Atlantic Richfield Company

Shannon Couch
Operations Project Manager

PO Box 1257
San Ramon, CA 94583
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RECEIVED

2:31 pm, Oct 10, 2011

Alameda County
Environmental Health

October 6, 2011

Re: Third Quarter 2011 Monitoring Report
Former BP Service Station #11104
1716 Webster Street
Alameda, California
ACEH Case #RO0000281

"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

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

BROADBENT & ASSOCIATES, INC
ENVIRONMENTAL, WATER RESOURCES & ENGINEERING

October 6, 2011

Project No. 06-88-644

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

Attn.: Ms. Shannon Couch

Re: Third Quarter 2011 Monitoring Report, Former BP Service Station #11104,
1716 Webster Street, Alameda, Alameda County, California
ACEH Case #RO0000281

Dear Ms. Couch:

Provided herein is the T*hird Quarter 2011 Monitoring Report* for Former BP Service Station #11104 located at 1716 Webster Street, Alameda, California (Site). Should you have questions regarding the work performed or results obtained, please do not hesitate to contact me at (707) 455-7290.

Sincerely,

BROADBENT & ASSOCIATES, INC.

James Ramos, E.I.T.
Staff Engineer

Thomas A. Sparrowe, P.G. #5065
Senior Geologist

enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)
Ms. Shelby Lathrop, ConocoPhillips, 76 Broadway, Sacramento, California 95818
Electronic copy uploaded to GeoTracker

THIRD QUARTER 2011
MONITORING REPORT
FORMER ARCO STATION #11104, ALAMEDA, CALIFORNIA

Broadbent & Associates, Inc. (BAI) is pleased to present this *Third Quarter 2011 Monitoring Report* on behalf of Atlantic Richfield Company (a BP affiliated company) for former BP Station # 11104 (presently a Union 76 Station) located at 1716 Webster Street in Alameda, Alameda County, California. Monitoring activities at the site were performed in accordance with an agency directive issued by the Alameda County Environmental Health (ACEH). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	Former BP Station #11104 / 1716 Webster Street, Alameda, CA
Client Project Manager / Title:	Ms. Shannon Couch / Operations Project Manager
BAI Contact:	Mr. Tom Sparrowe, (707) 455-7290
BAI Project No.:	06-88-644
Primary Regulatory Agency / ID No.:	ACEH / Case #RO0000281
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 (Third Quarter 2011):

1. BAI submitted a *Second Quarter 2011 Status Report*.
2. BAI conducted groundwater monitoring/sampling on July 5th, 2011 for Third Quarter 2011.
3. BAI conducted an additional sampling of RW-1 on August 5th, 2011 and gasoline sampling from Station dispensers on August 9th. The samples were sent to Torkelson Geochemistry, Inc. for hydrocarbon fingerprint analysis.

WORK SCHEDULED FOR NEXT QUARTER (Fourth Quarter 2011):

1. Submit *Third Quarter 2011 Monitoring Report* (contained herein).
2. No environmental work activities are scheduled to be conducted at the Site during the Fourth Quarter 2011.

QUARTERLY MONITORING PLAN SUMMARY:

Groundwater level gauging:	MW-1 through MW-5 and RW-1	(Semi-Annually: 1Q & 3Q)
Groundwater sample collection:	MW-1 and RW-1	(Semi-Annually: 1Q & 3Q)
	MW-2 through MW-5	(Annually: 1Q)
Biodegradation indicator parameter monitoring:	None	(quarterly)

QUARTERLY RESULTS SUMMARY:

LNAPL

LNAPL observed this quarter:	Yes (RW-1)	(yes\no)
LNAPL recovered this quarter:	None	(gal)
Cumulative LNAPL recovered:	None	(gal)

Groundwater Elevation and Gradient:

Depth to groundwater:	4.86 ft (MW-1) to 6.20 ft (MW-3)	(ft below TOC)
Gradient direction:	North-Northeast	(compass direction)
Gradient magnitude:	0.003 ft/ft	(ft/ft)
Average change in elevation:	+0.25	(ft since last measurement)

Laboratory Analytical Data

Summary: GRO, Benzene, Ethylbenzene, Toluene, Total Xylenes, and MTBE were detected in well MW-1 at concentrations of 6,900 µg/L, 110 µg/L, 190 µg/L, 5.5 µg/L, 1900 µg/L, and 22 µg/L, respectively. The rest of the petroleum hydrocarbon constituents were below laboratory detection limits. GRO, Benzene and MTBE concentrations increased in MW-1 relative to First Quarter 2011.

ACTIVITIES CONDUCTED & RESULTS:

On July 5, 2011, BAI conducted the Third Quarter 2011 groundwater monitoring and sampling event at Station #11104 in accordance with the quarterly monitoring plan summary detailed above with the following exceptions: monitor well MW-5 was not accessible due to being paved over. Water levels were gauged in the five accessible wells associated with Station #11104. Light non-aqueous phase liquid (LNAPL) was observed in well RW-1 (see discussion below). No other irregularities were noted during water level gauging at Station #11104. Depth to water measurements at the Site ranged from 4.86 ft at well MW-1 to 6.20 ft at MW-3. Resulting groundwater surface elevations at the Site ranged from 7.44 ft above datum at well MW-2 to 6.82 ft at well MW-4. Groundwater elevation for well RW-1 was corrected to account for the presence of LNAPL. Water level elevations yielded a potentiometric groundwater gradient direction and magnitude to the north at 0.003 ft/ft. Field methods used during groundwater monitoring are provided in Appendix A. Field data sheets are included in Appendix B. Measured depths to groundwater and respective groundwater elevations are summarized in Table 1. Current and historic groundwater gradient directions and magnitudes are provided within Table 3. A Site Location Map is provided as Drawing 1. Potentiometric groundwater elevation contours are presented in Drawing 2.

Generally consistent with the current groundwater sampling schedule, water samples were collected from well MW-1. Due to the presence of LNAPL, water samples were not collected from wells RW-1. No other irregularities were encountered during sampling at the Site. Collected groundwater samples were submitted to Calscience Environmental Laboratories, Inc. (Calscience) of Garden Grove, California for analysis of gasoline range organics (GRO, C6-12) by EPA Method 8015B; for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl Tert-Butyl Ether (MTBE), Ethyl tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), Tert-Butyl Alcohol (TBA), 1,2-Dibromomethane (EDB), 1,2-Dichloroethane (1,2-DCA) and Ethanol by EPA Method 8260B. No significant irregularities were reported during analysis of the samples.

As stated above, LNAPL was present in well RW-1 during Third Quarter 2011. BAI personnel measured approximately 0.01 feet of LNAPL in well RW-1 which historically has never contained product. BAI personnel returned to Station #11104 on August 5th and 9th of 2011 to collect a sample of the RW-1 LNAPL and one sample each from the low, mid, and high octane unleaded gasoline dispensers. The four samples were submitted to Torkelson Geochemistry, Inc. (Torkelson) of Tulsa, Oklahoma to be analyzed by capillary gas chromatography (hydrocarbon fingerprint) analysis.

Current and historic groundwater elevations and groundwater sample analytical data are provided in Tables 1 and 2. Drawing 2 is provided as a groundwater elevation contour and analytical summary map for July 5, 2011. Laboratory analytical report and chain of custody record for are provided in Appendix C. The resulting analysis and report for the hydrocarbon fingerprint analysis by Torkelson is included in Appendix D. Groundwater monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix D.

Review of Tables 1 and 2 and Drawing 2 indicates that GRO, Benzene, Ethylbenzene, Toluene, Total Xylenes, MTBE and TBA were detected in well MW-1 at concentrations of 6,900 µg/L, 110 µg/L, 190 µg/L, 5.5 µg/L, 1900 µg/L, 22 µg/L, and 59 µg/L, respectively.

Based on the review of the results from the Torkelson hydrocarbon fingerprint analysis and their interpretation of the chromatograms, the identity of the LNAPL in RW-1 appears to not be gasoline. The chromatogram from the RW-1 sample is distinctly different when compared to the chromatogram from low, mid and high octane gasoline samples collected from dispensers at the Site. Furthermore, it is also highly

unlikely that any sort of weathering could have altered a gasoline to result in a chromatogram like that from sample RW-1. There are some characteristics in the chromatogram for RW-1 that is similar to a middle distillate diesel fuel or fuel oil; however, there are also characteristics that do not match. As with the gasoline, it is unlikely that weathering could alter a diesel fuel or fuel to result in a chromatogram matching that from sample RW-1. For a further discussion of results from the LNAPL sample in RW-1 and to review the chromatograms, the reader is referred to the Torkelson laboratory report included in Appendix D.

DISCUSSION:

Groundwater levels and gradient data indicate that the gradient measured during Third Quarter 2011 monitoring is consistent with predominant measurements observed historic minimum and maximum elevations at the site. During Third Quarter 2011, groundwater elevations increased an average of 0.25 feet across the site relative to measurements collected during First Quarter 2011.

Detected analytical concentrations were within historic minimum and maximum ranges recorded for each well with the exception of LNAPL in RW-1. From the results obtained by hydrocarbon fingerprint analysis it can be concluded that this product is not BP related since diesel storage and distribution was not part of BP's product service. LNAPL has not historically been observed at the site; however, it has been historically observed to the north across the street in monitor wells that are downgradient of Station 11104.

RECOMMENDATIONS:

No environmental work activities are scheduled to be conducted at the Site during the Fourth Quarter 2011. The next quarterly monitoring event is scheduled for the First Quarter 2012. Unless directed by ACEH, no change to the monitoring program at Station #11104 is presently deemed warranted or recommended.

LIMITATIONS:

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

ATTACHMENTS:

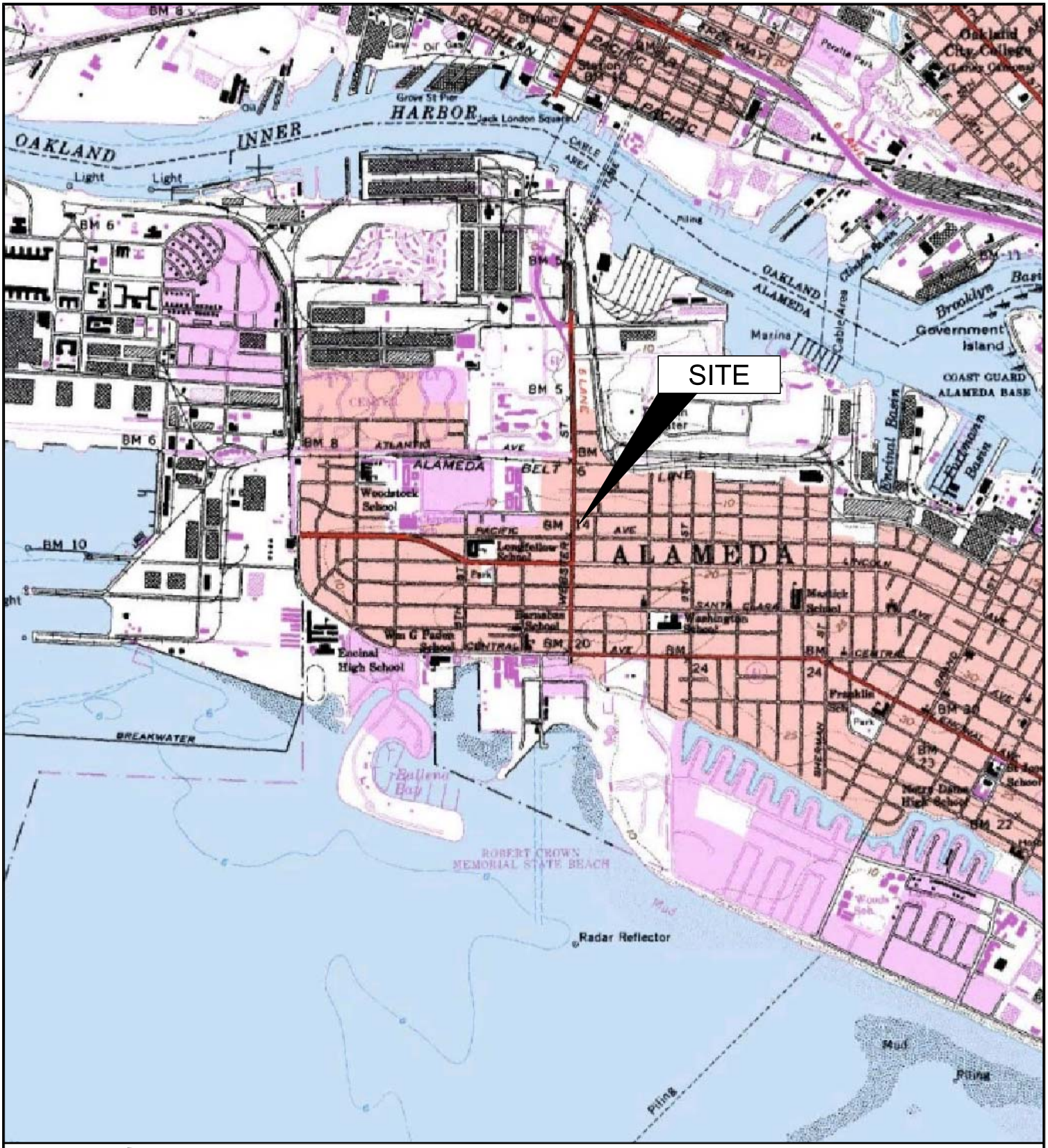
Drawing 1:	Site Location Map
Drawing 2:	Third Quarter 2011 Groundwater Elevation Contour and Analytical Summary Map
Table 1:	Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses
Table 2:	Summary of Fuel Additive Analytical Data
Table 3:	Historic Groundwater Gradient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

ATTACHMENTS (continued):

Appendix C: Laboratory Report and Chain-of-Custody Documentation
Appendix D: Torkelson Geochemistry, Inc. Laboratory Report and Chain-of-Custody Documentation
Appendix E: GeoTracker Upload Confirmation Receipts

LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:

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



N

0 2000 4000

APPROXIMATE SCALE (ft)

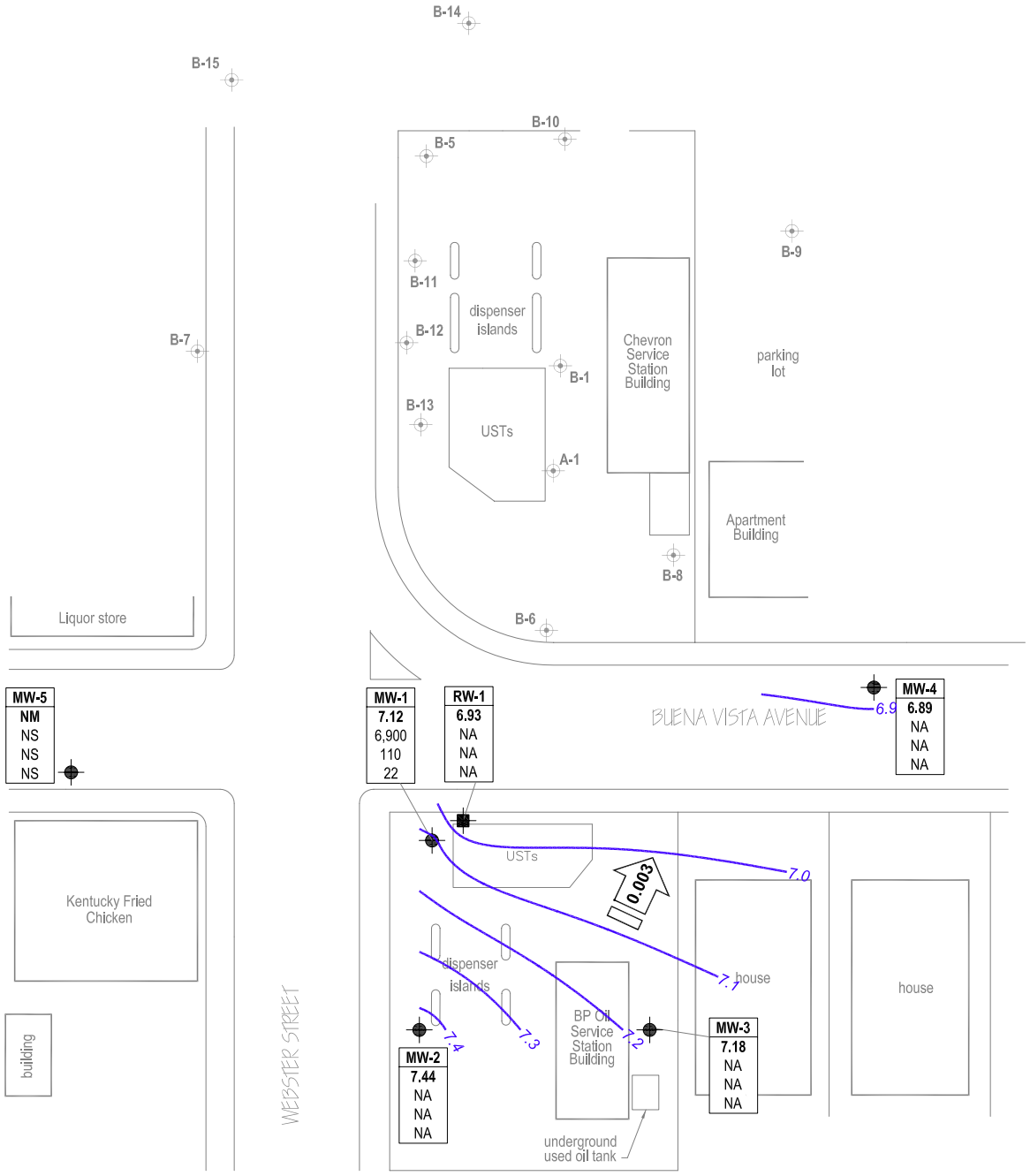
IMAGE SOURCE: USGS

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-644 Date: 9/1/09

Station #11104
1716 Webster Street
Alameda, California

Site Location Map

Drawing
1



LEGEND

- Monitoring well
- Groundwater recovery well
- Chevron monitoring well
- 0.003 — Groundwater flow direction and gradient (ft/MSL)
- 6.9 — Groundwater elevation contour (Feet above site datum)
- Well — Well designation
- ELEV — Groundwater elevation (ft/MSL)
- GRO, Benzene, MTBE — GRO, Benzene and MTBE concentrations in ground water (µg/L)
- < — Not detected at or above laboratory reporting limits
- NM/NS — Not Measured/Not sampled
- NA — Not Analyzed
- * — Elevation not used for contouring

NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMESIONS AND FACILITY LOCATIONS NOT VERIFIED.

