

Atlantic Richfield Company

Chuck Carmel
Project Manager

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August 1, 2014

RECEIVED

By Alameda County Environmental Health at 3:05 pm, Aug 18, 2014

Re: Conceptual Site Model and Case Closure Request Second Addendum
Atlantic Richfield Company Station #4977
2770 Castro Valley Boulevard, Castro Valley, California
ACEH Case #RO0002436

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

Submitted by,



Chuck Carmel
Project Manager

Attachment



**CONCEPTUAL SITE MODEL AND CASE CLOSURE REQUEST SECOND ADDENDUM
Atlantic Richfield Company Station #4977
2770 Castro Valley Blvd.
Castro Valley, Alameda County, California**

Prepared for:

Mr. Chuck Carmel
Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583

Prepared by:

Broadbent & Associates, Inc.
4820 Business Center Drive
(707) 455-7290

August 1, 2014

No. 06-82-625



BROADBENT

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Creating Solutions. Building Trust.

August 1, 2014

Project No. 06-82-625

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

Attn.: Mr. Chuck Carmel

Re: Conceptual Site Model and Case Closure Request Second Addendum, Atlantic Richfield Company Station No. 4977, 2770 Castro Valley Boulevard, Castro Valley, California; ACEH Case No. RO0002436; GeoTracker Global ID # T0600100089

Dear Mr. Carmel:

On behalf of the Atlantic Richfield Company– (ARC, a BP affiliated company) Broadbent & Associates, Inc. (Broadbent) has prepared this *Conceptual Site Model and Case Closure Request Second Addendum* for the Atlantic Richfield Company (ARCO) Station No. 4977 (herein referred to as Station No. 4977), located at 2770 Castro Valley Boulevard in Castro Valley, California (Site). This CSM and CCR Addendum has been prepared in response to a request made by the Alameda County Environmental Health Agency (ACEH) in a meeting on July 31, 2014. The request included additional discussion and map representation of potential gasoline range organics (GRO) plume lengths based on the *Technical Justification for Groundwater Media-Specific Criteria* (Plume Length Guidance; State Water Resources Control Board, April 2012). In response to this request, potential plume lengths based on the average, 90th percentile, and maximum have been depicted on Drawing 1. Further discussion of the potential plume lengths, and how they relate to receptors is presented below.

Drawing 1 depicts the estimated GRO plume in the downgradient direction utilizing the average, 90th percentile, and maximum GRO plume length listed in Table 1 Plume Length Guidance. The nearest potential sensitive receptor, previously reported as a domestic well, located in the general downgradient direction is depicted on Drawing 1. The location of this well is based on information documented in Closure Solutions, Inc. *Sensitive Receptor Survey* (November 2011). As is shown on this drawing, the maximum GRO plume length noted in the Plume Length Guidance is not nearly long enough to reach this potential receptor, with a buffer distance of approximately 200 feet. Furthermore, GRO concentrations in Site wells exhibit a strong decreasing trend (Table 1) indicating a shrinking plume. Additionally, Site lithology consists primarily of clay, which would limit offsite migration of contaminants. Therefore, it is likely that the GRO plume size is less than the average plume length, and not close to the size of the maximum plume length. The combination of these factors indicates that the GRO plume at the Site does not pose a risk to the potential downgradient receptor.

Based on this evaluation and the data presented in the original *Conceptual Site Model and Case Closure Request* (Broadbent, 2014), we hereby recommend that a determination of No Further Action be made for this Site. Upon concurrence of this recommendation from the ACEH, closure activities including well decommissioning should be carried out.

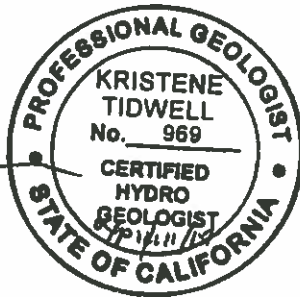


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Sincerely,
BROADBENT & ASSOCIATES, INC.

