40.10	10.33	29.77		7.6
S-7	04/25/1996	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	9.13	30.97		6.2
S-7	07/23/1996	<50	< 0.50	< 0.50	< 0.50	< 0.50	14						40.10	10.18	29.92		3.7
S-7	12/10/1996	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	9.04	31.06		4.6
S-7	02/20/1997	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	9.60	30.50		5

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg	В	Т	Ε	X	8020	8260	TBA	DIPE	ETBE	TAME	ТОС	Water	Elevation		Reading
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-7	05/22/1997	<50	1.3	< 0.50	< 0.50	< 0.50	5.5						40.10	10.63	29.47		0.8
S-7	08/22/1997	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	10.95	29.15		2.6
S-7	11/03/1997	<50	2.2	1.7	0.58	3.4	<2.5						40.10	11.29	28.81		2.6
S-7	02/20/1998	350	23	13	14	42	3.8						40.10	7.73	32.37		4.6
S-7	05/18/1998	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	10.29	29.81		4.4
S-7	08/20/1998	Well inac	cessible										40.10	11.00	29.10		5.4
S-7	11/06/1998	<50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5						40.10	11.19	28.91		5.2
S-7	02/16/1999	Well inac	cessible										40.10				
S-7	05/28/1999	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<5.00						40.10	9.76	30.34		2.7
S-7	08/24/1999	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						40.10	10.61	29.49		2.1
S-7	11/16/1999	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	3.68						40.10	10.90	29.20		2.3
S-7	02/02/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<5.00						40.10	10.30	29.80		2.1
S-7	05/09/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						40.10	10.25	29.85		2.7
S-7	08/03/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						40.10	10.65	29.45		2.5
S-7	11/15/2000	<50.0	< 0.500	< 0.500	< 0.500	< 0.500	<2.50						40.10	10.53	29.57		4.6
S-7	02/14/2001	Well inac	cessible										40.10				
S-7	05/31/2001	<50	< 0.50	< 0.50	< 0.50	0.77		4.6					40.10	9.46	30.64		2.1
S-7	08/15/2001	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					40.10	10.93	29.17		2.0
S-7	12/31/2001	<50	< 0.50	< 0.50	< 0.50	< 0.50		6.0					40.10	9.14	30.96		3.0
S-7	02/06/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					40.10	8.61	31.49		3.2
S-7	06/04/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					40.10	10.41	29.69		0.9
S-7	07/25/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					39.91	10.37	29.54		1.1
S-7	11/27/2002	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					39.91	10.52	29.39		
S-7	01/30/2003	<50	< 0.50	< 0.50	< 0.50	< 0.50		<5.0					39.91	9.38	30.53		
S-7	06/03/2003	<50	< 0.50	< 0.50	< 0.50	<1.0		0.72					39.91	10.18	29.73		
S-7	08/08/2003	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.91	10.43	29.48		
S-7	11/13/2003	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.91	10.39	29.52		
S-7	02/04/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.91	9.17	30.74		
S-7	05/12/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.91	10.20	29.71		
S-7	08/23/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72 f	10.53	29.19		
S-7	12/01/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	10.36	29.36		
S-7	02/07/2005	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	8.78	30.94		
S-7	05/02/2005	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	9.46	30.26		

Well ID	Date	TPHg	В	Т	Ε	X	MTBE 8020	MTBE 8260	TBA	DIPE	ETBE	TAME	тос	Depth to Water	GW Elevation	SPH Thickness	DO Reading
		(µg/Ľ)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)
S-7	08/04/2005	Well pave	ed over														
S-7	11/16/2005	1															
S-7	03/02/2006																
S-7	05/31/2006	-															
S-7	08/29/2006	Well pave	ed over														
S-7	12/06/2006	-															
S-7	01/30/2007	Well pave	ed over														
S-7	05/15/2007	Well pave	ed over														
S-7	08/29/2007	Well pave	ed over														
S-7	11/29/2007	Well pave	ed over														
S-7	02/21/2008	-															
S-7	05/06/2008	Well pave	ed over														
S-7	08/27/2008	Well pave	ed over														
S-7	11/24/2008	Well pave	ed over														
S-7	01/28/2009	1															
S-7	05/11/2011	Well pav	ed over														
S-8	05/10/2004												40.52	10.85	29.67		
5-8 S-8			 <13	 <13		 <25		 2 E00					40.52 40.52	10.85	29.67 29.57		
5-8 S-8	05/12/2004	<1,300	15	<13 <13	<13	<25 <25		2,500		 <50	 <50				29.37 29.12		
	08/23/2004	1,300			<13	-		2,500	570			<50	40.52	11.40			
S-8	12/01/2004	1,400 h	<13	<13 27	<13 290	<25 100		2,700 370					40.52	11.10	29.42		
S-8 S-8	02/07/2005	6,400 6,200	240 160	27	290 200	100 74		370 190					40.52 40.52	10.22 10.05	30.30 30.47		
5-8 S-8	05/02/2005	6,300 2,500	130	23 7.5	200 <6.0	74 14		190 290	 92	<8.0	<8.0	 <8.0	40.52 40.52	10.05	30.47 29.64		
5-8 S-8	08/04/2005	2,500 27,700	43.2	7.5 4.36	<0.0 637	14		290 638					40.52 40.52	10.88	29.64 29.24		
5-8 S-8	11/16/2005	27,700 9,900	45.2 160	4.56 13	637 490	530		638 110					40.52 40.52	8.85	29.24 31.67		
5-8 S-8	03/02/2006	,	270	53.1										8.85 10.34	30.18		
5-8 S-8	05/31/2006	14,300 14,700	270 107	53.1 9.42	283 196	246 195		102 i 278	 36.1	 <0.500	 <0.500	 <0.500	40.52 40.52	10.34 11.17	30.18 29.35		
	08/29/2006					195 110											
S-8	12/06/2006	7,800 7,500	150 220	8.6 18	120 180	110 96		200 170					40.52	11.21 10.72	29.31		
S-8	01/30/2007	7,500	220										40.52		29.80		
S-8	05/15/2007	9,600 j		24	160	112		130					40.52	10.50	30.02		
S-8	08/29/2007												40.52	11.44	29.11	0.04	
S-8	08/30/2007	6,100 j	35	2.7	140	234		170	820	<4.0	<4.0	<4.0	40.52	11.37	29.25	0.13	