0 60 120
SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
875 Cotting Lane Suite G, Vacaville, California
Project No.: 06-88-644 Date: 8/10/2011

Station #11104
1716 Webster Street
Alameda, California

Groundwater Elevation Contour and Analytical Summary Map
July 5, 2011

Drawing
2

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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														
7/21/1992	--	11.98	5.91	0.00	6.07	34,000	7,000	1,700	2,500	6,900	--	--	--	
10/20/1992	--		6.66	0.00	5.32	--	--	--	--	--	--	--	--	
3/5/1993	--		4.56	0.00	7.42	--	--	--	--	--	--	--	--	
4/1/1993	--		4.57	0.00	7.41	--	--	--	--	--	--	--	--	
7/9/1993	--		5.25	0.00	6.73	79,000	16,000	1,500	2,200	7,700	12,952	--	--	c, d, k
7/9/1993	--		5.25	0.00	6.73	77,000	15,000	1,400	2,100	7,400	11,919	--	--	c, k
10/8/1993	--		6.01	0.00	5.97	42,000	7,100	270	2,700	4,700	--	--	--	k
1/6/1994	--		6.24	0.00	5.74	45,000	12,000	4,300	3,000	6,700	--	--	--	k
4/26/1994	--		5.26	0.00	6.72	39,000	6,500	500	1,800	1,200	16,663	6.3	--	c, k
7/25/1994	--		5.60	0.00	6.38	38,000	6,300	240	1,500	1,100	26,428	1.7	--	c, k
10/13/1994	--		6.15	0.00	5.83	25,000	6,300	130	1,300	830	--	2.3	--	k
10/13/1994	--		6.15	0.00	5.83	25,000	7,300	120	1,200	740	--	--	--	d, k
1/17/1995	--		4.19	0.00	7.79	8,400	3,100	1,200	470	1,000	--	--	--	d
1/17/1995	--		4.19	0.00	7.79	7,800	3,100	1,100	460	850	--	7.9	--	
3/31/1995	--		4.48	0.00	7.50	40,000	6,900	7,300	1,300	5,000	--	--	--	d
3/31/1995	--		4.48	0.00	7.50	37,000	6,700	6,900	1,200	4,500	--	6.4	--	
5/1/1995	--		4.39	0.00	7.59	--	--	--	--	--	--	--	--	
7/12/1995	--		5.02	0.00	6.96	29,000	7,000	300	1,500	3,900	--	7.2	--	
7/12/1995	--		5.02	0.00	6.96	29,000	6,600	380	1,500	3,900	--	--	--	d
10/12/1995	--		5.68	0.00	6.30	20,000	3,400	310	1,100	3,000	15,000	6.3	--	
10/12/1995	--		5.68	0.00	6.30	20,000	3,500	310	1,100	3,000	14,000	--	--	d
2/27/1996	--		4.18	0.00	7.80	18,000	4,400	2,900	860	2,380	5,500	7.9	--	
5/8/1996	--		4.89	0.00	7.09	--	--	--	--	--	--	--	--	
5/9/1996	--		--	--	--	14,000	2,300	1,900	540	3,340	2,700	6.1	--	
8/9/1996	--		5.13	0.00	6.85	--	--	--	--	--	--	--	--	
8/12/1996	--		--	--	--	13,000	2,800	190	1,300	3,040	1,800	7.1	--	
11/7/1996	--		5.65	0.00	6.33	12,000	2,100	35	<25	<25	2,100	7.2	--	
2/10/1997	--		4.80	0.00	7.18	180,000	2,100	<500	<500	<500	160,000	--	--	d
2/10/1997	--		4.80	0.00	7.18	180,000	1,900	<500	<500	<500	160,000	6.8	--	
8/4/1997	--		5.69	0.00	6.29	14,000	2,700	<50	1,200	1,220	250,000	7.2	--	

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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.														
8/4/1997	--	11.98	5.69	0.00	6.29	<25000	2,600	<50	1,200	1,100	260,000	--	--	d
1/27/1998	--		3.96	0.00	8.02	390,000	4,400	4,300	1,600	2,890	490,000	6.4	--	
9/2/1998	--		5.03	0.00	6.95	230,000	3,900	<50	1,900	1,000	230,000	6.3	--	
2/24/1999	--		4.94	0.00	7.04	82,000	3,000	520	2,600	3,200	190,000/200,000	--	--	h
8/30/1999	--		6.31	0.00	5.67	11,000	2,100	<25	1,800	580	48,000	--	--	
2/21/2000	--		4.47	0.00	7.51	12,000 i	1,200	250	930	1,800	31,000	--	--	i
8/8/2000	--		5.59	0.00	6.39	4,500	160	2.8	76	88	60,000	--	--	
2/12/2001	--		6.04	0.00	5.94	14,000	363	<12.5	108	293	18,000	--	--	
8/13/2001	--		6.44	0.00	5.54	14,000	161	17.1	255	545	5,590	--	--	
2/4/2002	--		4.49	0.00	7.49	17,000	176	57.9	538	1,670	2,470	--	--	
8/29/2002	--		5.22	0.00	6.76	4,800 l	180	43	130	540	3,100	--	--	l
2/5/2003	--		5.43	0.00	6.55	770	29	9.8	4.2	47	590 m,n	--	--	m,n
8/14/2003	--		6.34	0.00	5.64	5,400	210	<50	90	200	4,500	--	--	p
02/12/2004	P		4.55	0.00	7.43	2,600	140	20	87	170	1,200	--	6.8	
08/12/2004	P		5.22	0.00	6.76	5,700	500	12	41	1,400	260	--	6.3	
02/10/2005	P		4.48	0.00	7.50	2,400	120	10	72	110	730	--	6.1	
08/11/2005	P		4.60	0.00	7.38	4,600	500	13	44	870	190	--	6.8	
02/09/2006	P		4.47	0.00	7.51	2,600	180	12	96	230	380	--	7.0	
8/10/2006	--		4.77	0.00	7.21	7,000	720	17	62	870	47	--	6.7	
2/8/2007	P		5.13	0.00	6.85	2,200	100	6.3	53	120	130	5.52	6.82	
8/8/2007	P		5.47	0.00	6.51	1,500	78	4.9	43	120	140	4.32	7.04	t (BZ, EBZ, XYLENES, MTBE)
2/22/2008	P		4.40	0.00	7.58	4,400	130	71	390	1,200	59	5.01	7.06	
8/13/2008	P		5.55	0.00	6.43	7,500	220	16	130	1,600	370	0.48	8.13	
2/11/2009	P		5.51	0.00	6.47	1,900	26	<2.0	15	35	68	0.57	6.62	
8/27/2009	P		5.45	0.00	6.53	3,300	37	2.4	9.5	650	20	0.61	7.51	
2/18/2010	P		4.71	0.00	7.27	2,700	32	7.6	42	95	48	0.81	6.80	
8/12/2010	NP		5.48	0.00	6.50	3,200	50	2.4	52	220	76	1.72	6.9	
2/17/2011	P		4.82	0.00	7.16	2,400	44	<2.0	160	230	40	0.75	7.2	
7/5/2011	--		**4.86**	**0.00**	**7.12**	**6,900**	**110**	**5.5**	**190**	**1,900**	**22**	--	--	
MW-2														

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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.														
7/21/1992	--	12.98	6.44	0.00	6.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
10/20/1992	--		7.39	0.00	5.59	--	--	--	--	--	--	--	--	
3/5/1993	--		4.91	0.00	8.07	--	--	--	--	--	--	--	--	
4/1/1993	--		4.92	0.00	8.06	--	--	--	--	--	--	--	--	
7/9/1993	--		5.60	0.00	7.38	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
10/8/1993	--		6.50	0.00	6.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	d, k
10/8/1993	--		6.50	0.00	6.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
1/6/1994	--		6.25	0.00	6.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
4/26/1994	--		5.73	0.00	7.25	<50	<0.5	<0.5	<0.5	<0.5	<5.0	7.5	--	k
7/25/1994	--		6.07	0.00	6.91	<50	<0.5	<0.5	<0.5	<0.5	11.59	2.4	--	k
10/13/1994	--		6.80	0.00	6.18	<50	<0.5	<0.5	<0.5	<0.5	--	2.4	--	k
1/17/1995	--		5.10	0.00	7.88	--	--	--	--	--	--	--	--	
3/31/1995	--		4.69	0.00	8.29	<50	<0.50	<0.50	<0.50	<1.0	--	7.3	--	
5/1/1995	--		5.23	0.00	7.75	--	--	--	--	--	--	--	--	
7/12/1995	--		5.40	0.00	7.58	--	--	--	--	--	--	--	--	
10/12/1995	--		6.06	0.00	6.92	<50	<0.50	<0.50	<0.50	<1.0	<5.0	6.9	--	
2/27/1996	--		4.66	0.00	8.32	<50	<0.5	<1	<1	<1	<10	8.7	--	
5/8/1996	--		5.28	0.00	7.70	--	--	--	--	--	--	--	--	
8/9/1996	--		5.59	0.00	7.39	<50	<0.5	<1.0	<1.0	<1.0	<10	7.8	--	
11/7/1996	--		6.11	0.00	6.87	--	--	--	--	--	--	--	--	
2/10/1997	--		5.26	0.00	7.72	--	--	--	--	--	--	--	--	
8/4/1997	--		6.14	0.00	6.84	<50	<0.5	<1.0	<1.0	<1.0	<10	6.5	--	
1/27/1998	--		4.42	0.00	8.56	--	--	--	--	--	--	--	--	
9/2/1998	--		5.47	0.00	7.51	100	0.56	3.6	<1.0	3	110	6.9	--	
2/24/1999	--		5.12	0.00	7.86	<50	<1.0	<1.0	<1.0	<1.0	8.2	--	--	
8/30/1999	--		6.60	0.00	6.38	--	--	--	--	--	--	--	--	
2/21/2000	--		4.64	0.00	8.34	<50	<0.5	<0.5	<0.5	<0.5	0.72	--	--	
2/12/2001	--		5.13	0.00	7.85	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
2/4/2002	--		5.63	0.00	7.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--	
8/29/2002	--		5.79	0.00	7.19	--	--	--	--	--	--	--	--	

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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.														
2/5/2003	--	12.98	5.61	0.00	7.37	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	n
8/14/2003	--		--	--	--	--	--	--	--	--	--	--	--	o
02/12/2004	P		5.19	0.00	7.79	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.4	p
08/12/2004	--		6.17	0.00	6.81	--	--	--	--	--	--	--	--	
02/10/2005	P		5.01	0.00	7.97	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	5.9	
08/11/2005	--		6.39	0.00	6.59	--	--	--	--	--	--	--	--	
02/09/2006	P		4.80	0.00	8.18	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.8	
8/10/2006	--		6.18	0.00	6.80	--	--	--	--	--	--	--	--	
2/8/2007	P		5.67	0.00	7.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.94	7.04	
8/8/2007	--		6.00	0.00	6.98	--	--	--	--	--	--	--	--	
2/22/2008	P		5.15	0.00	7.83	52	<0.50	<0.50	<0.50	<0.50	<0.50	5.81	7.12	
8/13/2008	--		6.20	0.00	6.78	--	--	--	--	--	--	--	--	
2/11/2009	P		6.02	0.00	6.96	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.90	6.73	
8/27/2009	--		6.12	0.00	6.86	--	--	--	--	--	--	--	--	
2/18/2010	P		5.45	0.00	7.53	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.31	6.56	
8/12/2010	--		5.92	0.00	7.06	--	--	--	--	--	--	--	--	
2/17/2011	NP		5.56	0.00	7.42	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.83	7.6	
7/5/2011	--		**5.54**	**0.00**	**7.44**	--	--	--	--	--	--	--	--	
MW-3														
7/21/1992	--	13.38	7.07	0.00	6.31	<50	0.95	<0.5	<0.5	<0.5	--	--	--	e
10/20/1992	--		8.06	0.00	5.32	--	--	--	--	--	--	--	--	
3/5/1993	--		5.16	0.00	8.22	--	--	--	--	--	--	--	--	
4/1/1993	--		5.25	0.00	8.13	--	--	--	--	--	--	--	--	
7/9/1993	--		5.80	0.00	7.58	<50	0.6	<0.5	<0.5	<0.5	--	--	--	k
10/8/1993	--		7.17	0.00	6.21	<50	0.6	<0.5	<0.5	<0.5	--	--	--	k
1/6/1994	--		6.94	0.00	6.44	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
4/26/1994	--		6.18	0.00	7.20	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.1	--	k
7/25/1994	--		6.67	0.00	6.71	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.2	--	k
10/13/1994	--		7.43	0.00	5.95	<50	<0.5	<0.5	<0.5	<0.5	--	2.1	--	k
1/17/1995	--		5.07	0.00	8.31	--	--	--	--	--	--	--	--	

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

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Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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.														
3/31/1995	--	13.38	4.03	0.00	9.35	<50	<0.50	<0.50	<0.50	<1.0	--	6.6	--	
5/1/1995	--		4.94	0.00	8.44	--	--	--	--	--	--	--	--	
7/12/1995	--		5.80	0.00	7.58	--	--	--	--	--	--	--	--	
10/12/1995	--		6.64	0.00	6.74	<50	<0.50	<0.50	<0.50	<1.0	<5.0	6.4	--	
2/27/1996	--		4.75	0.00	8.63	<50	<0.5	<1	<1	<1	<10	8.5	--	
5/8/1996	--		5.86	0.00	7.52	--	--	--	--	--	--	--	--	
8/9/1996	--		5.70	0.00	7.68	<50	<0.5	<1.0	<1.0	<1.0	<10	7.9	--	
11/7/1996	--		6.21	0.00	7.17	--	--	--	--	--	--	--	--	
2/10/1997	--		5.14	0.00	8.24	--	--	--	--	--	--	--	--	
8/4/1997	--		6.01	0.00	7.37	<50	<0.5	<1.0	<1.0	<1.0	<10	6.6	--	
1/27/1998	--		4.30	0.00	9.08	--	--	--	--	--	--	--	--	
9/2/1998	--		5.80	0.00	7.58	<50	<0.5	2.2	<1.0	<1.0	<10	6.6	--	
2/24/1999	--		4.34	0.00	9.04	<50	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
8/30/1999	--		6.59	0.00	6.79	--	--	--	--	--	--	--	--	
2/21/2000	--		4.56	0.00	8.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	
2/12/2001	--		4.98	0.00	8.40	--	--	--	--	--	--	--	--	j
2/4/2002	--		6.11	0.00	7.27	--	--	--	--	--	--	--	--	j
8/29/2002	--		6.22	0.00	7.16	--	--	--	--	--	--	--	--	j
2/5/2003	--		--	--	--	--	--	--	--	--	--	--	--	f
8/14/2003	--		--	--	--	--	--	--	--	--	--	--	--	o
02/12/2004	P		4.94	0.00	8.44	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.0	p
08/12/2004	--		6.22	0.00	7.16	--	--	--	--	--	--	--	--	
02/10/2005	P		5.45	0.00	7.93	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	5.1	
08/11/2005	--		5.77	0.00	7.61	--	--	--	--	--	--	--	--	r
02/09/2006	P		5.17	0.00	8.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.7	
8/10/2006	--		5.86	0.00	7.52	--	--	--	--	--	--	--	--	
2/8/2007	P		6.00	0.00	7.38	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.34	7.04	
8/8/2007	--		6.68	0.00	6.70	--	--	--	--	--	--	--	--	
2/22/2008	P		5.38	0.00	8.00	54	<0.50	<0.50	<0.50	<0.50	<0.50	3.81	6.87	
8/13/2008	--		6.37	0.00	7.01	--	--	--	--	--	--	--	--	