Kristene Tidwell, P.G., C.H.G.
Senior Hydrogeologist



Enclosures

- Drawing 1 Potential GRO Plume Lengths Based on LTCP Technical Justification
- Table 1 Summary of Groundwater Data: Relative Water Elevations and Laboratory Analyses

cc: Ms. Karel Detterman, Alameda County Environmental Health (Submitted via ACEH ftp site)
Mr. Kevin Brown, California Regional Water Quality Control Board - San Francisco Region
(Submitted via GeoTracker)
Electronic copy uploaded to GeoTracker

References

Broadbent & Associates, Inc., March 26, 2014. *Conceptual Site Model and Case Closure Request, ARCO Station #4977, 2770 Castro Valley Boulevard, Castro Valley, California.*

Broadbent & Associates, Inc., June 20, 2014. *Conceptual Site Model and Case Closure Request Addendum, ARCO Station #4977, 2770 Castro Valley Boulevard, Castro Valley, California.*

Closure Solutions, Inc., November 9, 2011. *Sensitive Receptor Survey, ARCO Station #4977, 2770 Castro Valley Boulevard, Castro Valley, California.*

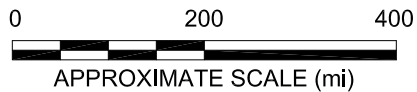
State Water Resources Control Board, August 17, 2012. *Low-Threat Underground Storage Tank Case Closure Policy.*

State Water Resources Control Board, April 24, 2012. *Technical Justification for Groundwater Media-Specific Criteria.*

LEGEND

- Monitor Well Location with GRO Concentration from October 9, 2013 sampling event ($\mu\text{g/L}$)
- Domestic Well Location
- - - Average GRO Contour ($\mu\text{g/L}$)*
- - - 90th Percentile GRO Contour ($\mu\text{g/L}$)*
- - - Maximum GRO Contour ($\mu\text{g/L}$)*

*100 $\mu\text{g/L}$ contour based on the plume lengths listed on Table 1 of the Technical Justification for Groundwater Plume Lengths, Indicator Constituents, Concentrations, and Buffer Distances (Separation Distances) to Receptors (State Water Resources Control Board Low-Threat UST Closure Policy Task Force, July 11, 2011).