							MTBE	MTBE						Depth to	GW	SPH	DO
Well ID	Date	TPHg	В	Т	Ε	X	8020	8260	TBA	DIPE	ETBE	TAME	ТОС	Water	Elevation		Reading
		(µg/L)	(ft MSL)	(ft TOC)	(ft MSL)	(ft)	(ppm)										
S-8	09/25/2007												40.52	11.56	29.22	0.32	
S-8	10/29/2007												40.52	11.23	29.50	0.26	
S-8	11/29/2007												40.52	11.08	29.60	0.20	
S-8	12/11/2007												40.52	10.61	30.03	0.15	
S-8	01/24/2008												40.52	9.61	30.97	0.08	
S-8	02/21/2008												40.52	9.11	31.43	0.03	
S-8	03/20/2008												40.52	10.22	30.40	0.12	
S-8	04/30/2008												40.52	10.91	29.67	0.07	
S-8	05/06/2008												40.52	10.50	30.05	0.04	
S-8	06/04/2008												40.52	11.34	29.24	0.07	
S-8	07/29/2008												40.52	11.83	28.71	0.03	
S-8	08/27/2008												40.52	11.40	29.14	0.03	
S-8	09/30/2008												40.52	12.08	28.46	0.03	
S-8	10/31/2008												40.52	11.35	29.37	0.25	
S-8	11/24/2008												40.52	10.79	29.89	0.20	
S-8	12/30/2008												40.52	8.90	31.75	0.16	
S-8	01/14/2009												40.52	9.87	30.83	0.22	
S-8	01/28/2009												40.52	9.52	31.10	0.13	
S-8	03/31/2009												40.52	8.56	32.11	0.19	
S-8	04/21/2009												40.52	8.90	31.75	0.16	
S-8	05/26/2009												40.52	9.04	31.57	0.11	
S-8	06/30/2009												40.52	10.28	30.32	0.10	
S-8	07/23/2009												40.52	10.37	30.25	0.13	
S-8	08/31/2009												40.52	10.78	29.80	0.08	
S-8	11/24/2009												40.52	9.73	30.84	0.06	
S-8	05/26/2010	59,000	150	32	2,100	4,400		78					40.52	7.59	32.93	0.00	
S-8	11/30/2010												40.52	8.34	32.23	0.06	
S-8	02/10/2011												40.52	8.28	32.30	0.08	
<b>S-8</b>	05/11/2011												40.52	8.39	32.15	0.02	
S-9	05/10/2004												39.72	10.34	29.38		
S-9	05/12/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	10.42	29.30		
S-9	08/23/2004	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	11.32	28.40		

#### GROUNDWATER DATA SHELL-BRANDED SERVICE STATION 999 SAN PABLO AVENUE, ALBANY, CALIFORNIA

Well ID	Date	TPHg (µg/L)	В (µg/L)	Τ (μg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (μg/L)	MTBE 8260 (μg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	GW Elevation (ft MSL)	SPH Thickness (ft)	DO Reading (ppm)
S-9	12/01/2004	Unable to	locate										39.72				
S-9	02/07/2005	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	8.74	30.98		
S-9	05/02/2005	Well inac	cessible										39.72				
S-9	08/04/2005	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	8.79	30.93		
S-9	11/16/2005	<50.0	< 0.500	< 0.500	< 0.500	< 0.500		< 0.500					39.72	10.30	29.42		
S-9	03/02/2006	<50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50					39.72	5.86	33.86		
S-9	05/31/2006	<50.0	< 0.500	< 0.500	< 0.500	0.540		< 0.500					39.72	9.85	29.87		
S-9	08/29/2006	<50.0	< 0.500	< 0.500	< 0.500	< 0.500		< 0.500					39.72	10.75	28.97		
S-9	12/06/2006	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	10.60	29.12		
S-9	01/30/2007	<50	< 0.50	< 0.50	< 0.50	<1.0		< 0.50					39.72	10.45	29.27		
S-9	05/15/2007	61 j,k	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	10.15	29.57		
S-9	08/29/2007	71 j	< 0.50	<1.0	1.3	2.1		<1.0	<10	<2.0	<2.0	<2.0	39.72	10.96	28.76		
S-9	11/29/2007	Well inac	cessible										39.72				
S-9	02/21/2008	<50 j	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	7.36	32.36		
S-9	05/06/2008	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	10.49	29.23		
S-9	08/27/2008	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	11.19	28.53		
S-9	11/24/2008	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	10.91	28.81		
S-9	01/28/2009	Well inac	cessible										39.72				
S-9	05/26/2009	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	10.20	29.52		
S-9	11/24/2009	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	10.52	29.20		
S-9	05/26/2010	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	7.09	32.63		
S-9	11/30/2010	<50	< 0.50	<1.0	<1.0	<1.0		<1.0					39.72	7.42	32.30		
S-9	05/11/2011	Well inac	ccessible										39.72				

Notes::

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8015 unless otherwise noted.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to May 31, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary-butyl ether

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B

DIPE = Di-isopropyl ether analyzed by EPA Method 8260B

ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B

TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B

TOC = Top of casing elevation, in feet relative to mean sea level

#### GROUNDWATER DATA SHELL-BRANDED SERVICE STATION 999 SAN PABLO AVENUE, ALBANY, CALIFORNIA

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Well ID	Date	TPHg (µg/L)	B (µg/L)	Т (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TOC (ft MSL)	Depth to Water (ft TOC)	Elevation	SPH Thickness (ft)	DO Reading (ppm)	
SPH = Sepa	arate-phase	hydrocart	oons															
GW = Grou	undwater	-																
DO = Disso	olved oxyge	en																
$\mu g/L = Mic$	crograms pe	er liter																
ft = Feet																		
ppm = Part	ts per millio	on																
MSL = Me	an sea level	l																
< x = Not d	etected at re	eporting li	mit x															
= Not ap	pplicable																	
(D) = Dupl	icate sample	e																
a = Sample	analyzed f	or total dis	solved sc	olids (450	mg/L).													
b = Surroga	ate recovery	y outside Ç	QC limits	due to ma	atrix effe	ct												
c = Chroms	atogram nat	ttern indic	ated an u	nidentifie	d hydrod	carbon												

c = Chromatogram pattern indicated an unidentified hydrocarbon.