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Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (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.														
2/11/2009	P	13.38	6.70	0.00	6.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.79	7.18	
8/27/2009	--		6.78	0.00	6.60	--	--	--	--	--	--	--	--	
2/18/2010	P		5.80	0.00	7.58	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.39	6.12	
8/12/2010	--		6.60	0.00	6.78	--	--	--	--	--	--	--	--	
2/17/2011	NP		5.66	0.00	7.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.92	6.5	
7/5/2011	**--**		**6.20**	**0.00**	**7.18**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4														
3/5/1993	--	11.80	4.81	0.00	6.99	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
4/1/1993	--		4.80	0.00	7.00	--	--	--	--	--	--	--	--	
7/9/1993	--		5.54	0.00	6.26	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
10/8/1993	--		6.28	0.00	5.52	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
1/6/1994	--		5.82	0.00	5.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	k
4/26/1994	--		5.50	0.00	6.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	7.4	--	k
7/25/1994	--		5.83	0.00	5.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	7.2	--	k
10/13/1994	--		6.26	0.00	5.54	<50	<0.5	<0.5	<0.5	<0.5	--	6.7	--	k
1/17/1995	--		4.19	0.00	7.61	--	--	--	--	--	--	--	--	
3/31/1995	--		3.96	0.00	7.84	<50	<0.50	<0.50	<0.50	<1.0	--	7.1	--	
5/1/1995	--		4.49	0.00	7.31	--	--	--	--	--	--	--	--	
7/12/1995	--		5.16	0.00	6.64	--	--	--	--	--	--	--	--	
10/12/1995	--		5.80	0.00	6.00	<50	<0.50	<0.50	<0.50	<1.0	<5.0	6.9	--	
2/27/1996	--		4.22	0.00	7.58	<50	<0.5	<1	<1	<1	<10	8.9	--	
5/8/1996	--		5.00	0.00	6.80	--	--	--	--	--	--	--	--	
8/9/1996	--		5.13	0.00	6.67	<50	<0.5	<1.0	<1.0	<1.0	<10	8.5	--	
11/7/1996	--		5.65	0.00	6.15	--	--	--	--	--	--	--	--	
2/10/1997	--		4.81	0.00	6.99	--	--	--	--	--	--	--	--	
8/4/1997	--		5.72	0.00	6.08	<50	<0.5	<1.0	<1.0	<1.0	<10	6.4	--	
1/27/1998	--		4.06	0.00	7.74	--	--	--	--	--	--	--	--	
9/2/1998	--		4.89	0.00	6.91	<50	<0.5	<1.0	<1.0	<1.0	<10	5.8	--	
2/24/1999	--		3.89	0.00	7.91	<50	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
8/30/1999	--		5.62	0.00	6.18	--	--	--	--	--	--	--	--	

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						GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-4 Cont.														
2/21/2000	--	11.80	4.00	0.00	7.80	<50	<0.5	<0.5	<0.5	<0.5	0.66	--	--	
2/12/2001	--		4.93	0.00	6.87	<50	<0.5	<0.5	<0.5	<0.5	0.982	--	--	
2/4/2002	--		4.49	0.00	7.31	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--	
8/29/2002	--		5.38	0.00	6.42	--	--	--	--	--	--	--	--	
2/5/2003	--		4.50	0.00	7.30	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	n
8/14/2003	--		--	--	--	--	--	--	--	--	--	--	--	o
02/12/2004	P		4.41	0.00	7.39	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.3	p
08/12/2004	--		5.20	0.00	6.60	--	--	--	--	--	--	--	--	
02/10/2005	P		4.43	0.00	7.37	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	5.5	
08/11/2005	--		5.09	0.00	6.71	--	--	--	--	--	--	--	--	
02/09/2006	P		4.32	0.00	7.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.8	
7/26/2006	--		--	--	--	--	--	--	--	--	--	--	--	
8/10/2006	--		5.07	0.00	6.73	--	--	--	--	--	--	--	--	
2/8/2007	P		5.10	0.00	6.70	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.63	7.07	
8/8/2007	--		5.55	0.00	6.25	--	--	--	--	--	--	--	--	
2/22/2008	P		4.35	0.00	7.45	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.61	6.88	
8/13/2008	--		5.70	0.00	6.10	--	--	--	--	--	--	--	--	
2/11/2009	P		6.58	0.00	5.22	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.66	6.36	
8/27/2009	--		5.64	0.00	6.16	--	--	--	--	--	--	--	--	
2/18/2010	P		4.69	0.00	7.11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.92	6.37	
8/12/2010	--		5.39	0.00	6.41	--	--	--	--	--	--	--	--	
2/17/2011	P		4.75	0.00	7.05	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.84	6.7	
7/5/2011	**--**		**4.91**	**0.00**	**6.89**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-5														
4/1/1993	--	11.62	4.77	0.00	6.85	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
7/9/1993	--		5.40	0.00	6.22	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
10/8/1993	--		5.87	0.00	5.75	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	k
1/6/1994	--		5.75	0.00	5.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	k
4/26/1994	--		5.49	0.00	6.13	<50	<0.5	<0.5	<0.5	<0.5	<5.0	7.1	--	k
7/25/1994	--		5.69	0.00	5.93	<50	<0.5	<0.5	<0.5	<0.5	<5.0	6.6	--	k

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						GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-5 Cont.														
10/13/1994	--	11.62	6.03	0.00	5.59	<50	<0.5	<0.5	<0.5	<0.5	--	3.0	--	k
1/17/1995	--		4.74	0.00	6.88	--	--	--	--	--	--	--	--	
3/31/1995	--		4.58	0.00	7.04	<50	<0.50	<0.50	<0.50	<1.0	--	7.1	--	
5/1/1995	--		4.79	0.00	6.83	--	--	--	--	--	--	--	--	
7/12/1995	--		5.32	0.00	6.30	--	--	--	--	--	--	--	--	
10/12/1995	--		5.70	0.00	5.92	<50	<0.50	<0.50	<0.50	<1.0	<5.0	6.7	--	
2/27/1996	--		--	--	--	--	--	--	--	--	--	--	--	f
5/8/1996	--		4.91	0.00	6.71	--	--	--	--	--	--	--	--	
8/9/1996	--		5.01	0.00	6.61	<50	<0.5	<1.0	<1.0	<1.0	<10	7.7	--	
11/7/1996	--		5.54	0.00	6.08	--	--	--	--	--	--	--	--	
2/10/1997	--		4.66	0.00	6.96	--	--	--	--	--	--	--	--	
8/4/1997	--		5.51	0.00	6.11	<50	<0.5	<1.0	<1.0	<1.0	<10	6.9	--	
1/27/1998	--		4.01	0.00	7.61	--	--	--	--	--	--	--	--	
9/2/1998	--		5.17	0.00	6.45	<50	<0.5	<1.0	<1.0	<1.0	<10	6.4	--	
2/24/1999	--		4.52	0.00	7.10	<50	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	
8/30/1999	--		6.02	0.00	5.60	--	--	--	--	--	--	--	--	
2/21/2000	--		4.62	0.00	7.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
2/12/2001	--		4.80	0.00	6.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
2/4/2002	--		4.63	0.00	6.99	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--	
8/29/2002	--		5.15	0.00	6.47	--	--	--	--	--	--	--	--	
2/5/2003	--		4.36	0.00	7.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
8/14/2003	--		--	--	--	--	--	--	--	--	--	--	--	o
02/12/2004	--		--	--	--	--	--	--	--	--	--	--	--	f
08/12/2004	--		4.91	0.00	6.71	--	--	--	--	--	--	--	--	
02/10/2005	P		4.54	0.00	7.08	<50	<0.50	<0.50	<0.50	<0.50	0.90	--	6.1	
08/11/2005	--		4.92	0.00	6.70	--	--	--	--	--	--	--	--	
02/09/2006	--		--	--	--	--	--	--	--	--	--	--	--	s
8/10/2006	--		5.07	0.00	6.55	--	--	--	--	--	--	--	--	
2/8/2007	P		5.10	0.00	6.52	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.01	7.20	
8/8/2007	--		5.42	0.00	6.20	--	--	--	--	--	--	--	--	

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
						GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-5 Cont.														
2/22/2008	P	11.62	4.20	0.00	7.42	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.52	7.25	
8/13/2008	--		5.27	0.00	6.35	--	--	--	--	--	--	--	--	
2/11/2009	P		4.81	0.00	6.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.87	6.71	
8/27/2009	--		4.99	0.00	6.63	--	--	--	--	--	--	--	--	
2/18/2010	P		5.60	0.00	6.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.35	6.87	
8/12/2010	--		--	--	--	--	--	--	--	--	--	--	--	f
2/17/2011	--		--	--	--	--	--	--	--	--	--	--	--	f, paved over
QC-2														
7/9/1993	--	NS	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	g,k
10/8/1993	--		--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	g,k
1/6/1994	--		--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	g,k
4/26/1994	--		--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	g,k
7/25/1994	--		--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	g,k
10/13/1994	--		--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	g,k
1/17/1995	--		--	--	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	g
3/31/1995	--		--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	g
7/12/1995	--		--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	--	--	g
10/12/1995	--		--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	g
2/27/1996	--		--	--	--	<50	<0.5	<1	<1	<1	<10	--	--	g
5/9/1996	--		--	--	--	<50	<0.5	<1	<1	<1	<10	--	--	g
RW-1														
1/6/1994	--	11.84	5.59	0.00	6.25	24,000	3,700	210	830	2,000	4,562	--	--	c,d,k
1/6/1994	--		5.59	0.00	6.25	23,000	3,800	210	840	2,100	4,663	--	--	c,k
4/26/1994	--		5.21	0.00	6.63	22,000	3,300	110	700	1,700	6,909	--	--	c,d,k
4/26/1994	--		5.21	0.00	6.63	24,000	3,500	120	800	1,700	8,145	6.4	--	c,k
7/25/1994	--		5.52	0.00	6.32	28,000	4,400	240	960	1,400	20,608	--	--	c,d,k
7/25/1994	--		5.52	0.00	6.32	31,000	4,800	290	1,100	1,700	<5.0	5.5	--	c,k
10/13/1994	--		6.05	0.00	5.79	20,000	4,200	46	990	440	--	6.8	--	k
1/17/1995	--		4.02	0.00	7.82	9,600	1,500	65	300	2,700	--	7.7	--	

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
						GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
RW-1 Cont.														
3/31/1995	--	11.84	3.81	0.00	8.03	16,000	1,500	780	370	2,000	--	7.8	--	
5/1/1995	--		4.21	0.00	7.63	--	--	--	--	--	--	--	--	
7/12/1995	--		4.93	0.00	6.91	22,000	3,700	150	950	2,800	--	7.2	--	
10/12/1995	--		5.46	0.00	6.38	30,000	1,600	1,500	1,700	8,500	4,300	7.0	--	
2/27/1996	--		4.00	0.00	7.84	1,600	30	23	38	420	50	--	--	d
2/27/1996	--		4.00	0.00	7.84	1,800	30	24	41	440	52	7.7	--	
5/8/1996	--		4.65	0.00	7.19	--	--	--	--	--	--	--	--	
5/9/1996	--		--	--	--	3,200	19	19	97	800	<50	7.1	--	
5/9/1996	--		--	--	--	2,900	15	15	78	700	<50	--	--	d
8/9/1996	--		4.96	0.00	6.88	--	--	--	--	--	--	--	--	
8/12/1996	--		--	--	--	6,900	210	270	390	1,920	<100	7.9	--	
8/12/1996	--		--	--	--	8,200	270	330	450	2,330	<100	--	--	d
11/7/1996	--		5.50	0.00	6.34	6,800	360	45	<10	<10	500	--	--	d
11/7/1996	--		5.50	0.00	6.34	6,100	320	45	<10	<10	430	6.9	--	
2/10/1997	--		3.85	0.00	7.99	170,000	<120	<250	<250	<250	150,000	6.7	--	
8/4/1997	--		4.72	0.00	7.12	<25000	580	450	630	3,700	230,000	6.9	--	
1/27/1998	--		3.80	0.00	8.04	51,000	380	300	480	2,980	36,000	--	--	d
1/27/1998	--		3.80	0.00	8.04	52,000	380	330	490	2,970	38,000	6.1	--	
9/2/1998	--		4.91	0.00	6.93	280,000	2,400	<50	1,400	3,170	270,000	--	--	d
9/2/1998	--		4.91	0.00	6.93	260,000	2,500	56	1,400	3,070	250,000	6.6	--	
2/24/1999	--		4.16	0.00	7.68	120	<1.0	<1.0	1.5	13	130/140	--	--	h
8/30/1999	--		5.52	0.00	6.32	3,100	320	<25	120	28	60,000	--	--	
2/21/2000	--		3.68	0.00	8.16	340 i	8.6	1.8	11	66	2,500	--	--	i
8/8/2000	--		4.85	0.00	6.99	1,600	3.2	<0.5	0.82	1.2	19,000	--	--	
2/12/2001	--		4.26	0.00	7.58	1,500	1.33	<0.5	<0.5	5.69	2,420	--	--	
8/13/2001	--		5.34	0.00	6.50	290	<0.5	<0.5	<0.5	<1.5	314	--	--	
2/4/2002	--		4.08	0.00	7.76	570	9.15	0.874	19.2	83.8	97.4	--	--	
8/29/2002	--		5.12	0.00	6.72	<50	0.59	<0.50	<0.50	<0.50	19	--	--	
2/5/2003	--		5.21	0.00	6.63	<50	<0.50	<0.50	0.68	1.7	18	--	--	n
8/14/2003	--		5.07	0.00	6.77	<500	<5.0	<5.0	<5.0	5.4	490	--	--	p

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

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	P/NP	TOC Elevation (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
						GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
RW-1 Cont.														
02/12/2004	P	11.84	4.19	0.00	7.65	120	1.6	<1.0	3.0	4.1	51	--	5.9	
08/12/2004	P		5.11	0.00	6.73	170	6.9	<0.50	4.5	10	57	--	6.0	
02/10/2005	P		4.15	0.00	7.69	64	1.6	<0.50	0.94	<0.50	39	--	5.9	
08/11/2005	P		4.82	0.00	7.02	480	6.5	<0.50	7.0	14	40	--	6.5	
02/09/2006	P		3.95	0.00	7.89	<50	1.3	<0.50	0.83	0.80	7.8	--	6.9	
8/10/2006	--		4.90	0.00	6.94	780	43	<1.0	150	200	9.9	--	6.5	
2/8/2007	P		5.03	0.00	6.81	140	4.0	<1.0	<1.0	1.8	14	4.17	6.99	
8/8/2007	P		5.40	0.00	6.44	150	4.4	<0.50	<0.50	1.9	3.0	3.92	6.91	
2/22/2008	P		4.13	0.00	7.71	120	0.87	<0.50	<0.50	<0.50	13	3.68	6.78	
8/13/2008	P		5.50	0.00	6.34	1,900	60	2.2	4.1	670	9.0	0.45	8.72	
2/11/2009	P		5.35	0.00	6.49	220	14	<0.50	<0.50	<0.50	6.2	0.54	6.92	
8/27/2009	P		5.40	0.00	6.44	630	11	0.87	<0.50	180	9.9	0.58	7.23	
2/18/2010	NP		4.57	0.00	7.27	<50	<0.50	<0.50	<0.50	<0.50	6.1	1.08	6.73	
8/12/2010	NP		5.38	0.00	6.46	100	<0.50	<0.50	<0.50	<0.50	23	0.65	7.5	
2/17/2011	NP		4.88	0.00	6.96	<50	<0.50	<0.50	<0.50	<0.50	3.2	0.68	6.6	
7/5/2011	--		**4.92**	**0.01**	**6.93**	--	--	--	--	--	--	--	--	

Symbols & Abbreviations:
DO = Dissolved oxygen
ft bgs = Feet below ground surface
ft MSL = Feet above mean sea level
GRO = Gasoline range organics, range C4-C12
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter
--/--- = Not applicable/available/analyzed/measured
< = Not detected at or above specified laboratory reporting limit
PACE = Pace Analytical Services, Inc.
ATI = Analytical Technologies, Inc.
SPL = Southern Petroleum Laboratories
SEQ/SEQM = Sequoia Analytical/Sequoia Morgan Hill (Laboratories)
CEL = CalScience Environmental Laboratories, Inc.
TOC = Top of casing measured in ft MSL
DTW = Depth to water measured in ft bgs
GWE = Groundwater elevation measured in ft MSL

Footnotes:
a = TOC elevations surveyed in reference to USGS benchmark 14.108 ft MSL at northwest corner of Webster Street and Pacific Avenue
b = Groundwater elevations in ft MSL
c = A copy of the documentation for this data is included in Appendix C of Alisto report 10-155-07-001
d = Blind duplicate
e = Sample also analyzed for cadmium, nickel, chromium, lead, and zinc. None were detected above the reported detection limit
f = Well inaccessible
g = Travel blank
h = MTBE by EPA Methods 8020/8260
i = Gasoline does not include MTBE
j = Unable to sample
k = A copy of the documentation for this data can be found in Baline Tech Services report 010813-N-2. No chromatograms could be located for MTBE data from wells MW-2,MW-3, MW-4, MW-5, and QC-2, sampled on July 9, 1993; all wells sampled on October 8, 1993; wells MW-1, MW-2, and MW-3, sampled on January 6, 1994; and all wells sampled on October 13, 1994
l = Chromatogrom Pattern: Gasoline C6-C10
m = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument
n = The closing calibration was outside acceptance limits by 1% high. This should be considered inevaluating the result. The avg. % difference for all analytes met the 15% requirement and the QC suggests that calibration linearity is not a factor
o = The original scope of work only called for annual gauging of well. This issue has been addressed, and in the future, gauging of this well will be semi-annual 1st and 3rd quarter.
p = Groundwater samples analyzed by EPA Method 8260B for TPH-g, BTEX, and MTBE
q = 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
r = Possible obstruction in well
s = Car parked over well
t = Sample > 4x spike concentration

Notes:
During the second quarter of 2002, URS Corporation assumed groundwater monitoring activities for BP