1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-82-625 Date: 6/13/2014

Station #4977
2770 Castro Valley Blvd.
Castro Valley, California

Potential GRO Plume Lengths
Based on LTCP Technical Justification

Drawing

1

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

ARCO Service Station #4977, 2770 Castro Valley Blvd., Castro Valley, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-1															
4/19/2002	--	161.11	5.00	15.00	11.21	149.90	660	12	1.3	4.3	0.8	38	--	--	
9/27/2002	--		5.00	15.00	9.29	151.82	130	7.7	0.87	5.4	0.79	39	1.7	6.9	
12/16/2002	--		5.00	15.00	8.55	152.56	77	1.8	<0.50	0.69	<1.0	42	1.6	6.9	a
3/11/2003	--		5.00	15.00	8.07	153.04	140	9.8	<0.50	5.6	<0.50	20	1.4	7.4	
6/17/2003	--		5.00	15.00	8.31	152.80	510	60	1.4	81	<1.0	23	2.2	7	
9/18/2003	--		5.00	15.00	9.45	151.66	72	2.4	1.4	1.6	1.5	39	2.7	7	b
12/11/2003	P		5.00	15.00	8.80	152.31	79	1.5	<0.50	1.5	4.4	48	2.1	7.0	
03/11/2004	P	163.44	5.00	15.00	7.61	155.83	<50	1.3	<0.50	0.77	1.3	17	1.4	6.8	
06/02/2004	P		5.00	15.00	8.95	154.49	53	1.4	<0.50	0.93	<0.50	39	2.3	7.1	
09/22/2004	P		5.00	15.00	9.42	154.02	70	<0.50	<0.50	<0.50	<0.50	48	1.7	6.8	
12/15/2004	P		5.00	15.00	7.88	155.56	63	<0.50	<0.50	<0.50	<0.50	45	1.8	6.9	
03/07/2005	P		5.00	15.00	7.02	156.42	<50	<0.50	<0.50	<0.50	<0.50	4.0	2.4	6.8	
06/27/2005	P		5.00	15.00	7.53	155.91	52	2.0	<0.50	1.9	0.78	8.1	2.8	7.1	
09/16/2005	P		5.00	15.00	9.20	154.24	<50	<0.50	<0.50	<0.50	0.76	14	1.82	6.9	
12/27/2005	P		5.00	15.00	7.60	155.84	<50	1.3	<0.50	1.5	<0.50	9.4	2.02	7.87	
03/16/2006	P		5.00	15.00	6.97	156.47	71	3.0	<0.50	3.5	<0.50	3.4	1.6	7.1	
6/26/2006	P		5.00	15.00	8.58	154.86	71	0.69	<0.50	1.1	3.5	3.2	2.2	6.9	
9/29/2006	P		5.00	15.00	8.85	154.59	<50	<0.50	<0.50	<0.50	<0.50	5.2	2.35	6.7	
12/19/2006	P		5.00	15.00	8.00	155.44	<50	<0.50	<0.50	<0.50	<0.50	4.3	4.80	7.21	
3/29/2007	P		5.00	15.00	7.70	155.74	<50	<0.50	<0.50	<0.50	<0.50	2.3	3.44	7.18	
6/5/2007	P		5.00	15.00	8.77	154.67	<50	<0.50	<0.50	<0.50	<0.50	3.2	3.45	7.29	
9/25/2007	P		5.00	15.00	9.18	154.26	<50	<0.50	<0.50	<0.50	<0.50	5.3	2.61	7.41	
12/26/2007	P		5.00	15.00	8.45	154.99	<50	<0.50	<0.50	<0.50	<0.50	2.9	5.57	7.43	
3/25/2008	P		5.00	15.00	8.29	155.15	<50	<0.50	<0.50	<0.50	<0.50	0.94	3.52	7.80	
6/10/2008	P		5.00	15.00	9.17	154.27	<50	<0.50	<0.50	<0.50	<0.50	1.3	3.38	7.01	
9/2/2008	P		5.00	15.00	9.15	154.29	<50	<0.50	<0.50	<0.50	<0.50	5.6	2.30	6.81	
12/2/2008	P		5.00	15.00	8.90	154.54	<50	<0.50	<0.50	<0.50	<0.50	2.7	2.41	6.96	
3/5/2009	P		5.00	15.00	8.05	155.39	<50	<0.50	<0.50	<0.50	<0.50	1.3	2.48	7.47	
6/2/2009	P		5.00	15.00	14.91	148.53	<50	<0.50	<0.50	<0.50	<0.50	0.60	0.83	7.01	
11/6/2009	P		5.00	15.00	8.46	154.98	<50	<0.50	<0.50	<0.50	<0.50	1.9	1.15	6.8	