- d = Analyzed outside of EPA recommended hold time
- e = Concentration is an estimate value above the linear quantitation range.
- f = Top of casing elevation lowered 0.19 feet on June 22, 2004 due to wellhead maintenance.
- g = Hydrocarbon reported does not match the laboratory standard.
- h = Quantity of unknown hydrocarbon(s) in sample based on gasoline.
- i = Secondary ion abundances were outside method requirements. Identification based on analytical judgement.
- j = Analyzed by EPA Method 8015B (M).
- k = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample based upon the specified standard.
- 1 = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

m = Analyte was present in the associated method blank.

When separate-phase hydrocarbons are present, ground water elevation is adjusted using the relation:

Corrected ground water elevation = Top-of-casing elevation - depth to water + (0.8 x hydrocarbon thickness).

Ownership of well S-5 has been transferred to Arco.

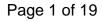
Beginning July 25, 2002 depth to waters referenced to Top of Casing.

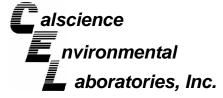
Site surveyed January 9, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Wells S-8 and S-9 surveyed May 11, 2004 by Virgil Chavez Land Surveying of Vallejo, CA.

## **APPENDIX E**

## LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION







May 24, 2011

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

# Subject: Calscience Work Order No.: 11-05-0777 Client Reference: BP 2035

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/12/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

Richard Villey.

Calscience Environmental Laboratories, Inc. Richard Villafania Project Manager

NELAP ID: 03220CA · DoD-ELAP ID: L10-41 · CSDLAC ID: 10109 · SCAQMD ID: 93LA0830 7440 Lincoln Way, Garden Grove, CA 92841-1427 · TEL:(714) 895-5494 · FAX: (714) 894-7501

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Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642 Date Received: Work Order No: Preparation: Method: 05/12/11 11-05-0777 EPA 5030C EPA 8015B (M)

Page 1 of 2

Project: BP 2035

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Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4		11-05-0777-1-F	05/11/11 10:50	Aqueous	GC 4	05/14/11	05/14/11 07:43	110514B01
Parameter	<u>Result</u>	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	73	38-134						
MW-7		11-05-0777-2-Е	05/11/11 09:55	Aqueous	GC 4	05/17/11	05/17/11 19:06	110517B01
Comment(s): -LW Quantitated			55		11-2-			
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	84	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	74	38-134						
MW-8		11-05-0777-3-F	05/11/11 11:10	Aqueous	GC 4	05/14/11	05/14/11 08:45	110514B01
Comment(s): -LW Quantitated	l against gasoline.							
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	1200	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	74	38-134						
MW-9		11-05-0777-4-F	05/11/11 10:20	Aqueous	GC 4	05/14/11	05/14/11 08:14	110514B01
Parameter	Pocult	DI	DE	Quel	Linito			
Parameter	<u>Result</u>	<u>RL</u> 50	<u>DF</u> 1	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	50	I		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	74	38-134						

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



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## Page 3 of 19





Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642 Date Received: Work Order No: Preparation: Method: 05/12/11 11-05-0777 EPA 5030C EPA 8015B (M)

Page 2 of 2

## Project: BP 2035

- ]							-	
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW-1		11-05-0777-5-E	05/11/11 11:55	Aqueous	GC 4	05/17/11	05/17/11 20:38	110517B01
Comment(s): -LW Quantitated	against gasoline.							
Parameter	<u>Result</u>	<u>RL</u>	DF	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	1600	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		Qual				
1,4-Bromofluorobenzene	82	38-134						
S-5		11-05-0777-6-E	05/11/11 09:35	Aqueous	GC 4	05/17/11	05/17/11 20:08	110517B01
Comment(s): -LW Quantitated								
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	1500	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		Qual				
1,4-Bromofluorobenzene	90	38-134						
Method Blank		099-12-695-1,073	N/A	Aqueous	GC 4	05/14/11	05/14/11 00:33	110514B01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	50	1	<u>Quai</u>	ug/L			
Casoline Range Organics (CO-CTZ)		00			ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	73	38-134						
Method Blank		099-12-695-1,074	N/A	Aqueous	GC 4	05/17/11	05/17/11 11:24	110517B01
			55	<b>.</b> .				
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	50	1		ug/L			
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>				
1,4-Bromofluorobenzene	105	38-134						

 $\label{eq:RL-Reporting Limit} RL - Reporting Limit \ , \qquad DF - Dilution Factor \ , \qquad Qual - Qualifiers$ 