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

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

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
7/9/1993	--	--	12,952	--	--	--	--	--	
7/9/1993	--	--	11,919	--	--	--	--	--	
4/26/1994	--	--	16,663	--	--	--	--	--	
7/25/1994	--	--	26,428	--	--	--	--	--	
10/12/1995	--	--	15,000	--	--	--	--	--	
10/12/1995	--	--	14,000	--	--	--	--	--	
2/27/1996	--	--	5,500	--	--	--	--	--	
5/9/1996	--	--	2,700	--	--	--	--	--	
8/12/1996	--	--	1,800	--	--	--	--	--	
11/7/1996	--	--	2,100	--	--	--	--	--	
2/10/1997	--	--	160,000	--	--	--	--	--	
2/10/1997	--	--	160,000	--	--	--	--	--	
8/4/1997	--	--	250,000	--	--	--	--	--	
8/4/1997	--	--	260,000	--	--	--	--	--	
1/27/1998	--	--	490,000	--	--	--	--	--	
9/2/1998	--	--	230,000	--	--	--	--	--	
2/24/1999	--	--	90,000/200,00	--	--	--	--	--	
8/30/1999	--	--	48,000	--	--	--	--	--	
2/21/2000	--	--	31,000	--	--	--	--	--	
8/8/2000	--	--	60,000	--	--	--	--	--	
2/12/2001	--	--	18,000	--	--	--	--	--	
8/13/2001	--	--	5,590	--	--	--	--	--	
2/4/2002	--	--	2,470	--	--	--	--	--	
8/29/2002	--	--	3,100	--	--	--	--	--	
2/5/2003	--	--	590 m,n	--	--	--	--	--	
8/14/2003	<10,000	<2,000	4,500	<50	<50	89	<50	<50	a
02/12/2004	<2,000	960	1,200	<10	<10	33	<10	<10	
08/12/2004	<1,000	730	260	<5.0	<5.0	9.3	<5.0	<5.0	
02/10/2005	<1,000	2,300	730	<5.0	<5.0	26	<5.0	<5.0	b
08/11/2005	<1,000	460	190	<5.0	<5.0	10	<5.0	<5.0	
02/09/2006	<3,000	400	380	<5.0	<5.0	18	<5.0	<5.0	b, c
8/10/2006	<3,000	<200	47	<5.0	<5.0	<5.0	<5.0	<5.0	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1 Cont.									
2/8/2007	<3,000	210	130	<5.0	<5.0	7.8	<5.0	<5.0	
8/8/2007	<300	190	140	<0.50	<0.50	8.7	<0.50	<0.50	d (MTBE)
2/22/2008	<300	51	59	<0.50	<0.50	3.1	<0.50	<0.50	
8/13/2008	<3,000	340	370	<5.0	<5.0	22	<5.0	<5.0	
2/11/2009	<1,200	480	68	<2.0	<2.0	3.4	<2.0	<2.0	
8/27/2009	<1,200	180	20	<2.0	<2.0	<2.0	<2.0	<2.0	
2/18/2010	<1,200	160	48	<2.0	<2.0	2.8	<2.0	<2.0	
8/12/2010	<1,200	140	76	<2.0	<2.0	6.4	<2.0	<2.0	
2/17/2011	<1,200	120	40	<2.0	<2.0	3.1	<2.0	<2.0	
7/5/2011	**1,500**	**59**	**22**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	
MW-2									
4/26/1994	--	--	<5.0	--	--	--	--	--	
7/25/1994	--	--	11.59	--	--	--	--	--	
10/12/1995	--	--	<5.0	--	--	--	--	--	
2/27/1996	--	--	<10	--	--	--	--	--	
8/9/1996	--	--	<10	--	--	--	--	--	
8/4/1997	--	--	<10	--	--	--	--	--	
9/2/1998	--	--	110	--	--	--	--	--	
2/24/1999	--	--	8.2	--	--	--	--	--	
2/21/2000	--	--	0.72	--	--	--	--	--	
2/12/2001	--	--	<0.5	--	--	--	--	--	
2/4/2002	--	--	<0.5	--	--	--	--	--	
2/5/2003	--	--	<2.5	--	--	--	--	--	
02/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/10/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
02/09/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b, c
2/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-3									
4/26/1994	--	--	<5.0	--	--	--	--	--	
7/25/1994	--	--	<5.0	--	--	--	--	--	
10/12/1995	--	--	<5.0	--	--	--	--	--	
2/27/1996	--	--	<10	--	--	--	--	--	
8/9/1996	--	--	<10	--	--	--	--	--	
8/4/1997	--	--	<10	--	--	--	--	--	
9/2/1998	--	--	<10	--	--	--	--	--	
2/24/1999	--	--	<1.0	--	--	--	--	--	
2/21/2000	--	--	<0.5	--	--	--	--	--	
02/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/10/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b
02/09/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4									
1/6/1994	--	--	<5.0	--	--	--	--	--	
4/26/1994	--	--	<5.0	--	--	--	--	--	
7/25/1994	--	--	<5.0	--	--	--	--	--	
10/12/1995	--	--	<5.0	--	--	--	--	--	
2/27/1996	--	--	<10	--	--	--	--	--	
8/9/1996	--	--	<10	--	--	--	--	--	
8/4/1997	--	--	<10	--	--	--	--	--	
9/2/1998	--	--	<10	--	--	--	--	--	
2/24/1999	--	--	<1.0	--	--	--	--	--	
2/21/2000	--	--	0.66	--	--	--	--	--	
2/12/2001	--	--	0.982	--	--	--	--	--	
2/4/2002	--	--	<0.5	--	--	--	--	--	
2/5/2003	--	--	<2.5	--	--	--	--	--	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-4 Cont.									
02/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
02/10/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	b, c
02/09/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-5									
1/6/1994	--	--	<5.0	--	--	--	--	--	
4/26/1994	--	--	<5.0	--	--	--	--	--	
7/25/1994	--	--	<5.0	--	--	--	--	--	
10/12/1995	--	--	<5.0	--	--	--	--	--	
8/9/1996	--	--	<10	--	--	--	--	--	
8/4/1997	--	--	<10	--	--	--	--	--	
9/2/1998	--	--	<10	--	--	--	--	--	
2/24/1999	--	--	<1.0	--	--	--	--	--	
2/21/2000	--	--	<0.5	--	--	--	--	--	
2/12/2001	--	--	<0.5	--	--	--	--	--	
2/4/2002	--	--	<0.5	--	--	--	--	--	
2/5/2003	--	--	<2.5	--	--	--	--	--	
02/10/2005	<100	<20	0.90	<0.50	<0.50	<0.50	<0.50	<0.50	b, c
2/8/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2011	--	--	--	--	--	--	--	--	f, paved over
QC-2									
1/6/1994	--	--	<5.0	--	--	--	--	--	
4/26/1994	--	--	<5.0	--	--	--	--	--	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
QC-2 Cont.									
7/25/1994	--	--	<5.0	--	--	--	--	--	
10/12/1995	--	--	<5.0	--	--	--	--	--	
2/27/1996	--	--	<10	--	--	--	--	--	
5/9/1996	--	--	<10	--	--	--	--	--	
RW-1									
1/6/1994	--	--	4,562	--	--	--	--	--	
1/6/1994	--	--	4,663	--	--	--	--	--	
4/26/1994	--	--	6,909	--	--	--	--	--	
4/26/1994	--	--	8,145	--	--	--	--	--	
7/25/1994	--	--	20,608	--	--	--	--	--	
7/25/1994	--	--	<5.0	--	--	--	--	--	
10/12/1995	--	--	4,300	--	--	--	--	--	
2/27/1996	--	--	50	--	--	--	--	--	
2/27/1996	--	--	52	--	--	--	--	--	
5/9/1996	--	--	<50	--	--	--	--	--	
5/9/1996	--	--	<50	--	--	--	--	--	
8/12/1996	--	--	<100	--	--	--	--	--	
8/12/1996	--	--	<100	--	--	--	--	--	
11/7/1996	--	--	500	--	--	--	--	--	
11/7/1996	--	--	430	--	--	--	--	--	
2/10/1997	--	--	150,000	--	--	--	--	--	
8/4/1997	--	--	230,000	--	--	--	--	--	
1/27/1998	--	--	36,000	--	--	--	--	--	
1/27/1998	--	--	38,000	--	--	--	--	--	
9/2/1998	--	--	270,000	--	--	--	--	--	
9/2/1998	--	--	250,000	--	--	--	--	--	
2/24/1999	--	--	130/140	--	--	--	--	--	
8/30/1999	--	--	60,000	--	--	--	--	--	
2/21/2000	--	--	2,500	--	--	--	--	--	
8/8/2000	--	--	19,000	--	--	--	--	--	
2/12/2001	--	--	2,420	--	--	--	--	--	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11104, 1716 Webster St., Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
RW-1 Cont.									
8/13/2001	--	--	314	--	--	--	--	--	
2/4/2002	--	--	97.4	--	--	--	--	--	
8/29/2002	--	--	19	--	--	--	--	--	
2/5/2003	--	--	18	--	--	--	--	--	
8/14/2003	<1,000	<200	490	<5.0	<5.0	11	<5.0	<5.0	a
02/12/2004	<200	83	51	<1.0	<1.0	1.2	<1.0	<1.0	
08/12/2004	<100	500	57	<0.50	<0.50	1.0	<0.50	<0.50	
02/10/2005	<100	69	39	<0.50	<0.50	0.68	<0.50	<0.50	b, c
08/11/2005	<100	390	40	<0.50	<0.50	1.3	<0.50	<0.50	c
02/09/2006	<300	31	7.8	<0.50	<0.50	<0.50	<0.50	<0.50	
8/10/2006	<600	190	9.9	<1.0	<1.0	<1.0	<1.0	<1.0	
2/8/2007	<600	220	14	<1.0	<1.0	<1.0	<1.0	<1.0	
8/8/2007	<300	170	3.0	<0.50	<0.50	<0.50	<0.50	<0.50	
2/22/2008	<300	56	13	<0.50	<0.50	<0.50	<0.50	<0.50	
8/13/2008	<300	38	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
2/11/2009	<300	69	6.2	<0.50	<0.50	<0.50	<0.50	<0.50	
8/27/2009	<300	100	9.9	<0.50	<0.50	<0.50	<0.50	<0.50	
2/18/2010	<300	<10	6.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/12/2010	<300	250	23	<0.50	<0.50	0.81	<0.50	<0.50	
2/17/2011	<300	<10	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	

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

Footnotes:
a = The continuing calibration was outside of client contractual acceptance limits by 3.4% low. However, it was within the method acceptance limit. The data should still be useful for its intended purpose
b = Possible high bias for 1,2-DCA due to CCV falling outside acceptance criteria
c = Callibration verification for ethanol was within method limits but outside contract limits
d = Sample > 4x spike concentration

Notes:
All fuel oxygenate compounds analyzed using EPA Method 8260B

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

Table 3. Historical Groundwater Gradient - Direction and Magnitude

Former BP Station #11104, 1716 Webster St., Alameda, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
2/9/2006	North-Northwest	0.007
8/10/2006	North-Northwest	0.007
2/8/2007	North-Northwest	0.007
8/8/2007	North-Northwest	0.004
2/22/2008	North-Northwest	0.003
8/13/2008	North-Northwest	0.007
2/11/2009	Northeast	0.004
8/27/2009	Northeast	0.004
2/18/2010	North-Northwest	0.008
8/12/2010	North-Northeast	0.005
2/17/2011	North-Northwest	0.008
7/5/2011	**North-Northeast**	**0.003**

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

APPENDIX A

FIELD METHODS

BROADBENT & ASSOCIATES INC. FIELD PROCEDURES

A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

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

A.1.1 Water Level & Free-Product Measurement

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

A.1.2 Monitoring Well Purging

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

A.1.3 Ground-Water Sample Collection

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

A.1.4 Surface Water Sample Collection

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

A.1.5 Decontamination Protocol

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

A.1.6 Chain of Custody Procedures

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

Field Custody Procedures

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

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

Transfer of Custody and Shipment

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

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

A.1.7 Field Records

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

APPENDIX B

FIELD DATA SHEETS

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

FIELD DATA REPORT

DATE: 7/5/11
PERSONNEL: SB JR
WEATHER: Sunny

PROJECT NO.: 06-88-644
COMMENTS: BP 11104

Equip:	Geosquirt	Tubing	Bailers	DO	wli	Ec/pH

Well ID	Time	MEASURING POINT	DTW (FT)	PRODUCT THICKNESS	pH	Cond. (X100)	Temp. (C/F)	DO (mg/l)	Redox (mV)	Iron (mg/l)	Alk. (mg/l)	WELL HEAD CONDITION: VAULT, BOLTS, CAP, LOCK, ETC
MW-1	0918		4.86									
MW-2	0941		5.54									
MW-3	0936		6.20									
MW-4	1022		4.91									Paved over
MW-5												NP
RW-1	1006		4.92									

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

Groundwater Sampling Data Sheet

Well I.D.: MW-1
Project Name/Location: BP 11164 Project #: 06-83-644
Sampler's Name: SB, JR Date: 7/5/11
Purging Equipment:
Sampling Equipment: bailer
Casing Type: PVC

Casing Diameter:	2	inch	
Total Well Depth:	15.35	feet	
Depth to Water:	- 4.86	feet	
Water Column Thickness:	= 10.49	feet	
Unit Casing Volume*:	x 0.16	gallon / foot	
Casing Water Volume:	= 1.6	gallons	
Casing Volume:	x 3	each	
Estimated Purge Volume:	= 5.0	gallons	

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

Free product measurement (if present):

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (~~Fahrenheit~~) C	pH	Observations
0	0950	0.41	—	—	564	21.9	7.2	
1	0953	x	x	x	567	21.0	7.2	
2	0955	x	x	x	597	19.9	7.2	
		x	x	x				
		x	x	x				
		x	x	x				
		x	x	x				
		x	x	x				

Total Water Volume Purged: 2.0 gallons
Depth to Water at Sample Collection: — feet
Sample Collection Time: 1000 Purged Dry? (Y / (N))

Comments: HC odor

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

Groundwater Sampling Data Sheet

Well I.D.: RW-1
Project Name/Location: BP 11104 Project #: 09-88-644
Sampler's Name: SB & JR Date: 7/5/11
Purging Equipment:
Sampling Equipment: Bailer
Casing Type: PVC

Casing Diameter:		6	inch
Total Well Depth:		22.62	feet
Depth to Water:	-	4.92	feet
Water Column Thickness:	=		feet
Unit Casing Volume*:	x		gallon / foot
Casing Water Volume:	=		gallons
Casing Volume:	x	3	each
Estimated Purge Volume:	=		gallons

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

Free product measurement (if present): 0.01

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0								
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 0 gallons
Depth to Water at Sample Collection: feet
Sample Collection Time: 1020 Purged Dry? (Y / (N))

Comments: NP no Sample

APPENDIX C

LABORATORY REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION

Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE

WORK ORDER NUMBER: 11-07-0218

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Broadbent & Associates, Inc

Client Project Name: BP 11104

Attention: Tom Sparrowe
875 Cotting Lane, Suite G
Vacaville, CA 95688-9299

Approved for release on 07/20/2011 by:
Richard Villafania
Project Manager

ResultLink

Email your PM

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 analyses, 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. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc	Date Received: 07/06/11
875 Cotting Lane, Suite G	Work Order No: 11-07-0218
Vacaville, CA 95688-9299	Preparation: EPA 5030C
	Method: EPA 8015B (M)

Project: BP 11104 Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**11-07-0218-1-E**	**07/05/11 10:00**	**Aqueous**	**GC 57**	**07/08/11**	**07/08/11 16:03**	**110708B01**

Comment(s): -LW Quantitated against gasoline.