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

ARCO Service Station #4977, 2770 Castro Valley Blvd., Castro Valley, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-1 Cont.															
5/20/2010	--	163.44	5.00	15.00	8.02	155.42	--	--	--	--	--	--	--	--	
11/3/2010	P		5.00	15.00	8.85	154.59	<50	<0.50	<0.50	<0.50	<0.50	1.4	0.80	6.3	
5/17/2011	P		5.00	15.00	7.71	155.73	<50	<0.50	<0.50	<0.50	<0.50	0.59	0.97	7.3	
12/16/2011	P		5.00	15.00	8.67	154.77	<50	<0.50	<0.50	<0.50	<0.50	2.4	3.02	7.3	
4/10/2012	P		5.00	15.00	7.67	155.77	<50	<0.50	<0.50	<0.50	<0.50	0.78	2.45	6.72	
10/9/2012	P		5.00	15.00	9.36	154.08	<50	<0.50	<0.50	<0.50	<1.0	<0.50	2.17	7.00	
4/23/2013	P		5.00	15.00	8.73	154.71	<50	<0.50	<0.50	<0.50	<1.0	<0.50	3.34	6.72	
10/9/2013	P		5.00	15.00	9.19	154.25	<50	<0.50	<0.50	<0.50	<1.0	<0.50	1.88	6.60	
MW-2															
4/19/2002	--	161.87	5.00	15.00	6.59	155.28	28,000	970	120	860	6,900	760	--	--	
9/27/2002	--		5.00	15.00	7.18	154.69	17,000	1,400	<50	1,200	3,700	1,400	1.5	6.8	
12/16/2002	--		5.00	15.00	7.31	154.56	17,000	1,000	<50	980	3,300	980	1.9	6.8	a
3/11/2003	--		5.00	15.00	6.02	155.85	24,000	1,600	70	1,300	4,300	920	1.7	7.4	
6/17/2003	--		5.00	15.00	6.31	155.56	28,000	1,300	55	1,300	4,500	610	1.4	6.9	
9/18/2003	--		5.00	15.00	7.61	154.26	19,000	960	63	1,100	3,100	580	2.7	6.8	
12/11/2003	P		5.00	15.00	6.50	155.37	29,000	710	53	1,300	3,800	490	2.0	7.0	
03/11/2004	P	164.29	5.00	15.00	6.02	158.27	19,000	830	49	1,500	4,000	410	0.8	6.5	
06/02/2004	P		5.00	15.00	7.14	157.15	25,000	680	<50	1,300	3,900	240	4.3	7.1	
09/22/2004	--		5.00	15.00	7.63	156.66	15,000	980	<25	980	940	390	--	6.7	
12/15/2004	P		5.00	15.00	6.48	157.81	22,000	610	26	1,300	3,200	290	0.3	6.9	c
03/07/2005	P		5.00	15.00	6.08	158.21	25,000	570	33	1,400	3,900	120	2.3	6.8	
06/27/2005	P		5.00	15.00	6.90	157.39	24,000	630	32	1,200	2,900	86	2.5	7.2	
09/16/2005	P		5.00	15.00	7.66	156.63	25,000	550	<25	1,400	3,000	82	1.41	7.0	
12/27/2005	P		5.00	15.00	5.60	158.69	33,000	540	<25	1,300	2,700	100	2.26	7.19	
03/16/2006	P		5.00	15.00	7.25	157.04	29,000	710	<50	1,400	2,600	78	1.4	7.1	c
6/26/2006	P		5.00	15.00	6.60	157.69	20,000	630	<25	1,200	1,100	110	0.64	6.8	c
9/29/2006	P		5.00	15.00	6.85	157.44	24,000	530	<25	1,300	1,800	86	1.36	6.7	
12/19/2006	P		5.00	15.00	6.02	158.27	21,000	500	<25	1,400	1,700	70	1.11	7.42	
3/29/2007	P		5.00	15.00	6.03	158.26	16,000	530	<25	1,100	1,100	80	2.98	7.18	
6/5/2007	P		5.00	15.00	6.85	157.44	21,000	420	<25	1,100	1,100	50	2.09	7.20	