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

	A A A A A A A A A A A A A A A A A A A
Date Received:	05/12/11
Work Order No:	11-05-0777
Preparation:	EPA 5030C
Method:	EPA 8260B
Units:	ug/L

g/L Page 1 of 3

Project: BP 2035

Client Sample Number				ıb Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ Analy		QC Batch ID
MW-4			11-05-0	0777-1-A	05/11/11 10:50	Aqueous	GC/MS BB	05/16/11	05/17 09:1		110516L03
Parameter	<u>Result</u>	<u>RL</u>	DF	<u>Qual</u>	Parameter			<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual
Benzene	ND	0.50	1		Methyl-t-Buty	l Ether (MTB	BE)	0.75	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Al	cohol (TBA)		ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl E	ther (DIPE)		ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl	Ether (ETBE	)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Me	ethyl Ether (T	AME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol			ND	300	1	
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits	Qua	<u>al</u>	Surrogates:			<u>REC (%)</u>	<u>Control</u> <u>Limits</u>	<u>(</u>	Qual
1,2-Dichloroethane-d4	95	80-128			Dibromofluor	omethane		91	80-127		
Toluene-d8	101	80-120			1,4-Bromoflu	orobenzene		93	68-120		
MW-7			11-05-0	0777-2-A	05/11/11 09:55	Aqueous	GC/MS BB	05/16/11	05/17 09:4		110516L03
Parameter	<u>Result</u>	<u>RL</u>	DF	Qual	Parameter			Result	<u>RL</u>	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Buty	l Ether (MTB	BE)	ND	0.50	1	
1.2-Dibromoethane	ND	0.50	1		Tert-Butyl Al	· · ·	-)	ND	10	1	
1.2-Dichloroethane	ND	0.50	1		Diisopropyl E	( )		ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl	· · ·	)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Me	•	,	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	, (	,	ND	300	1	
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits	Qua	<u>al</u>	Surrogates:			<u>REC (%)</u>	<u>Control</u> <u>Limits</u>	<u>(</u>	Qual
1,2-Dichloroethane-d4	98	80-128			Dibromofluor	omethane		96	80-127		
Toluene-d8	100	80-120			1,4-Bromoflu	orobenzene		103	68-120		
MW-8			11-05-0	0777-3-A	05/11/11 11:10	Aqueous	GC/MS BB	05/16/11	05/17 01:0		110516L01
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	Parameter			Result	<u>RL</u>	<u>DF</u>	Qual
Benzene	290	5.0	10		Methyl-t-Buty	l Ether (MTB	BE)	ND	4.0	8	
1,2-Dibromoethane	ND	4.0	8		Tert-Butyl Al	cohol (TBA)	-	ND	80	8	
1,2-Dichloroethane	ND	4.0	8		Diisopropyl E	ther (DIPE)		ND	4.0	8	
Ethylbenzene	57	4.0	8		Ethyl-t-Butyl	Ether (ETBE	)	ND	4.0	8	
Toluene	ND	4.0	8		Tert-Amyl-Me	ethyl Ether (T	AME)	ND	4.0	8	
Xylenes (total)	4.5	4.0	8		Ethanol			ND	2400	8	
Surrogates:	<u>REC (%)</u>	Control Limits	Qua	al	Surrogates:			<u>REC (%)</u>	Control Limits	<u>c</u>	Qual
1,2-Dichloroethane-d4	110	80-128			Dibromofluor	omethane		96	80-127		
Toluene-d8	98	80-120			1,4-Bromoflu			98	68-120		
					.,						

RL - Reporting Limit , DF - Dilution Factor

Qual - Qualifiers ,

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

	A DOGO I
Date Received:	05/12/11
Work Order No:	11-05-0777
Preparation:	EPA 5030C
Method:	EPA 8260B
Units:	ug/L

Project: BP 2035

Client Sample Number				ab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ Analy		QC Batch ID
MW-9			11-05-	0777-4-A	05/11/11 10:20	Aqueous	GC/MS BB	05/16/11	05/17 01:3		110516L01
Parameter	<u>Result</u>	<u>RL</u>	DF	<u>Qual</u>	Parameter			<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual
Benzene	ND	0.50	1		Methyl-t-Buty	l Ether (MTB	BE)	1.2	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Ald	cohol (TBA)		ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl E	ther (DIPE)		ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl	Ether (ETBE	)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Me	ethyl Ether (T	AME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol			ND	300	1	
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits	<u>Qua</u>	al	Surrogates:			<u>REC (%)</u>	<u>Control</u> <u>Limits</u>	<u>(</u>	<u>Qual</u>
1,2-Dichloroethane-d4	94	80-128			Dibromofluor	omethane		90	80-127		
Toluene-d8	99	80-120			1,4-Bromoflu	orobenzene		96	68-120		
RW-1			11-05-	0777-5-B	05/11/11 11:55	Aqueous	GC/MS BB	05/17/11	05/17 17:		110517L01
Parameter	Result	<u>RL</u>	DF	Qual	Parameter			Result	<u>RL</u>	DF	Qual
Benzene	79	2.0	4		Methyl-t-Buty	l Ether (MTB	BE)	ND	2.0	4	
1,2-Dibromoethane	ND	2.0	4		Tert-Butyl Ald	cohol (TBA)	,	ND	40	4	
1,2-Dichloroethane	ND	2.0	4		Diisopropyl E	ther (DIPE)		ND	2.0	4	
Ethylbenzene	ND	2.0	4		Ethyl-t-Butyl	Ether (ETBE	)	ND	2.0	4	
Toluene	ND	2.0	4		Tert-Amyl-Me	ethyl Ether (T	AME)	ND	2.0	4	
Xylenes (total)	2.0	2.0	4		Ethanol			ND	1200	4	
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits	<u>Qua</u>	al	Surrogates:			<u>REC (%)</u>	<u>Control</u> Limits	<u>(</u>	<u>Qual</u>
1,2-Dichloroethane-d4	96	80-128			Dibromofluor	omethane		89	80-127		
Toluene-d8	102	80-120			1,4-Bromoflu	orobenzene		101	68-120		
S-5			11-05-	0777-6-A	05/11/11 09:35	Aqueous	GC/MS BB	05/16/11	05/17 02:2		110516L01
Parameter	Result	RL	DF	<u>Qual</u>	Parameter			Result	RL	DF	Qual
Benzene	19	0.50	1		Methyl-t-Buty	l Ether (MTB	BE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Ald	cohol (TBA)	-	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl E	ther (DIPE)		ND	0.50	1	
Ethylbenzene	9.7	0.50	1		Ethyl-t-Butyl	Ether (ETBE	)	ND	0.50	1	
Toluene	0.58	0.50	1		Tert-Amyl-Me	ethyl Ether (T	AME)	ND	0.50	1	
Xylenes (total)	2.2	0.50	1		Ethanol			ND	300	1	
Surrogates:	<u>REC (%)</u>	Control Limits	<u>Qua</u>	al	Surrogates:			<u>REC (%)</u>	<u>Control</u> Limits	<u>c</u>	<u>Qual</u>
1.2-Dichloroethane-d4	98	80-128			Dibromofluor	omethane		92	80-127		
Toluene-d8	103	80-120			1,4-Bromoflu			103	68-120		
		20.20			., 1 21011010	0.00012010			20.20		