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	6900	100	2		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	131	38-134	

Method Blank	099-12-695-1,110	N/A	Aqueous	GC 57	07/08/11	07/08/11 11:52	110708B01

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	65	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc	Date Received:	07/06/11
875 Cotting Lane, Suite G	Work Order No:	11-07-0218
Vacaville, CA 95688-9299	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: BP 11104

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**11-07-0218-1-A**	**07/05/11 10:00**	**Aqueous**	**GC/MS FFF**	**07/06/11**	**07/07/11 00:26**	**110706L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	110	2.5	5		Methyl-t-Butyl Ether (MTBE)	22	2.5	5	
1,2-Dibromoethane	ND	2.5	5		Tert-Butyl Alcohol (TBA)	59	50	5	
1,2-Dichloroethane	ND	2.5	5		Diisopropyl Ether (DIPE)	ND	2.5	5	
Ethylbenzene	190	12	25		Ethyl-t-Butyl Ether (ETBE)	ND	2.5	5	
Toluene	5.5	2.5	5		Tert-Amyl-Methyl Ether (TAME)	ND	2.5	5	
Xylenes (total)	1900	12	25		Ethanol	ND	1500	5	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	68-120			Dibromofluoromethane	96	80-127		
1,2-Dichloroethane-d4	105	80-128			Toluene-d8	103	80-120		

Method Blank	**099-12-703-1,778**	**N/A**	**Aqueous**	**GC/MS FFF**	**07/06/11**	**07/06/11 17:33**	**110706L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	68-120			Dibromofluoromethane	108	80-127		
1,2-Dichloroethane-d4	117	80-128			Toluene-d8	99	80-120		

Method Blank	**099-12-703-1,780**	**N/A**	**Aqueous**	**GC/MS FFF**	**07/07/11**	**07/07/11 18:47**	**110707L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethylbenzene	ND	0.50	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Toluene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
Xylenes (total)	ND	0.50	1		Ethanol	ND	300	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	68-120			Dibromofluoromethane	96	80-127		
1,2-Dichloroethane-d4	105	80-128			Toluene-d8	98	80-120		

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 07/06/11
Work Order No: 11-07-0218
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-07-0217-1	**Aqueous**	**GC 57**	**07/08/11**	**07/08/11**	**110708S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	82	81	38-134	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 07/06/11
Work Order No: 11-07-0218
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-07-0179-4	**Aqueous**	**GC/MS FFF**	**07/06/11**	**07/06/11**	**110706S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	99	101	76-124	2	0-20	
Carbon Tetrachloride	105	109	74-134	3	0-20	
Chlorobenzene	100	101	80-120	1	0-20	
1,2-Dibromoethane	101	99	80-120	2	0-20	
1,2-Dichlorobenzene	101	98	80-120	3	0-20	
1,2-Dichloroethane	102	103	80-120	1	0-20	
Ethylbenzene	102	104	78-126	2	0-20	
Toluene	98	102	80-120	4	0-20	
Trichloroethene	95	96	77-120	2	0-20	
Methyl-t-Butyl Ether (MTBE)	100	101	67-121	1	0-49	
Tert-Butyl Alcohol (TBA)	112	111	36-162	1	0-30	
Diisopropyl Ether (DIPE)	107	110	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	100	103	69-123	3	0-30	
Tert-Amyl-Methyl Ether (TAME)	95	97	65-120	2	0-20	
Ethanol	122	120	30-180	1	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 07/06/11
Work Order No: 11-07-0218
Preparation: EPA 5030C
Method: EPA 8260B

Project BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-07-0004-1	**Aqueous**	**GC/MS FFF**	**07/07/11**	**07/07/11**	**110707S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	90	89	76-124	1	0-20	
Carbon Tetrachloride	89	86	74-134	3	0-20	
Chlorobenzene	93	92	80-120	1	0-20	
1,2-Dibromoethane	97	95	80-120	2	0-20	
1,2-Dichlorobenzene	92	93	80-120	1	0-20	
1,2-Dichloroethane	94	91	80-120	3	0-20	
Ethylbenzene	99	99	78-126	0	0-20	
Toluene	91	91	80-120	0	0-20	
Trichloroethene	86	85	77-120	2	0-20	
Methyl-t-Butyl Ether (MTBE)	86	84	67-121	2	0-49	
Tert-Butyl Alcohol (TBA)	111	128	36-162	15	0-30	
Diisopropyl Ether (DIPE)	91	88	60-138	3	0-45	
Ethyl-t-Butyl Ether (ETBE)	86	85	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	88	87	65-120	1	0-20	
Ethanol	119	120	30-180	1	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 11-07-0218
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-1,110	**Aqueous**	**GC 57**	**07/08/11**	**07/08/11**	**110708B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	80	90	78-120	13	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Broadbent & Associates, Inc		Date Received:	N/A
875 Cotting Lane, Suite G		Work Order No:	11-07-0218
Vacaville, CA 95688-9299		Preparation:	EPA 5030C
		Method:	EPA 8260B

Project: BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,778	**Aqueous**	**GC/MS FFF**	**07/06/11**	**07/06/11**	**110706L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	99	99	80-120	73-127	0	0-20	
Carbon Tetrachloride	106	108	74-134	64-144	2	0-20	
Chlorobenzene	99	97	80-120	73-127	2	0-20	
1,2-Dibromoethane	101	99	79-121	72-128	2	0-20	
1,2-Dichlorobenzene	99	95	80-120	73-127	4	0-20	
1,2-Dichloroethane	102	101	80-120	73-127	1	0-20	
Ethylbenzene	101	99	80-120	73-127	2	0-20	
Toluene	100	99	80-120	73-127	1	0-20	
Trichloroethene	96	96	79-127	71-135	0	0-20	
Methyl-t-Butyl Ether (MTBE)	105	105	69-123	60-132	0	0-20	
Tert-Butyl Alcohol (TBA)	101	99	63-123	53-133	2	0-20	
Diisopropyl Ether (DIPE)	110	110	59-137	46-150	0	0-37	
Ethyl-t-Butyl Ether (ETBE)	106	106	69-123	60-132	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	99	98	70-120	62-128	1	0-20	
Ethanol	120	102	28-160	6-182	16	0-57	

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

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 11-07-0218
Preparation: EPA 5030C
Method: EPA 8260B

Project: BP 11104

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-703-1,780	**Aqueous**	**GC/MS FFF**	**07/07/11**	**07/07/11**	**110707L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	92	93	80-120	73-127	1	0-20	
Carbon Tetrachloride	90	93	74-134	64-144	3	0-20	
Chlorobenzene	95	95	80-120	73-127	0	0-20	
1,2-Dibromoethane	97	96	79-121	72-128	0	0-20	
1,2-Dichlorobenzene	96	95	80-120	73-127	1	0-20	
1,2-Dichloroethane	96	96	80-120	73-127	1	0-20	
Ethylbenzene	96	97	80-120	73-127	1	0-20	
Toluene	92	93	80-120	73-127	1	0-20	
Trichloroethene	89	91	79-127	71-135	2	0-20	
Methyl-t-Butyl Ether (MTBE)	88	89	69-123	60-132	1	0-20	
Tert-Butyl Alcohol (TBA)	101	100	63-123	53-133	0	0-20	
Diisopropyl Ether (DIPE)	95	95	59-137	46-150	1	0-37	
Ethyl-t-Butyl Ether (ETBE)	89	90	69-123	60-132	0	0-20	
Tert-Amyl-Methyl Ether (TAME)	89	89	70-120	62-128	0	0-20	
Ethanol	122	119	28-160	6-182	2	0-57	

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

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-07-0218

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

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

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

0218

Page ____ of ____

BP/ARC Project Name: BP 11104 **Req Due Date (mm/dd/yy):** ____ **Rush TAT:** Yes ____ No X

BP/ARC Facility No: 11104 **Lab Work Order Number:** ____

Lab Name:	Calscience	BP/ARC Facility Address:	1716 Webster Street, Alameda	Consultant/Contractor:	Broadbent & Associates, Inc.
Lab Address:	7440 Lincoln Way	City, State, ZIP Code:	Alameda, CA	Consultant/Contractor Project No:	06-88-644
Lab PM:	Richard Villafania	Lead Regulatory Agency:	ACEH	Address:	875 Cotting Lane, Suite G, Vacaville, CA
Lab Phone:	714-895-5494	California Global ID No.:	T0600101651	Consultant/Contractor PM:	Tom Sparrowe
Lab Shipping Accnt:	9225	Enfos Proposal No:	005G6-0001	Phone:	707-455-7290
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ____ OOC-RM ____	Email EDD To:	tsparrowe@broadbentinc.com
Other Info:		Stage: Execute (4)	Activity: Project Spend (80)	Invoice To:	BP/ARC X Contractor ____

BP/ARC EBM: Shannon Couch
EBM Phone:
EBM Email:

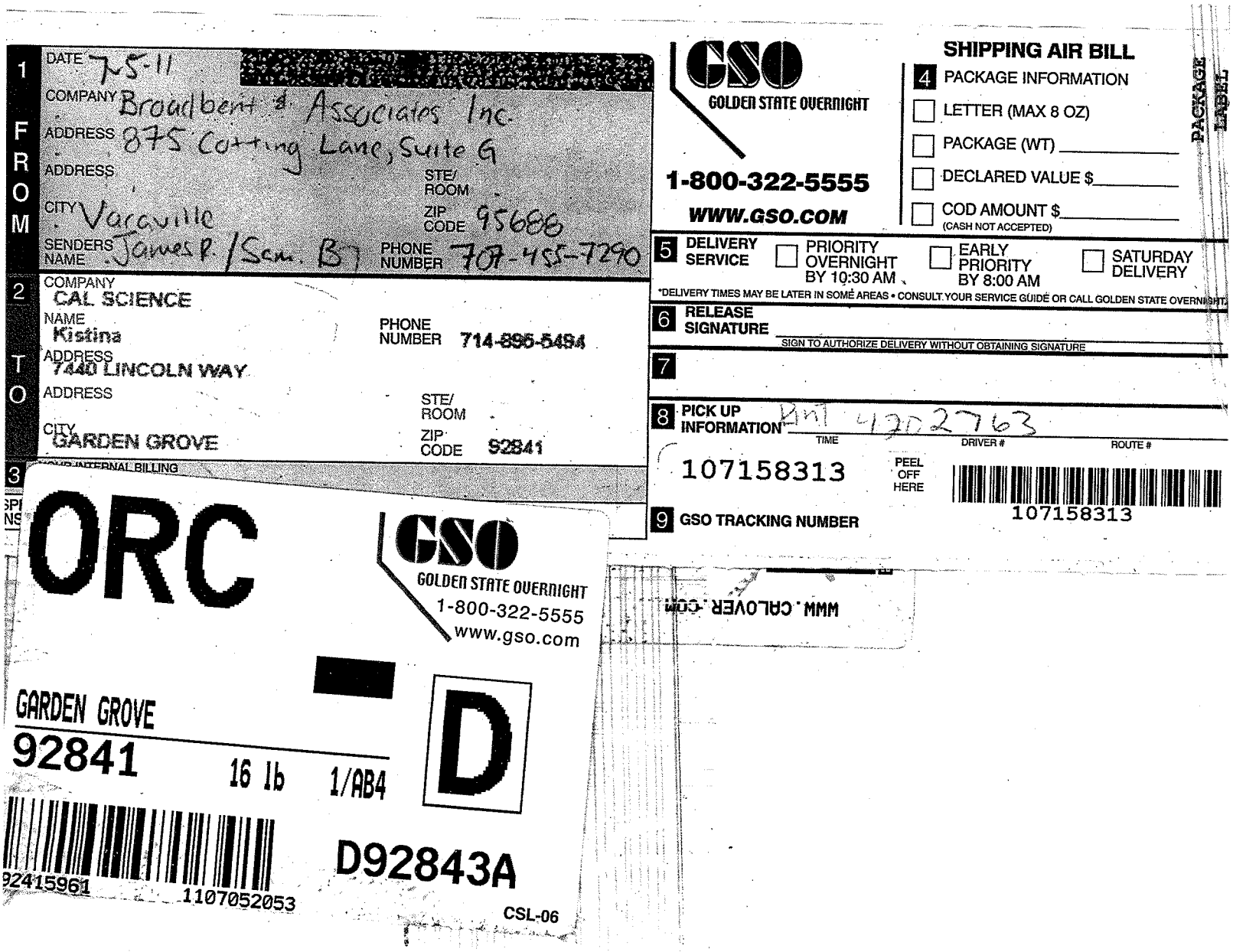
Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol		Requested Analyses: GRO (8015)	BTEX (8260)	5 Oxys (8260)	EDB (8260)	1,2-DCA (8260)	Ethanol (8260)					Report Type & QC Level
1	MW-1	~~TB~~ 7-5-11	1000		X			6				X			X	X	X	X	X	X					
-	~~RW-1~~ (DR)				~~X~~			~~6~~				~~X~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					
		(DR) 7-5-11																							
2	TB - 11104 - 070511	~~1005~~	1005																						

Sampler's Name:	James Ramos / Sam Barkley	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	BAI	James Ram	7-5-11	1700			
Shipment Method:	GSO	Ship Date: 7-5-11					
Shipment Tracking No:	107158813					7/6/11	1030

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

0218



1 FROM
DATE 7-5-11
COMPANY Broadbent & Associates Inc.
ADDRESS 875 Cotting Lane, Suite G
ADDRESS
CITY Vacaville
STE/ ROOM
ZIP CODE 95688
SENDERS NAME James P. / Sam. B
PHONE NUMBER 707-455-7290

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

3 BILLING

GSO GOLDEN STATE OVERNIGHT
1-800-322-5555
WWW.GSO.COM

SHIPPING AIR BILL
PACKAGE LABEL

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

5 DELIVERY SERVICE
☐ PRIORITY OVERNIGHT BY 10:30 AM
☐ EARLY PRIORITY BY 8:00 AM
☐ SATURDAY DELIVERY
*DELIVERY TIMES MAY BE LATER IN SOME AREAS • CONSULT YOUR SERVICE GUIDE OR CALL GOLDEN STATE OVERNIGHT.

6 RELEASE SIGNATURE _____
SIGN TO AUTHORIZE DELIVERY WITHOUT OBTAINING SIGNATURE

7

8 PICK UP INFORMATION Hnt 4202763
TIME DRIVER # ROUTE #

107158313 PEEL OFF HERE

9 GSO TRACKING NUMBER

107158313

ORC

GSO GOLDEN STATE OVERNIGHT
1-800-322-5555
www.gso.com

GARDEN GROVE
92841 16 lb 1/AB4

D

92415961 1107052053

D92843A

CSL-06

WWW.CALOVER.COM

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-07-0218

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Broadbent & Associate DATE: 07/06/11

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

Temperature 3.9 °C + 0.5 °C (CF) = 4.4 °C ☑ Blank ☐ Sample

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

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

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

Ambient Temperature: ☐ Air ☐ Filter **Initial:** JP

CUSTODY SEALS INTACT:

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

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** WSL

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑ WSL 07-06-11	☑	☐
☑ Collection date/time, matrix, and/or # of containers logged in based on sample labels. #2			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

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

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

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

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:** 110601A **Labeled/Checked by:** WSL

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

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

APPENDIX D

TORKELSON GEOCHEMISTRY, INC. LABORATORY REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION

Torkelson Geochemistry, Inc.
2528 South Columbia Place, Tulsa, Oklahoma 74114-3233
Voice 918-749-8441, Fax 918-749-6005

August 24, 2011

Tom Sparrowe
Broadbent & Associates, Inc.
875 Cotting Lane
Suiite G
Vacaville, CA 95688

Subject: Analysis and evaluation of one product sample from the Former BP Station #11104, 1716 Webster St., Alameda, California.

Introduction

One product sample collected August 5, 2011 and three dispenser samples collected August 9, 2011 were submitted to Torkelson Geochemistry by Broadbent & Associates for hydrocarbon fingerprint (capillary gas chromatography) analysis, and evaluation of the results, see chain of custody forms (Figures 1 and 2).

The following are my interpretations of the data. Please keep in mind that these interpretations are made without any specific knowledge of the site, location from which the samples came, or other analyses done on the samples. In addition, the RW-1 sample has probably been weathered which makes an accurate interpretation of product type somewhat more difficult since some of the key features of the product have been altered or removed by the evaporation, water washing or bacterial processes.

Discussion of Results

The exact identity of sample RW-1 is not clear, however it does not appear to be a gasoline. The chromatogram of RW-1 (Figures 3 and 8) shows a series of peaks starting at about nC7 (normal heptane) and continuing to about nC33 and an unresolved hump that starts at about nC9 reaches a maximum at about nC12 and continues to about nC31. The range, types and relative proportions of the peaks of sample RW-1 are distinctly different from the Unleaded Low, Unleaded Mid and Unleaded High gasolines sent with sample RW-1 for comparison (Figures 4-6 and 9-11). The three gasoline samples have gas chromatograms with most of their peaks in the nC 4 to nC11 range. Comparison of the RW-1 gas chromatogram to the gas chromatograms of the three gasoline samples shows that most of the peaks on the RW-1 chromatogram occur where there are hardly any peaks on the three gasoline samples and visa versa. It is also highly unlikely that any sort of weathering could have altered a gasoline to result in a gas chromatogram like that of sample RW-1. The gas chromatogram of RW-1 has some of the characteristics of a middle distillate either diesel fuel or fuel oil. When compared to a diesel fuel (Figure 13) one can see that the range of RW-1 is somewhat similar but extends to about nC33 while the diesel fuel gas chromatogram ends at about nC24. There is also a group of closely spaced peaks from about nC9 to nC13 on the RW-1 chromatogram that is not typical of diesel fuel or fuel oil. As with the gasoline it is unlikely that a diesel fuel or fuel could be weathered to give a gas chromatogram like that of sample RW-1. This does not necessarily rule out the possibility that RW-1 is some unique formulation of diesel fuel or fuel oil, but I have not seen a diesel fuel or fuel oil with a gas chromatogram like RW-1.

Please let me know if you have any questions regarding this interpretation.

Bruce Torkelson

Torkelson Geochemistry, Inc.

2528 S. Columbia Place
Tulsa, OK 74114-3233
Phone: 918-749-8441
Fax: 918-749-6005
e-mail: BTorkelson@torkelsongeochemistry.com

CHAIN-OF-CUSTODY RECORD

Page __1__ of __1__

Project:	Former BP Station #11104
Location:	1716 Webster St.
	Alameda, California
Proj. No.:	06-88-644
P.O.:	same
Sampled By:	Sam Barkley, BAI

Report/Bill To:	Tom Sparrowe
Address:	Broadbent & Associates, Inc.
	875 Cotting Lane, Suite G
	Vacaville, CA 95688
Phone:	707-455-7290
Fax:	707-455-7295
e-mail:	tsparrowe@broadbentinc.com

Additional Instructions

Requested Turn-Around Time: Standard (5-day)

ITEM NO.	SAMPLE DESCRIPTION	DATE	MATRIX	LAB NO.	Total # OF Vials	PRESERVATIVES: None	ANALYSES REQUESTED: GC Characterization	Density	Viscosity	Water Surface Tension	NAPL Surface Tension	NAPL/Water Interfac. Tens.	Lead	Sulfur	REMARKS
1	RW-1	8/5/11	Liquid		1	X	X								
2	Unleaded Low	↓	Liquid		1	X	X								
3	Unleaded Mid		Liquid		1	X	X								
4	Unleaded High		Liquid		1	X	X								
5															
6															
7															
8															
9															
10															

RELINQUISHED BY	DATE	TIME	ACCEPTED BY	DATE	TIME
	8/5/11	1230		8-8-11	1230

Figure 1, Chain of Custody.

Torkelson Geochemistry, Inc.