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

ARCO Service Station #4977, 2770 Castro Valley Blvd., Castro Valley, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-2 Cont.															
9/25/2007	P	164.29	5.00	15.00	7.15	157.14	25,000	620	<25	1,400	1,200	70	3.25	7.59	
12/26/2007	P		5.00	15.00	6.25	158.04	16,000	440	<5.0	760	570	80	1.84	7.66	
3/25/2008	P		5.00	15.00	6.63	157.66	16,000	530	7.8	790	470	96	1.78	7.72	
6/10/2008	P		5.00	15.00	7.04	157.25	14,000	480	<25	730	240	100	1.83	6.96	
9/2/2008	P		5.00	15.00	7.25	157.04	13,000	440	<25	690	240	91	3.09	6.61	
12/2/2008	P		5.00	15.00	6.42	157.87	31,000	490	<10	670	120	97	3.05	7.00	
3/5/2009	P		5.00	15.00	5.83	158.46	16,000	470	<10	490	130	82	2.99	7.35	
6/2/2009	P		5.00	15.00	14.51	149.78	11,000	340	<10	490	210	34	1.07	6.89	
11/6/2009	P		5.00	15.00	6.52	157.77	14,000	470	<10	400	110	76	0.32	6.8	
5/20/2010	P		5.00	15.00	6.80	157.49	12,000	430	<10	270	55	64	0.74	6.5	
11/3/2010	P		5.00	15.00	7.52	156.77	9,000	300	<10	79	<10	52	0.37	6.3	d
5/17/2011	P		5.00	15.00	5.86	158.43	14,000	230	<5.0	43	7.2	29	1.28	7.3	
12/16/2011	P		5.00	15.00	7.16	157.13	6,000	180	<5.0	87	<5.0	25	0.81	7.3	c, d
4/10/2012	P		5.00	15.00	6.08	158.21	5,400	210	<5.0	100	16	40	0.21	6.75	d
10/9/2012	P		5.00	15.00	7.54	156.75	4,700	160	1.9	23	5.9	32	1.69	7.14	
4/23/2013	P		5.00	15.00	7.21	157.08	3,100	110	3.5	21	5.4	21	1.20	6.87	
10/9/2013	p		5.00	15.00	7.94	156.35	3,400	160	2.1	15	2.8	33	1.59	6.87	
MW-3															
4/19/2002	--	162.14	5.00	15.00	6.94	155.20	1,200	29	1.1	43	62	1,700	--	--	
9/27/2002	--		5.00	15.00	8.26	153.88	740	7.8	<2.5	6.8	4.4	1,100	1	6.7	
12/16/2002	--		5.00	15.00	6.76	155.38	1,200	13	<10	170	88	910	2.3	6.8	a
3/11/2003	--		5.00	15.00	6.92	155.22	<2,500	<25	<25	<25	<25	470	1.7	7.5	
6/17/2003	--		5.00	15.00	7.44	154.70	<1,000	<10	<10	14	<10	530	1.9	7	
9/18/2003	--		5.00	15.00	8.43	153.71	470	4.8	<2.5	10	9.2	300	2.9	6.8	
12/11/2003	P		5.00	15.00	6.72	155.42	<500	<5.0	<5.0	7.0	13	180	1.9	6.9	
03/11/2004	P	164.53	5.00	15.00	6.09	158.44	360	1.9	<1.0	5.6	5.0	110	2.6	6.8	
06/02/2004	P		5.00	15.00	7.50	157.03	380	2.8	<0.50	8.0	2.1	43	3.6	7.3	
09/22/2004	P		5.00	15.00	8.00	156.53	270	<0.50	<0.50	0.54	<0.50	50	1.8	6.9	
12/15/2004	P		5.00	15.00	6.43	158.10	390	3.5	<0.50	20	3.7	49	1.1	6.9	
03/07/2005	P		5.00	15.00	6.12	158.41	1,900	13	<1.0	93	29	70	2.3	6.8	