RL - Reporting Limit , DF - Dilution Factor

or , Qual - Qualifiers



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

Date Received: 05/12/11 Work Order No: 11-05-0777 Preparation: Method: Units:

EPA 5030C EPA 8260B ug/L

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Project: BP 2035

Client Sample Number				b Sample	Date/Time	Matrix	Instrument	Date Prepared	Date/ Analy		QC Batch ID
Method Blank				Number -703-1,710	Collected N/A	Aqueous		-	05/16 20:	6/11	110516L01
Parameter	<u>Result</u>	<u>RL</u>	DE	Qual	Parameter			<u>Result</u>	<u>RL</u>	DE	<u>Qual</u>
Benzene	ND	0.50	1		Methyl-t-Buty	/I Ether (MTE	BE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Al		-)	ND	10	1	
1.2-Dichloroethane	ND	0.50	1		Diisopropyl E	· · ·		ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl		)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Me			ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol		/ (WIE)	ND	300	1	
, ,	<u>REC (%)</u>	Control	' Qua	I	Surrogates:			<u>REC (%)</u>	Control		Qual
Surrogates:	<u>REC (%)</u>	Limits	Qua	<u>1</u>	Surroyales.			<u>IXLO (70)</u>	Limits	<u> </u>	<u>zuai</u>
1.2-Dichloroethane-d4	96	80-128			Dibromofluor	omothana		97	80-127		
,	107	80-120						93	68-127		
Toluene-d8	107	80-120			1,4-Bromoflu						
Method Blank			099-12-	703-1,711	N/A	Aqueous	GC/MS BB	05/16/11	05/17 05::		110516L03
Parameter	Result	RL	DE	Qual	Parameter			Result	RL	DF	Qual
				<u>Quu</u>							
Benzene	ND	0.50	1		Methyl-t-Buty	· ·	SE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Al			ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl E		<b>`</b>	ND	0.50	1	
Ethylbenzene	ND	0.50	1		, ,	Ether (ETBE	,	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Me	ethyl Ether (I	AME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol			ND	300	1	
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits	<u>Qua</u>	<u>I</u>	Surrogates:			<u>REC (%)</u>	<u>Control</u> <u>Limits</u>	<u>(</u>	Qual
1,2-Dichloroethane-d4	105	80-128			Dibromofluor	omethane		93	80-127		
Toluene-d8	99	80-120			1,4-Bromoflu	orobenzene		95	68-120		
Method Blank			099-12-	-703-1,712			GC/MS BB	05/17/11	05/17 14:		110517L01
Parameter	Result	RL	DF	Qual	Parameter			Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Buty	/l Ether (MTB	(F)	ND	0.50	1	
1.2-Dibromoethane	ND	0.50	1		Tert-Butyl Al		·-)	ND	0.50 10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl E	```		ND	0.50	1	
Ethylbenzene	ND	0.50	1			Ether (ETBE	)	ND	0.50	1	
Toluene	ND	0.50	1			ethyl Ether (T	,	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol		,)	ND	0.50 300	1	
• • • •		Control	-					REC (%)	Control	-	Qual
<u>Surrogates:</u>	<u>REC (%)</u>	Limits	<u>Qua</u>	<u>1</u>	Surrogates:				Limits	<u> </u>	<u>kuai</u>
1,2-Dichloroethane-d4	99	80-128			Dibromofluor	omethane		96	80-127		
Toluene-d8	92	80-120			1,4-Bromoflu	orobenzene		93	68-120		
					,						

RL - Reporting Limit , DF - Dilution Factor

Qual - Qualifiers ,

MM





Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642	Date Received: Work Order No: Preparation: Method:	05/12/11 11-05-0777 EPA 5030C EPA 8015B (M)
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Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
11-05-0700-4	Aqueous	GC 4	05/14/11		05/14/11	110514S01
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	91	81	38-134	11	0-25	

RPD - Relative Percent Difference, CL - Control Limit

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Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212	Date Received: Work Order No:	05/12/11 11-05-0777
Chico, CA 95926-2642	Preparation:	EPA 5030C
	Method:	EPA 8015B (M)

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
11-05-0967-1	Aqueous	GC 4	05/17/11		05/17/11	110517S01
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	78	87	38-134	11	0-25	

RPD - Relative Percent Difference, CL - Control Limit

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5494 · FAX: (714) 894-7501





Date Received: Work Order No: Preparation: Method:	05/12/11 11-05-0777 EPA 5030C EPA 8260B
	217102003
	Work Order No: Preparation:

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
11-05-0603-8	Aqueou	us GC/MS BB	05/16/11		05/16/11	110516S01
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	Qualifiers
Benzene	98	102	76-124	4	0-20	
Carbon Tetrachloride	98	104	74-134	5	0-20	
Chlorobenzene	99	102	80-120	3	0-20	
1,2-Dibromoethane	101	101	80-120	1	0-20	
1,2-Dichlorobenzene	101	103	80-120	2	0-20	
1,2-Dichloroethane	96	103	80-120	6	0-20	
Ethylbenzene	99	96	78-126	3	0-20	
Toluene	97	96	80-120	1	0-20	
Trichloroethene	96	100	77-120	3	0-20	
Methyl-t-Butyl Ether (MTBE)	116	114	67-121	2	0-49	
Tert-Butyl Alcohol (TBA)	172	131	36-162	27	0-30	LM,AY
Diisopropyl Ether (DIPE)	102	91	60-138	12	0-45	
Ethyl-t-Butyl Ether (ETBE)	105	103	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	99	102	65-120	3	0-20	
Ethanol	106	93	30-180	13	0-72	