CHAIN-OF-CUSTODY RECORD

2528 S. Columbia Place
Tulsa, OK 74114-3233
Phone: 918-749-8441
Fax: 918-749-6005
e-mail: BTorkelson@torkelsongeochemistry.com

Project:	Former BP Station #11104
Location:	1716 Webster St.
	Alameda, California
Proj. No.:	06-88-644
P.O.:	same
Sampled By:	Sam Barkley, BAI

Report/Bill To:	Tom Sparrowe
Address:	Broadbent & Associates, Inc.
	875 Cotting Lane, Suite G
	Vacaville, CA 95688
Phone:	707-455-7290
Fax:	707-455-7295
e-mail:	tsparrowe@broadbentinc.com

Additional Instructions

Requested Turn-Around Time: Standard (5-day)

ITEM NO.	SAMPLE DESCRIPTION	DATE	MATRIX	LAB NO.	Total # OF Vials	PRESERVATIVES: None	ANALYSES REQUESTED: GC Characterization	Density	Viscosity	Water Surface Tension	NAPL Surface Tension	NAPL/Water Interfac. Tens.	Lead	Sulfur	REMARKS
1	~~RW-1~~	~~8/9/11~~	~~Liquid~~		~~1~~	~~X~~	~~X~~								No Sample
2	Unleaded Low		Liquid		1	X	X								
3	Unleaded Mid		Liquid		1	X	X								
4	Unleaded High		Liquid		1	X	X								
5															
6															
7															
8															
9															
10															

RELINQUISHED BY	DATE	TIME	ACCEPTED BY	DATE	TIME
	8/9/11	1415	CEL	8/9/11	1415
FEDEX	8/9/11	1730		8-10-11	1440

Figure 2, Chain of Custody.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alamedia, California
Sample ID : RW-1
Acquired : Aug 12, 2011 13:56:42

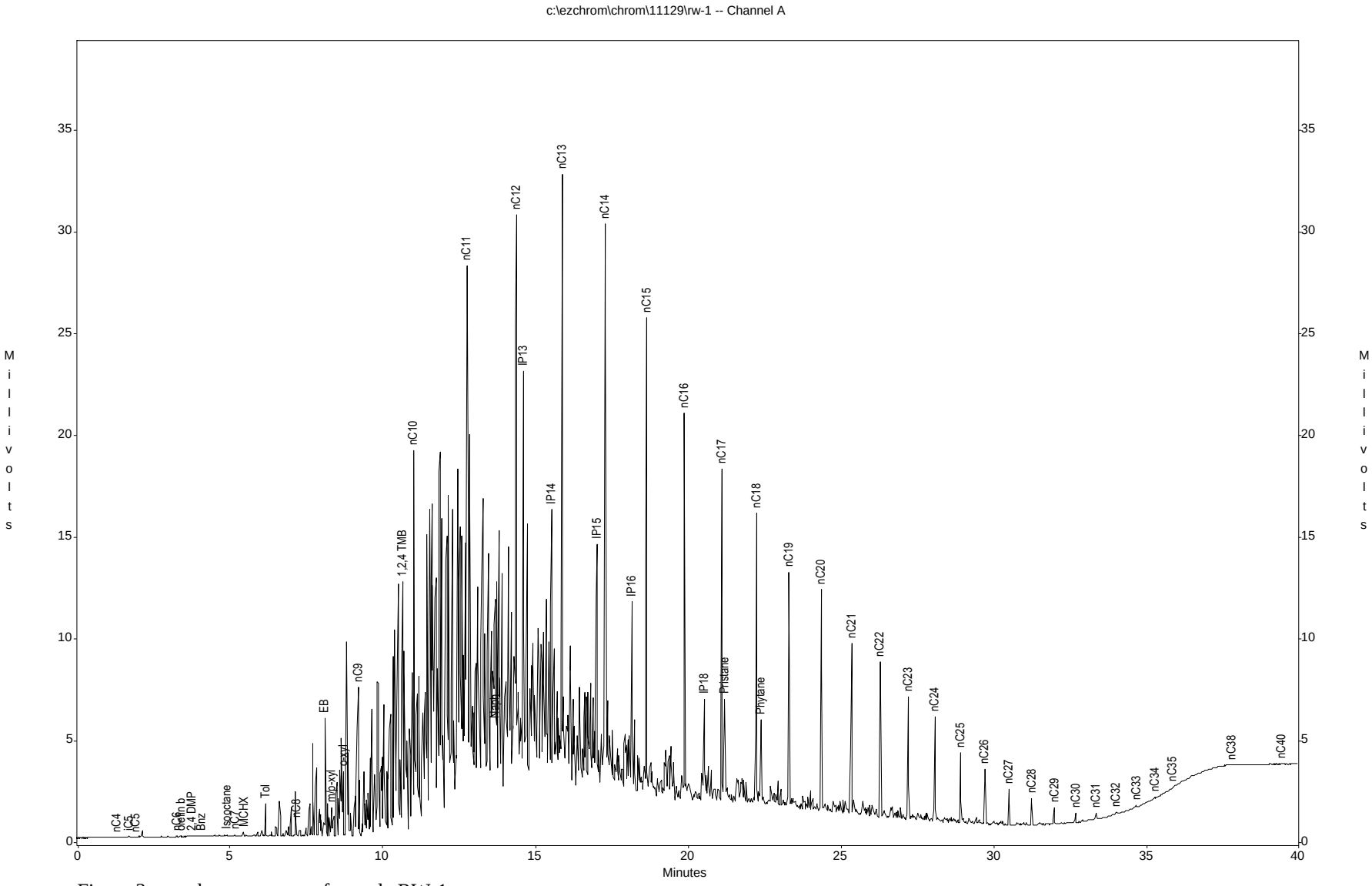


Figure 3, gas chromatogram of sample RW-1.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alamedia, California
Sample ID : Unleaded Low
Acquired : Aug 12, 2011 15:38:34

c:\ezchrom\chrom\11129\low -- Channel A

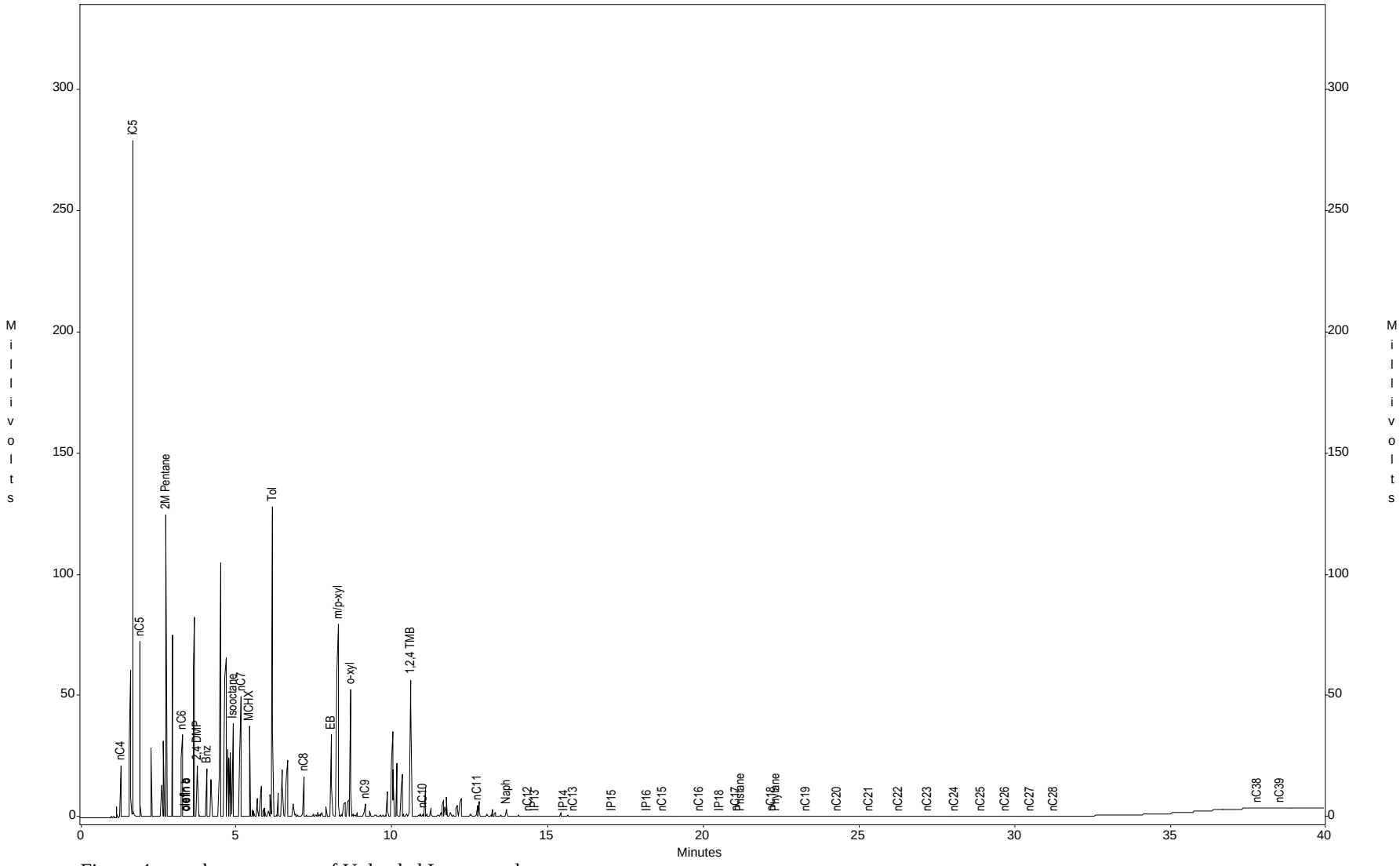


Figure 4, gas chromatogram of Unleaded Low sample.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alamedia, California
Sample ID : Unleaded Mid
Acquired : Aug 12, 2011 14:48:13

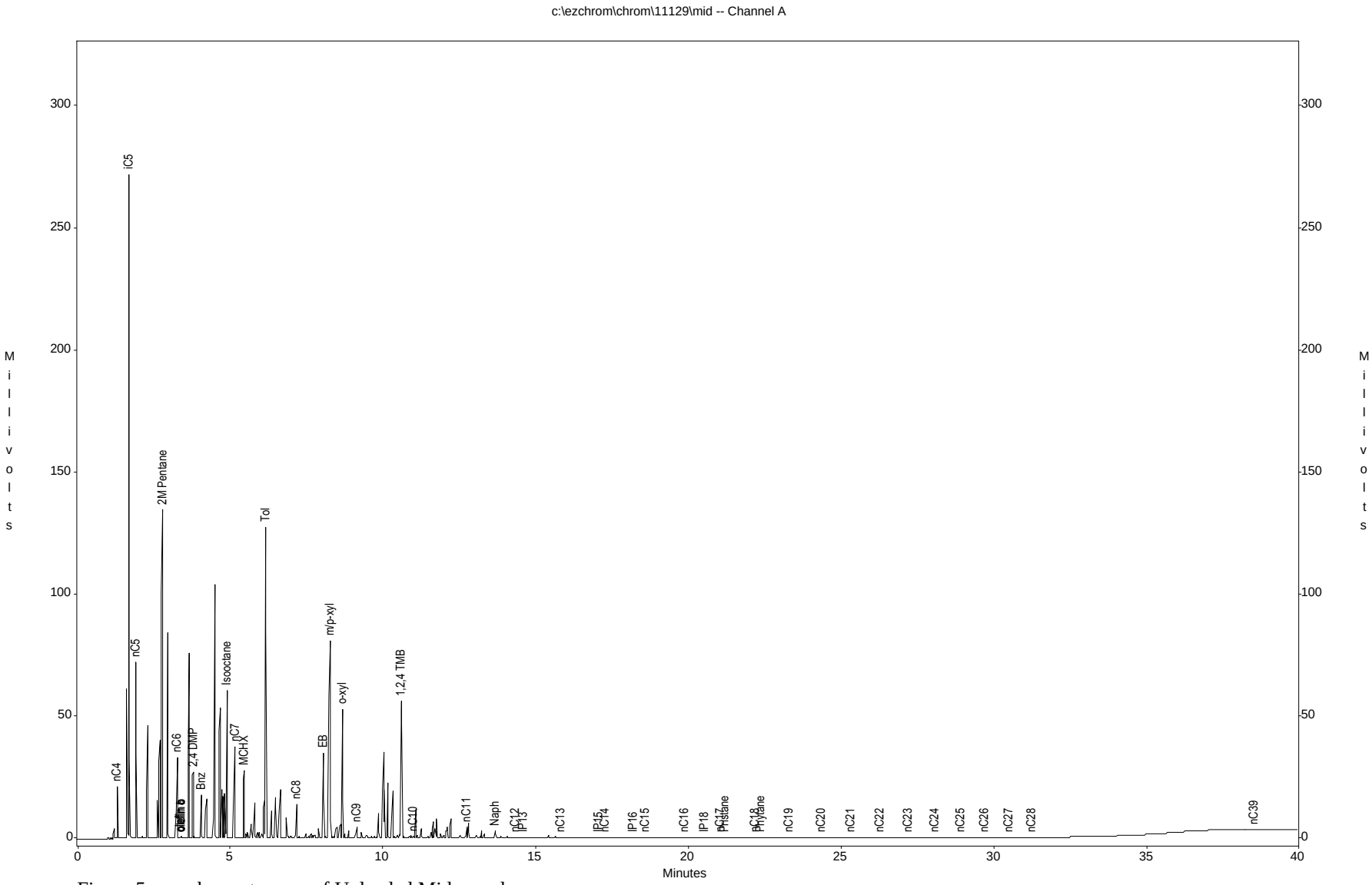


Figure 5, gas chromatogram of Unleaded Mid sample.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alamedia, California
Sample ID : Unleaded High
Acquired : Aug 12, 2011 16:28:31

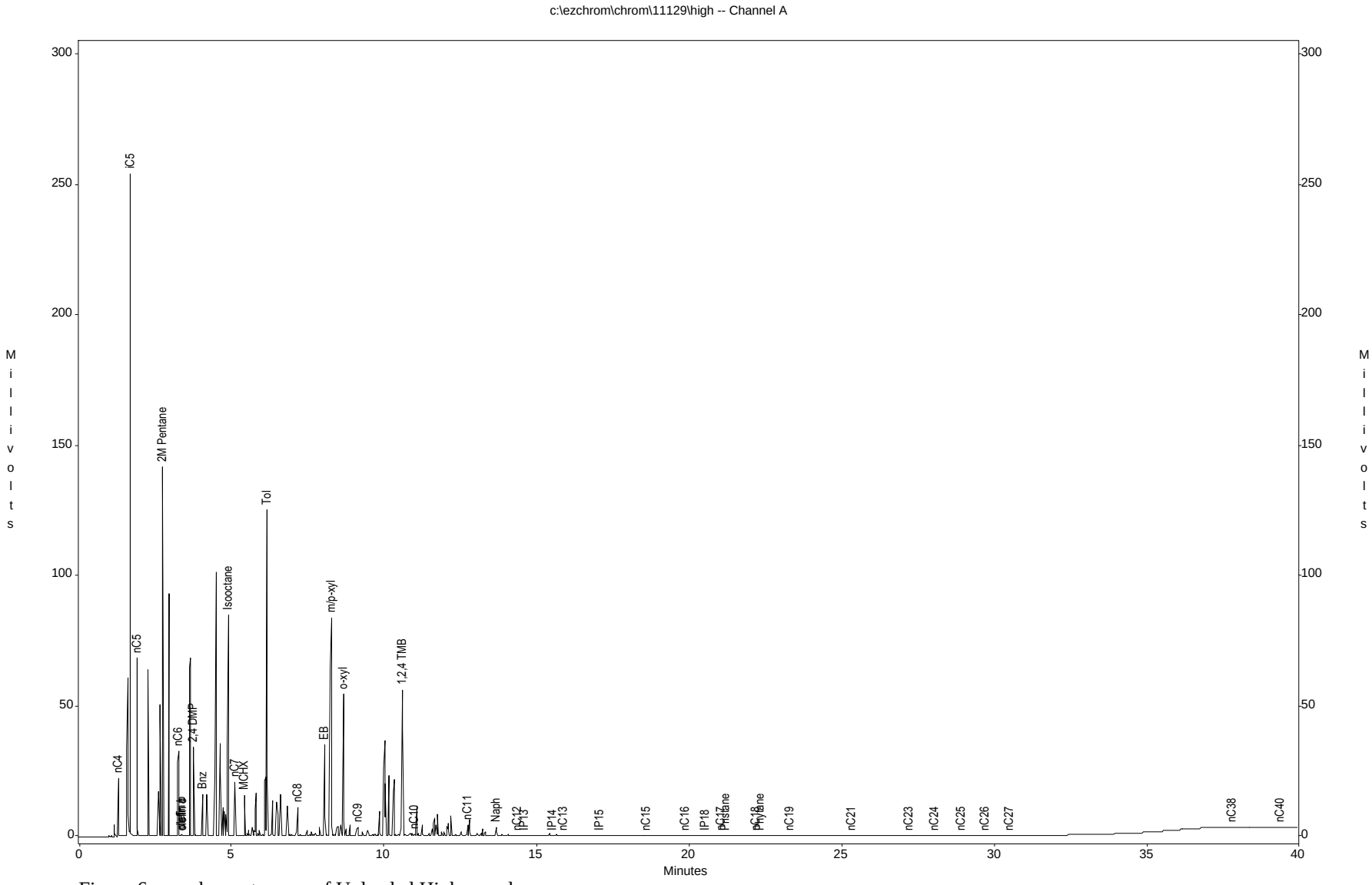


Figure 6, gas chromatogram of Unleaded High sample.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alamedia, California
Sample ID : Gas/Dies/Wax std
Acquired : Aug 12, 2011 12:14:06