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

ARCO Service Station #4977, 2770 Castro Valley Blvd., Castro Valley, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-3 Cont.															
06/27/2005	P	164.53	5.00	15.00	7.08	157.45	830	4.0	<0.50	13	2.8	33	3.3	7.3	
09/16/2005	P		5.00	15.00	7.28	157.25	320	2.1	<0.50	5.4	0.60	21	2.11	7.0	
12/27/2005	P		5.00	15.00	6.47	158.06	770	6.0	<0.50	33	2.7	36	2.96	7.42	
03/16/2006	P		5.00	15.00	6.10	158.43	1,600	11	<0.50	59	6.4	45	1.4	7.1	
6/26/2006	P		5.00	15.00	6.92	157.61	400	<0.50	<0.50	1.6	2.1	26	2.41	7.0	
9/29/2006	P		5.00	15.00	7.38	157.15	220	0.86	<0.50	2.2	0.58	14	1.95	7.0	
12/19/2006	P		5.00	15.00	6.65	157.88	450	4.3	<0.50	19	1.4	19	3.68	7.30	
3/29/2007	P		5.00	15.00	6.92	157.61	390	3.0	<0.50	9.1	0.60	27	1.98	7.16	
6/5/2007	P		5.00	15.00	7.01	157.52	390	1.9	<0.50	6.9	<0.50	20	1.99	7.34	
9/25/2007	P		5.00	15.00	7.52	157.01	260	1.3	<0.50	2.7	<0.50	12	3.44	7.41	
12/26/2007	P		5.00	15.00	6.65	157.88	460	3.1	<0.50	15	0.89	17	4.05	7.46	
3/25/2008	P		5.00	15.00	6.71	157.82	260	0.91	0.71	2.5	0.54	29	2.40	7.63	
6/10/2008	P		5.00	15.00	7.33	157.20	120	<0.50	<0.50	2.0	<0.50	12	2.29	7.59	
9/2/2008	P		5.00	15.00	7.53	157.00	97	<0.50	<0.50	<0.50	<0.50	9.3	3.28	6.81	
12/2/2008	P		5.00	15.00	7.38	157.15	140	<0.50	<0.50	<0.50	<0.50	8.4	3.18	7.06	
3/5/2009	P		5.00	15.00	5.21	159.32	530	3.3	<0.50	22	0.71	18	3.11	7.46	
6/2/2009	P		5.00	15.00	14.81	149.72	490	2.1	<0.50	6.2	<0.50	13	0.83	7.03	
11/6/2009	P		5.00	15.00	7.38	157.15	99	<0.50	<0.50	<0.50	<0.50	5.8	0.32	6.97	
5/20/2010	P		5.00	15.00	6.78	157.75	300	0.89	<0.50	<0.50	<0.50	14	--	6.48	
11/3/2010	P		5.00	15.00	7.73	156.80	66	<0.50	<0.50	<0.50	<0.50	4.4	1.11	6.0	d
5/17/2011	P		5.00	15.00	4.44	160.09	170	<0.50	<0.50	<0.50	<0.50	4.7	0.41	7.4	d
12/16/2011	P		5.00	15.00	7.84	156.69	<50	<0.50	<0.50	0.98	<0.50	4.0	0.39	7.2	
4/10/2012	P		5.00	15.00	6.69	157.84	95	<0.50	<0.50	<0.50	<0.50	3.5	0.16	6.83	d
10/9/2012	P		5.00	15.00	8.41	156.12	<50	<0.50	<0.50	<0.50	<1.0	1.5	1.33	7.36	
4/23/2013	P		5.00	15.00	7.37	157.16	<50	<0.50	<0.50	<0.50	<1.0	1.2	1.03	7.04	
10/9/2013	P		5.00	15.00	8.25	156.28	52	<0.50	<0.50	<0.50	<1.0	2.1	1.94	6.80	

Symbols & Abbreviations:

< = Not detected at or above specified laboratory reporting limits

-- = Not measured, sampled, analyzed, applicable

ft bgs = Feet below ground surface

DO = Dissolved oxygen

DTW = Depth to water in ft

GRO = Gasoline range organics

GWE = Groundwater elevation in ft

mg/L = Milligrams per liter

MTBE = Methyl tert-butyl ether analyzed by EPA Method 8021B unless otherwise noted (before 12/16/02)

P/NP = Well was purged/not purged prior to sampling

TPH-g = Total petroleum hydrocarbons as gasoline (C5-C9)

TOC = Top of casing measured in ft MSL

µg/L = Micrograms per liter

Footnotes:

a = TPH, benzene, toluene, ethylbenzene, total xylenes, and MTBE analyzed by EPA Method 8260B beginning on 4th quarter sampling event (12/16/02)

b = This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be used for their intended purpose.

c = Sheen in well

d = Quantitation of unknown hydrocarbon(s) in sample based on gasoline

Notes:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential inclusion of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported

Wells were re-surveyed on 3/23/2004

Values for DO and pH were field measurements

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

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