RPD - Relative Percent Difference, CL - Control Limit

MM

7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 · FAX: (714) 894-7501





Date Received: Work Order No: Preparation: Method:	05/12/11 11-05-0777 EPA 5030C EPA 8260B
Metriou.	EFA 0200B
	Work Order No: Preparation:

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
11-05-0967-8	Aqueous	GC/MS BB	05/17/11		05/17/11	110517S01
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	Qualifiers
Benzene	102	99	76-124	3	0-20	
Carbon Tetrachloride	105	103	74-134	2	0-20	
Chlorobenzene	105	103	80-120	1	0-20	
1,2-Dibromoethane	106	102	80-120	4	0-20	
1,2-Dichlorobenzene	109	109	80-120	0	0-20	
1,2-Dichloroethane	100	100	80-120	0	0-20	
Ethylbenzene	104	107	78-126	3	0-20	
Toluene	102	101	80-120	1	0-20	
Trichloroethene	103	110	77-120	7	0-20	
Methyl-t-Butyl Ether (MTBE)	93	101	67-121	8	0-49	
Tert-Butyl Alcohol (TBA)	202	128	36-162	45	0-30	LM,BA,A`
Diisopropyl Ether (DIPE)	86	88	60-138	3	0-45	
Ethyl-t-Butyl Ether (ETBE)	89	90	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	92	91	65-120	1	0-20	
Ethanol	122	118	30-180	3	0-72	

RPD - Relative Percent Difference, CL - Control Limit

MM

7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 · FAX: (714) 894-7501

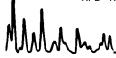




Date Received:	N/A
Work Order No:	11-05-0777
Preparation:	EPA 5030C
Method:	EPA 8015B (M)
	Work Order No: Preparation:

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batc Number	h
099-12-695-1,073	Aqueous	GC 4	05/14/11	05/14/11	110514B01	
Parameter	<u>LCS %</u>	REC LCSD	<u>%REC %F</u>	REC CL RPD	<u>RPD CL</u>	Qualifiers
Gasoline Range Organics (C6-C12)	85	91	7	78-120 7	0-20	

RPD - Relative Percent Difference, CL - Control Limit



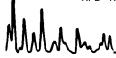




Date Received:	N/A
Work Order No:	11-05-0777
Preparation:	EPA 5030C
Method:	EPA 8015B (M)
	Work Order No: Preparation:

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bate Number	h
099-12-695-1,074	Aqueous	GC 4	05/17/11	05/17/11	110517B01	
Parameter	LCS %	REC LCSD	<u>%REC %F</u>	REC CL RPE	RPD CL	<b>Qualifiers</b>
Gasoline Range Organics (C6-C12)	93	95	7	8-120 2	0-20	

RPD - Relative Percent Difference, CL - Control Limit







Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642 Date Received: Work Order No: Preparation: Method: N/A 11-05-0777 EPA 5030C EPA 8260B

### Project: BP 2035

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Da Anal		LCS/LCSD I Numbe	
099-12-703-1,710	Aqueous	GC/MS BB	05/16/11	05/16/11		110516L	01
Parameter	LCS %REC	LCSD %REC	<u>%REC CL</u>	ME CL	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
Benzene	102	101	80-120	73-127	0	0-20	
Carbon Tetrachloride	102	107	74-134	64-144	5	0-20	
Chlorobenzene	106	106	80-120	73-127	1	0-20	
1,2-Dibromoethane	103	105	79-121	72-128	2	0-20	
1,2-Dichlorobenzene	107	108	80-120	73-127	1	0-20	
1,2-Dichloroethane	99	101	80-120	73-127	2	0-20	
Ethylbenzene	106	111	80-120	73-127	5	0-20	
Toluene	104	104	80-120	73-127	0	0-20	
Trichloroethene	107	104	79-127	71-135	2	0-20	
Methyl-t-Butyl Ether (MTBE)	97	111	69-123	60-132	13	0-20	
Tert-Butyl Alcohol (TBA)	100	103	63-123	53-133	3	0-20	
Diisopropyl Ether (DIPE)	104	102	59-137	46-150	2	0-37	
Ethyl-t-Butyl Ether (ETBE)	103	114	69-123	60-132	10	0-20	
Tert-Amyl-Methyl Ether (TAME)	102	104	70-120	62-128	2	0-20	
Ethanol	106	110	28-160	6-182	4	0-57	

Total number of LCS compounds: 15

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

n M

RPD - Relative Percent Difference, CL - Control Limit





Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642 Date Received: Work Order No: Preparation: Method: N/A 11-05-0777 EPA 5030C EPA 8260B

### Project: BP 2035

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Da Anal <u>y</u>		LCS/LCSD Batch Number			
099-12-703-1,711	Aqueous	GC/MS BB	05/16/11	05/17/	/11	110516L0	)3		
Parameter	LCS %REC	LCSD %REC	<u>%REC CL</u>	ME CL	<u>RPD</u>	RPD CL	<u>Qualifiers</u>		
Benzene	93	98	80-120	73-127	6	0-20			
Carbon Tetrachloride	97	104	74-134	64-144	6	0-20			
Chlorobenzene	102	101	80-120	73-127	1	0-20			
1,2-Dibromoethane	105	104	79-121	72-128	1	0-20			
1,2-Dichlorobenzene	100	101	80-120	73-127	1	0-20			
1,2-Dichloroethane	93	98	80-120	73-127	6	0-20			
Ethylbenzene	102	101	80-120	73-127	1	0-20			
Toluene	100	100	80-120	73-127	0	0-20			
Trichloroethene	105	111	79-127	71-135	6	0-20			
Methyl-t-Butyl Ether (MTBE)	94	102	69-123	60-132	9	0-20			
Tert-Butyl Alcohol (TBA)	99	100	63-123	53-133	2	0-20			
Diisopropyl Ether (DIPE)	98	100	59-137	46-150	2	0-37			
Ethyl-t-Butyl Ether (ETBE)	97	98	69-123	60-132	0	0-20			
Tert-Amyl-Methyl Ether (TAME)	89	96	70-120	62-128	7	0-20			
Ethanol	112	107	28-160	6-182	4	0-57			