c:\ezchrom\chrom\11129\gadiwax2.2 -- Channel A

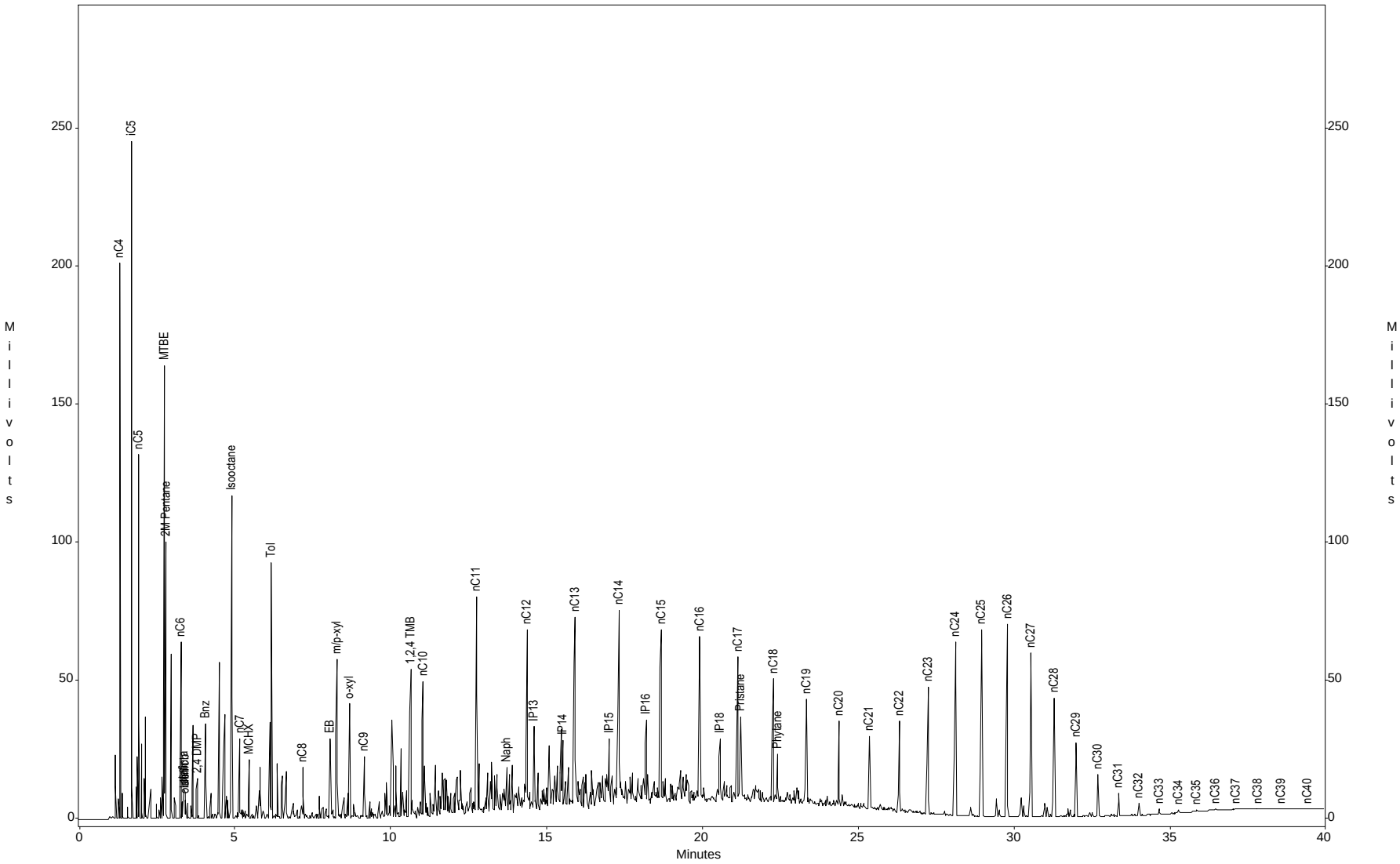


Figure 7, gas chromatogram of laboratory standard (gasoline/diesel/wax mixture).

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alameda, California
Sample ID : RW-1
Acquired : Aug 12, 2011 13:56:42

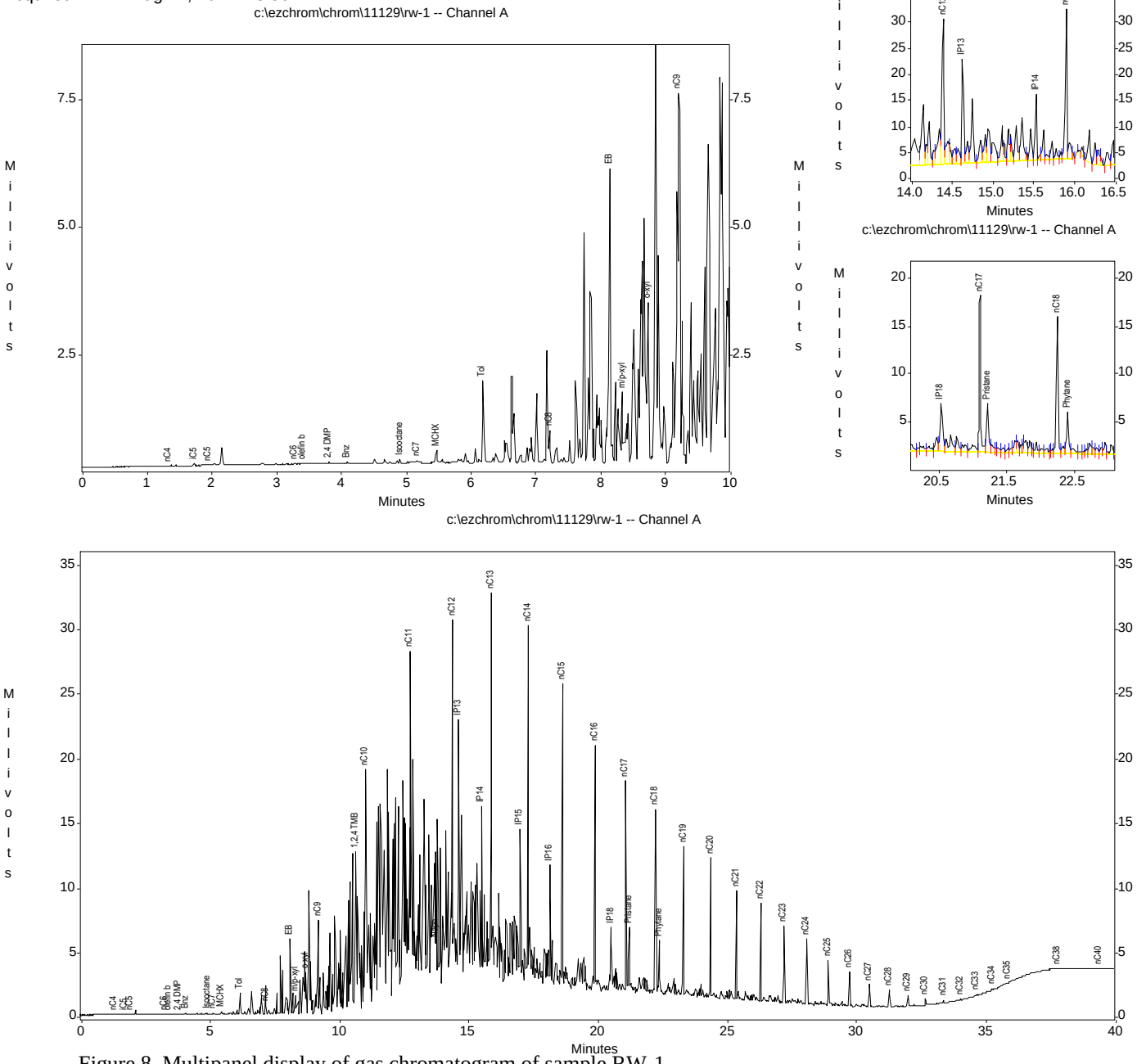


Figure 8, Multipanel display of gas chromatogram of sample RW-1.

Channel A Results

Peak	Area	Height
nC4	10	10
iC5	27	36
nC5	13	19
MTBE	0	0
2M Pentane	0	0
nC6	24	20
olefin a	0	0
olefin b	14	12
olefin c	0	0
2,4 DMP	17	14
Bnz	53	38
Isooctane	95	81
nC7	79	51
MCHX	314	234
Tol	2066	1598
nC8	806	639
EB	9105	5812
m/p-xyl	1953	1385
o-xyl	4454	3149
nC9	10342	7284
1,2,4 TMB	28954	10822
nC10	31211	17973
nC11	40335	26236
Naph	17233	3265
nC12	46003	27811
IP13	32062	19936
IP14	16611	12569
nC13	44349	28757
IP15	18287	10966
nC14	48813	27467
IP16	16828	9235
nC15	39495	23199
nC16	32772	19062
IP18	12878	5012
nC17	27181	16420
Pristane	11488	5097
nC18	24561	14389
Phytane	9675	4297
nC19	22158	11618
nC20	17361	10928
nC21	13770	8456
nC22	12251	7620
nC23	9618	6026
nC24	8305	5138
nC25	5825	3478
nC26	4412	2698
nC27	3274	1779
nC28	2252	1312
nC29	1405	779
nC30	772	448
nC31	515	263
nC32	329	143
nC33	176	94
nC34	92	55
nC35	44	34
nC36	0	0
nC37	0	0
nC38	95	21
nC39	0	0
nC40	88	11

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alameda, California
Sample ID : Unleaded Low
Acquired : Aug 12, 2011 15:38:34

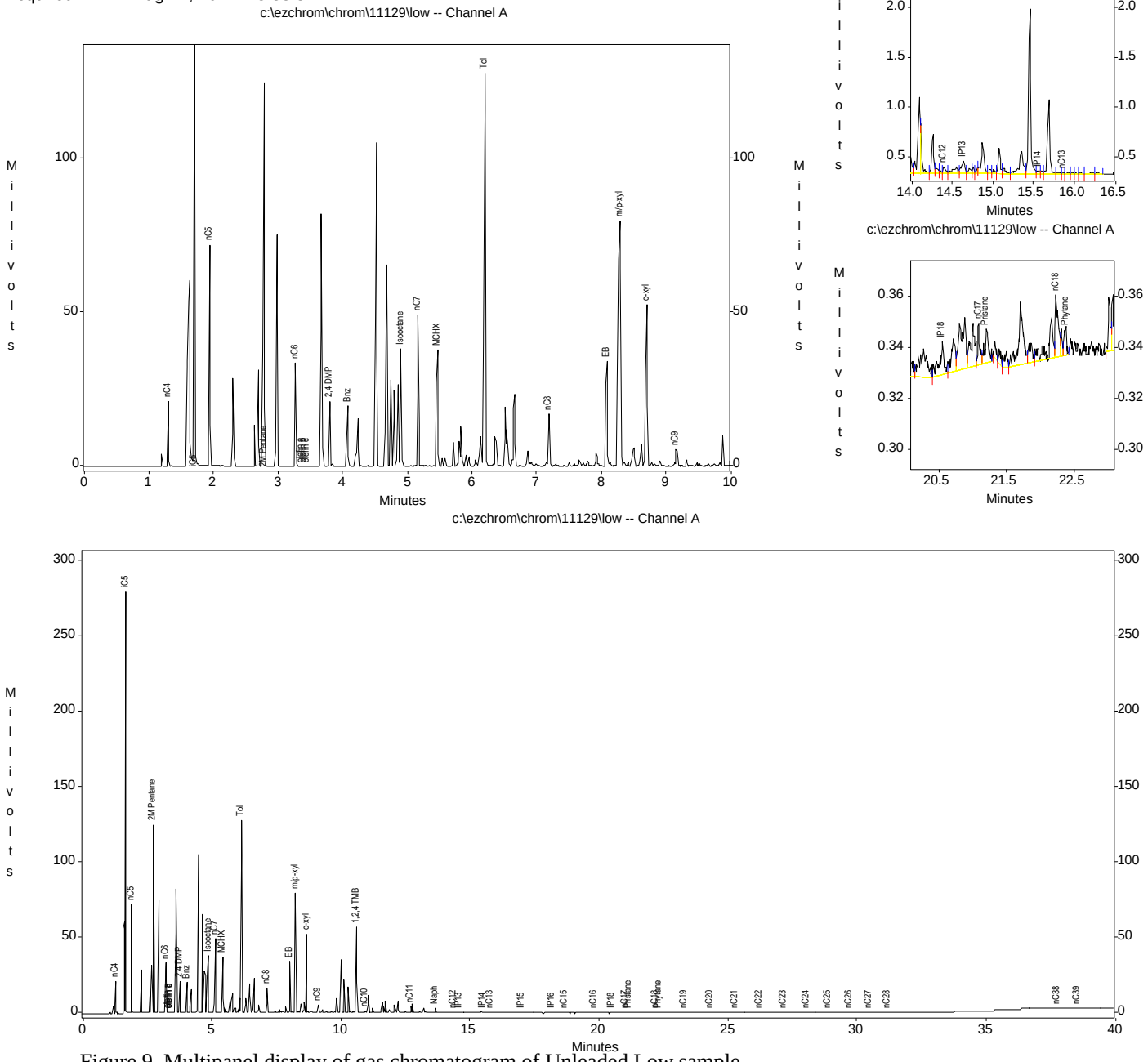


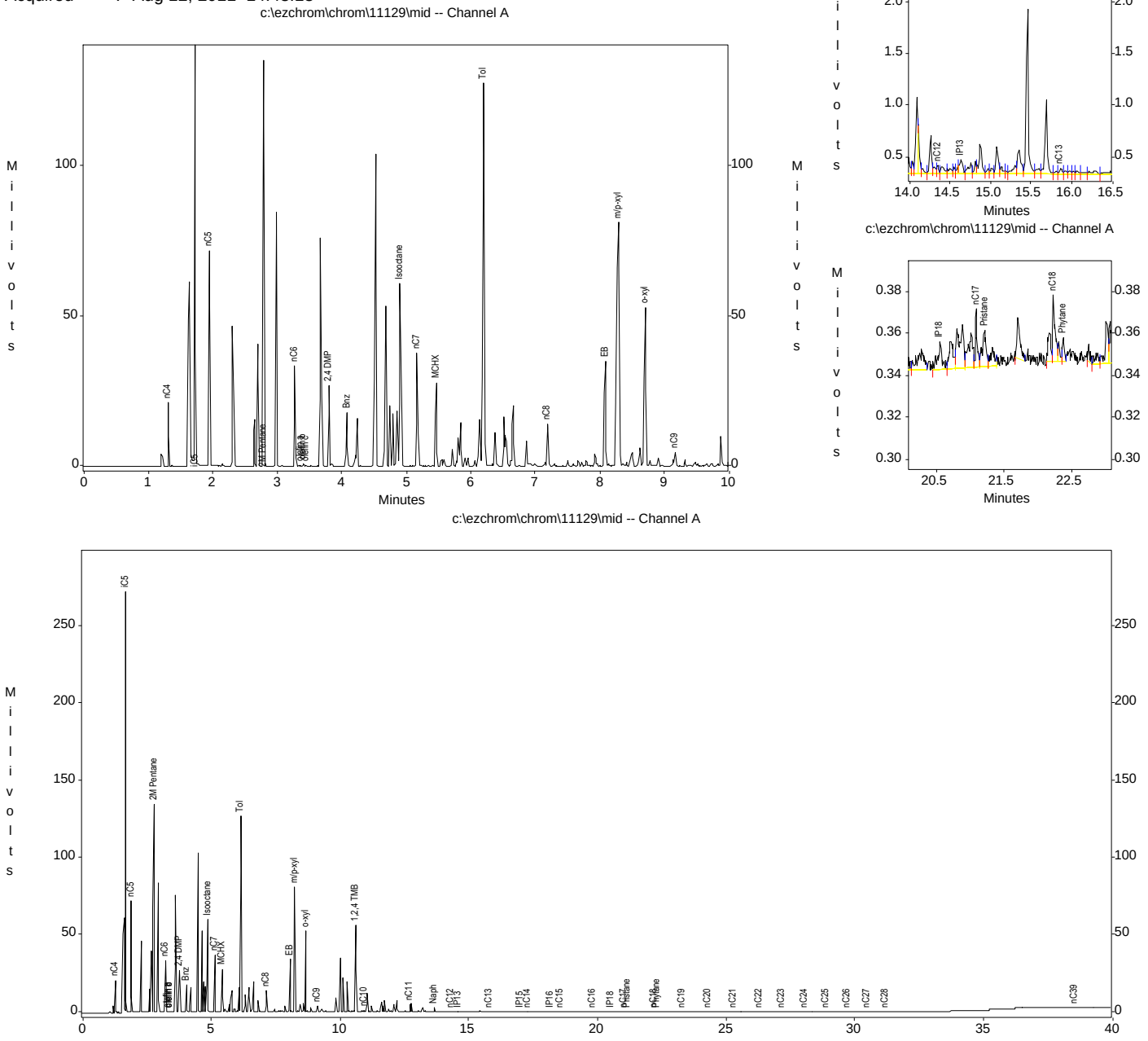
Figure 9, Multipanel display of gas chromatogram of Unleaded Low sample.