Total number of LCS compounds: 15

Total number of ME compounds : 0

n M

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

RPD - Relative Percent Difference, CL - Control Limit





Broadbent & Associates, Inc. 1324 Mangrove Ave, Ste 212 Chico, CA 95926-2642 Date Received: Work Order No: Preparation: Method: N/A 11-05-0777 EPA 5030C EPA 8260B

### Project: BP 2035

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Da Anal <u>y</u>		LCS/LCSD Batch Number			
099-12-703-1,712	Aqueous	GC/MS BB	05/17/11	05/17/	/11	110517L0	01		
Parameter	LCS %REC	LCSD %REC	<u>%REC CL</u>	ME CL	<u>RPD</u>	RPD CL	<u>Qualifiers</u>		
Benzene	103	105	80-120	73-127	2	0-20			
Carbon Tetrachloride	110	107	74-134	64-144	3	0-20			
Chlorobenzene	112	111	80-120	73-127	1	0-20			
1,2-Dibromoethane	111	103	79-121	72-128	8	0-20			
1,2-Dichlorobenzene	112	111	80-120	73-127	1	0-20			
1,2-Dichloroethane	103	105	80-120	73-127	2	0-20			
Ethylbenzene	111	115	80-120	73-127	4	0-20			
Toluene	105	108	80-120	73-127	2	0-20			
Trichloroethene	106	117	79-127	71-135	10	0-20			
Methyl-t-Butyl Ether (MTBE)	97	109	69-123	60-132	12	0-20			
Tert-Butyl Alcohol (TBA)	105	116	63-123	53-133	10	0-20			
Diisopropyl Ether (DIPE)	119	110	59-137	46-150	8	0-37			
Ethyl-t-Butyl Ether (ETBE)	104	98	69-123	60-132	6	0-20			
Tert-Amyl-Methyl Ether (TAME)	95	98	70-120	62-128	3	0-20			
Ethanol	110	122	28-160	6-182	10	0-57			

Total number of LCS compounds: 15

Total number of ME compounds : 0

n M

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

RPD - Relative Percent Difference, CL - Control Limit



hM

# **Glossary of Terms and Qualifiers**



Work Order Number: 11-05-0777

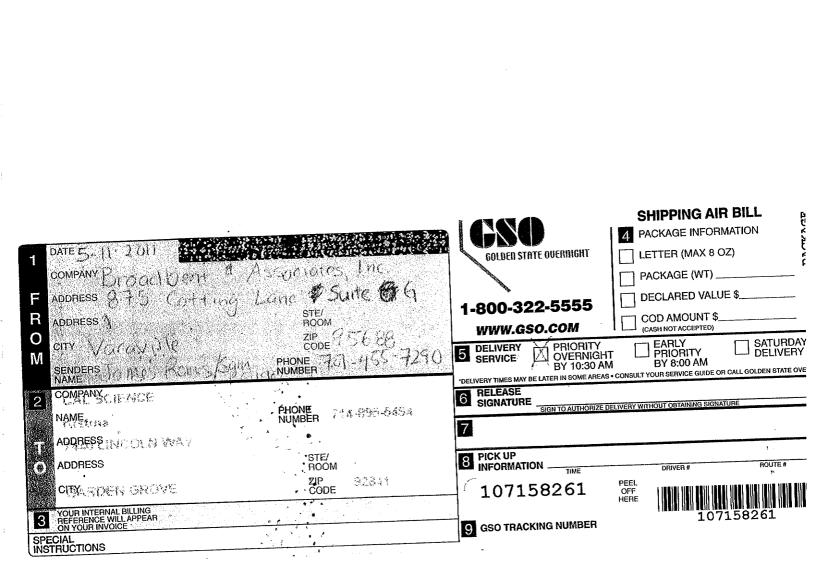
<u>Qualifier</u>	Definition
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.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

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

l	Atlant Richtreld		<b>tory Mar</b> Dject Name:				t P	rog	rar	n L	a'	) <b>C</b>	:hai		of C _{Req}						_(	67	-77	F	) P Rush TAT:		of No _X
	A BP affiliated company	BP/ARC Fac	cility No:									:	2035		Lab	Work	c Ord	ler Ni	umbe	er:							
Lab N	ame: Calscience			BP//	ARĊ	Facili	ity Ad	dress	:	1001	San F	Pablo	Avenu	е	•				Cons	ultant/	Contr	actor:		Broad	dbent & Associates,	Inc.	
Lab A	ddress: 7440 Lincoln Way			City	, Stat	e, Zil	P Coo	de:		Albar	ıy, CA								Cons	ultant/	Contra	actor I	Projec	t No:	06-88-610-40	1-880	
Lab P	M: Richard Villafania			Lead Regulatory Agency: ACEH Ad								Addre	ess:	1324	Mang	rove A	Ave. S	ste. 212, Chico, CA	95926								
Lab P	hone: 714-895-5494			California Global ID No.: T0600100081 Col								Cons	ultant/	Contra	actor I	PM:	Tom	Venus									
Lab S	hipping Accnt:		9225	Enfo	os Pro	oposa	al No:			005T	K-000	1							Phon	e:	530-5	66-14	00				
Lab B	ottle Order No:			Acc	ounti	ng Mo	ode:		Pro	vision	<u>_X</u>	00	с-ви		000	C-RM			Emai	EDD	То:	tvenu	s@br	oadbe	entinc.com		
Other	Info:			Stag	ge:	Exe	cute (	(4)	Ac	tivity:	Proj	ect S	Spend	1 (80	)				Invoid	ce To:		BP/	ARC	x	Contractor		
BP/AF	RC EBM: Chuck Carmel				Ma	trix		No	. Coi	ntain	ers /	Pres	ervati	ive			l	Requ	esteo	d Ana	lyse	5			Report Ty	pe & QC L	evel
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EBM I	Email:							Containers								_	ŝ		<u>ç</u>	ଚ					Full Data Pa	skage	
Lab No.	Sample Description	Date ວ ⁴	Time	Soil / Solid	Water / Liquid	Air / Vapor		Total Number of Con	Unpreserved	H ₂ SO4	HNO ₃	HCI	Methanol		GRO (8015)	BTEX (8260)	5 Oxys (8260)	EDB (8260)	1,2-DCA (8260)	Ethanol (8260)					Cor Note: If sample not c Sample" in comment and initial any preprir	s and single-s	trike out
۱	MW-4	5/#/11	1050		х			6				х			х	х	х	x	x	x							
2	MW-7		0955		х			6				х			х	х	х	x	x	x							
Ŀ	MW-8		1110		х			6				х			х	х	х	x	×	х							
4	MW-9		1020		х			6				х			х	x	х	х	х	х							
5	RW-1		1155		х			6				х			х	х	х	х	x	х							
ĺ¢.	S-5	V	0935		×			6				x			х	x	x	x	×	x							
7	TB-2035-11059 53	5][1/11		Ļ																					on held		
Samp	ler's Name: James Rin	~0~5				F	Relin	quisl	ned E	3y / A	ffilia	tion			Da			me			Acc	eptec	d By /		liation	Date	Time
Samp	ler's Company: BAT					J	M	10%	~ /	Ra					5-11-	-11	160	Ø			n	ing		r	- ua	5/12/11	19 :100 000
Shipment Method: 650 Ship Date: 6/11/11					(				/												]	,					
Shipm	nent Tracking No: 10715	8261																									9
Spec	ial Instructions:		450																				<u> </u>				9
	THIS LINE - LAB USE ONLY: Cus	tody Seals In Plac	ce: Yes / No		Tem	p Blai	nk: Y	es / N	0	C	ooler	Гетр	on Re	ceipt:			_°F/C	:	пТ	p Blan	k: Ye	s / No		MS	S/MSD Sample Subr	nitted: Yes /	No

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11

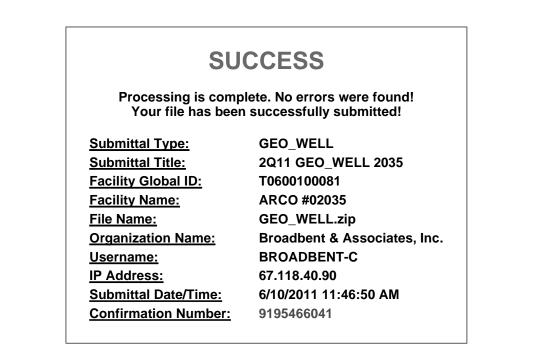
		Pa	ge 19 of 19
Calscience ·	44 C		
Environmental WORK ORDE	R #: 11 <b>-</b> U	<b>13-</b> 21	
Aboratories, Inc. SAMPLE RECEIPT	ORM	Cooler _	/_ of _/_
CLIENT: <u>BAI</u>		: 05/	12/11
<b>TEMPERATURE:</b> Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not			
Temperature $\underline{/} \cdot \underline{9} \circ \mathbf{C} + 0.5 \circ \mathbf{C}$ (CF) = $\underline{2} \cdot \underline{4} \circ \mathbf{C}$		<b>⊡</b> Sam∣	ple
□ Sample(s) outside temperature criteria (PM/APM contacted by:			
Sample(s) outside temperature criteria but received on ice/chilled on sa		pling.	
Received at ambient temperature, placed on ice for transport	oy Courier.		рС
Ambient Temperature:		Initi	al: _ <u></u>
CUSTODY SEALS INTACT:			
□ Cooler □ □ No (Not Intact) ☑ Not Pre	esent □ N//	A Initi	ial: <u> </u>
□ Sample □ □ No (Not Intact) ☑ Not Pre	·		al: $\underline{YL}$
SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples			
COC document(s) received complete			
Collection date/time, matrix, and/or # of containers logged in based on sample	labels.		
□ No analysis requested. □ Not relinquished. □ No date/time relinquishe	∍d.		3
Sampler's name indicated on COC			
Sample container label(s) consistent with COC			
Sample container(s) intact and good condition			
Proper containers and sufficient volume for analyses requested			
Analyses received within holding time			
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 h			
Proper preservation noted on COC or sample container	🖌		
Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace			
Tedlar bag(s) free of condensation			
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □E	าCores [®] 🗆 Tei	rraCores [®] E	]
Water: □VOA ☑VOĂh □VOAna₂ □125AGB □125AGBh □125A	\GBp □1AGE	B □1AGB <b>na</b>	₂ □1AGB <b>s</b>
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250	CGB <mark>s</mark> □1PB	B □500PB [	∃500PB <b>na</b>
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna	<u>،</u> ت ت	] [	
Air: □Tedlar [®] □Summa [®] Other: □ Trip Blank Lot#: <u>///</u> Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable B Preservative: h: HCL n: HNO ₃ na ₂ :Na ₂ S ₂ O ₃ na: NaOH p: H ₃ PO ₄ s: H ₂ SO ₄ znna: ZnAc ₂ +	D <u>425 A</u> Labele Bag E: Envelope	ed/Checked b Reviewed I	by:

## APPENDIX F

## GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

# GEOTRACKER ESI

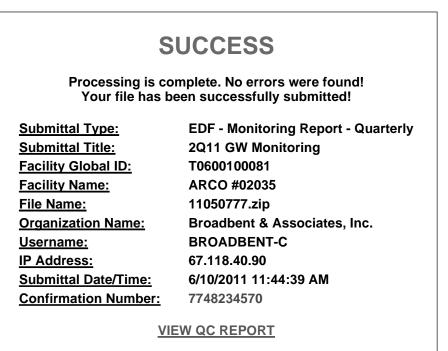
UPLOADING A GEO_WELL FILE



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# GEOTRACKER ESI

**UPLOADING A EDF FILE** 



VIEW DETECTIONS REPORT

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