Channel A Results

Peak	Area	Height
nC4	14273	21138
iC5	218737	279252
nC5	58530	72066
MTBE	0	0
2M Pentane	122822	124883
nC6	32709	33805
olefin a	56	40
olefin b	60	53
olefin c	47	37
2,4 DMP	21922	20897
Bnz	21503	19819
Isooctane	43849	38299
nC7	59248	49540
MCHX	46921	37659
Tol	218392	128192
nC8	20353	16775
EB	45190	34009
m/p-xyl	215260	79822
o-xyl	77874	52482
nC9	7237	5267
1,2,4 TMB	91884	56661
nC10	1694	1195
nC11	6932	4622
Naph	5736	2988
nC12	171	69
IP13	393	128
IP14	72	33
nC13	41	22
IP15	475	106
nC14	0	0
IP16	55	16
nC15	89	30
nC16	156	23
IP18	60	13
nC17	40	16
Pristane	54	14
nC18	84	24
Phytane	26	10
nC19	90	20
nC20	55	12
nC21	20	8
nC22	26	11
nC23	30	14
nC24	36	17
nC25	45	20
nC26	59	21
nC27	43	18
nC28	17	12
nC29	0	0
nC30	0	0
nC31	0	0
nC32	0	0
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	0	0
nC38	2439	26
nC39	43	13
nC40	0	0

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alameda, California
Sample ID : Unleaded Mid
Acquired : Aug 12, 2011 14:48:13



Channel A Results

Peak	Area	Height
nC4	14006	21086
iC5	210652	272070
nC5	56944	71878
MTBE	0	0
2M Pentane	132798	134832
nC6	32218	33361
olefin a	370	345
olefin b	767	748
olefin c	109	99
2,4 DMP	27826	26872
Bnz	19273	17950
Isooctane	74146	60602
nC7	43373	37607
MCHX	33721	27590
Tol	216807	127551
nC8	17079	14147
EB	45169	34616
m/p-xyl	220645	81110
o-xyl	78909	52758
nC9	5992	4456
1,2,4 TMB	92200	56138
nC10	1406	990
nC11	6820	4609
Naph	5873	3108
nC12	115	74
IP13	324	129
IP14	0	0
nC13	103	50
IP15	533	109
nC14	390	121
IP16	62	15
nC15	141	42
nC16	62	35
IP18	59	14
nC17	59	28
Pristane	69	17
nC18	90	32
Phytane	27	12
nC19	95	24
nC20	59	18
nC21	26	14
nC22	26	14
nC23	27	15
nC24	49	22
nC25	50	24
nC26	61	25
nC27	47	18
nC28	45	15
nC29	0	0
nC30	0	0
nC31	0	0
nC32	0	0
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	0	0
nC38	0	0
nC39	99	13
nC40	0	0

Figure 10, Multipanel display of gas chromatogram of Unleaded Mid sample.

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alameda, California
Sample ID : Unleaded High
Acquired : Aug 12, 2011 16:28:31

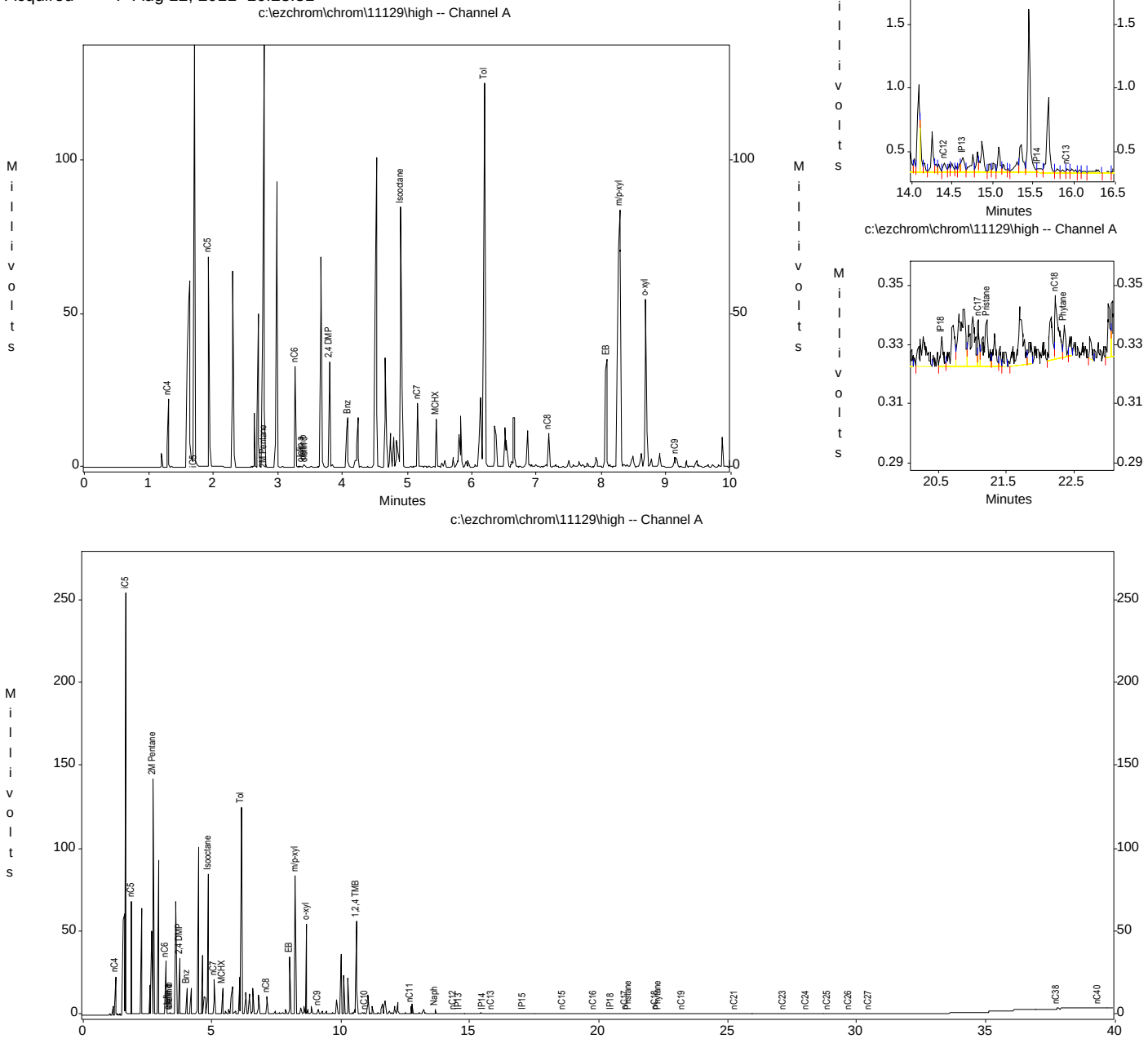


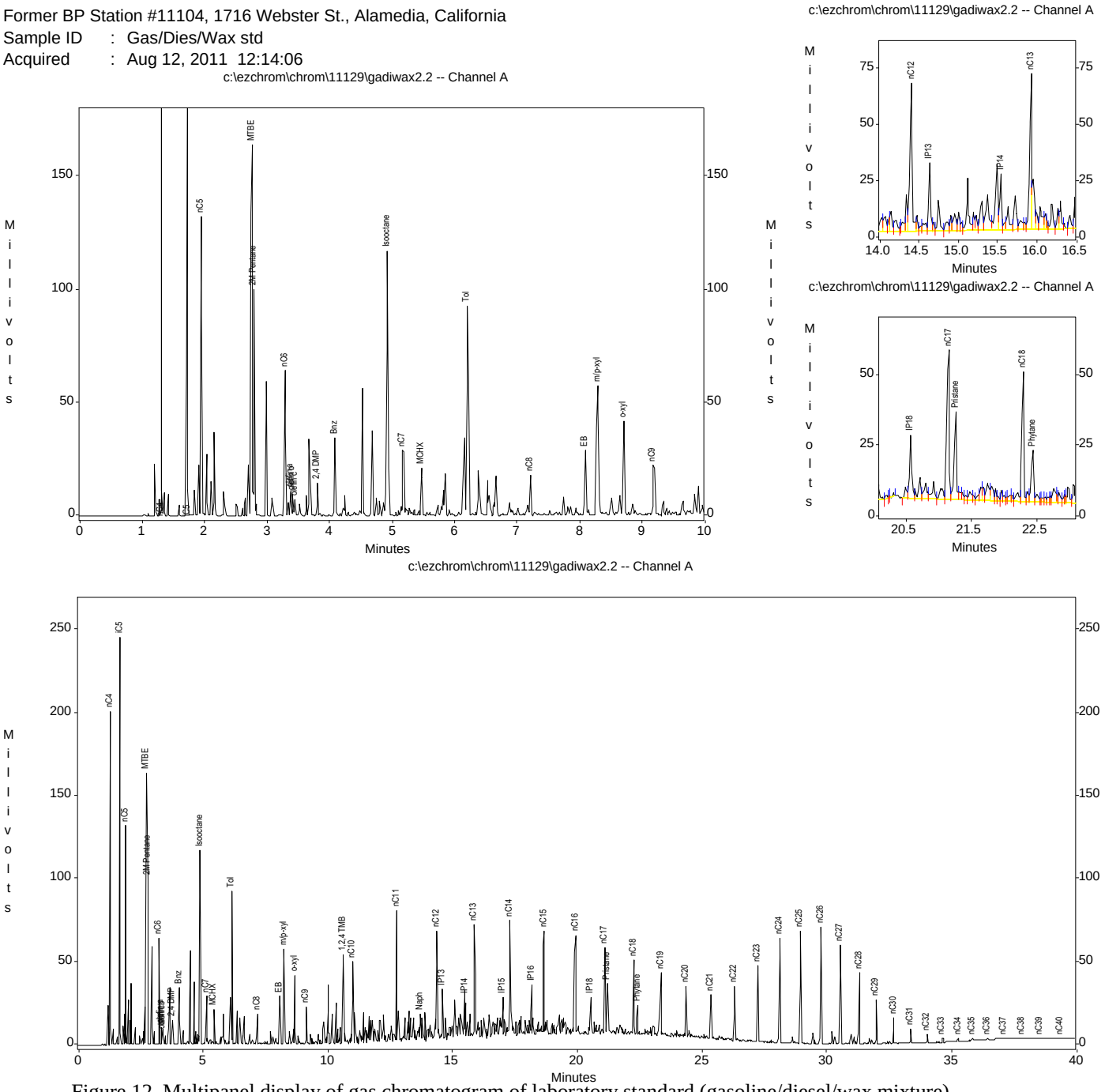
Figure 11, Multipanel display of gas chromatogram of Unleaded High sample.

Channel A Results

Peak	Area	Height
nC4	14663	22388
iC5	196398	254420
nC5	54603	68685
MTBE	0	0
2M Pentane	142291	142009
nC6	31442	32608
olefin a	473	444
olefin b	986	962
olefin c	151	127
2,4 DMP	35691	34162
Bnz	17328	15980
Isooctane	112340	84951
nC7	23410	20684
MCHX	18898	15597
Tol	215642	125385
nC8	13396	10881
EB	46248	35054
m/p-xyl	232620	83818
o-xyl	81716	54536
nC9	4320	3251
1,2,4 TMB	93911	56389
nC10	1081	692
nC11	6784	4490
Naph	6074	3124
nC12	206	80
IP13	350	127
IP14	158	40
nC13	66	32
IP15	352	97
nC14	0	0
IP16	0	0
nC15	120	29
nC16	151	20
IP18	32	10
nC17	35	16
Pristane	79	16
nC18	89	21
Phytane	23	11
nC19	82	15
nC20	0	0
nC21	13	7
nC22	0	0
nC23	28	12
nC24	25	13
nC25	50	17
nC26	46	18
nC27	23	13
nC28	0	0
nC29	0	0
nC30	0	0
nC31	0	0
nC32	0	0
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	0	0
nC38	960	24
nC39	0	0
nC40	20	12

Torkelson Geochemistry, Inc.

Former BP Station #11104, 1716 Webster St., Alameda, California
Sample ID : Gas/Dies/Wax std
Acquired : Aug 12, 2011 12:14:06



Channel A Results

Peak	Area	Height
nC4	112542	201075
iC5	176111	245346
nC5	97876	132075
MTBE	169241	164005
2M Pentane	89122	100066
nC6	65717	64155
olefin a	11964	10554
olefin b	9447	9688
olefin c	7665	6956
2,4 DMP	15293	14500
Bnz	44339	34299
Isooctane	173799	116787
nC7	36799	29113
MCHX	26902	21209
Tol	159904	92460
nC8	22077	18233
EB	39130	28966
m/p-xyl	138157	57557
o-xyl	61469	41521
nC9	34823	22310
1,2,4 TMB	93317	53739
nC10	77178	49381
nC11	138379	78750
Naph	33431	16065
nC12	129428	65990
IP13	49795	30370
IP14	36795	25065
nC13	136182	69296
IP15	48484	23940
nC14	163519	67576
IP16	61216	29757
nC15	131952	62554
nC16	132891	60129
IP18	56089	22633
nC17	109682	52843
Pristane	71028	31099
nC18	90590	45727
Phytane	40736	18537
nC19	94853	39060
nC20	62203	31891
nC21	48928	26954
nC22	60039	32864
nC23	97457	45976
nC24	152565	62875
nC25	185028	67613
nC26	192731	69900
nC27	149783	59382
nC28	95699	43210
nC29	53169	26550
nC30	24575	14688
nC31	14207	8210
nC32	7531	4669
nC33	4093	2350
nC34	2260	1301
nC35	1159	755
nC36	701	392
nC37	537	194
nC38	275	116
nC39	201	63
nC40	264	51

Figure 12, Multipanel display of gas chromatogram of laboratory standard (gasoline/diesel/wax mixture).

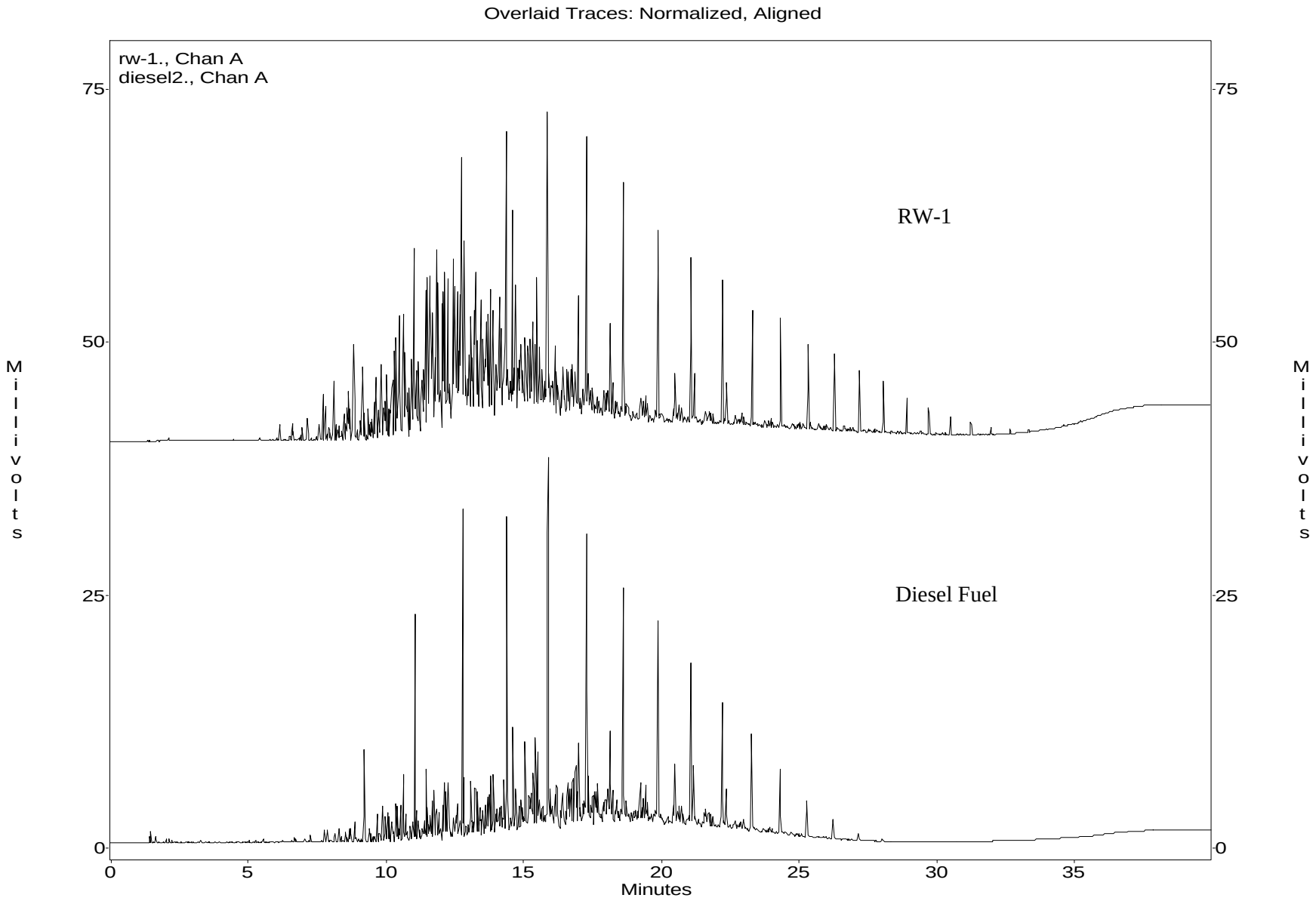


Figure 13, Comparison of the gas chromatogram of sample RW-1 to a gas chromatogram of a typical Diesel Fuel.

APPENDIX E

GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_WELL FILE

SUCCESS

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

Submittal Type:	**GEO_WELL**
Submittal Title:	**3Q11 GEO_WELL 11104**
Facility Global ID:	**T0600101651**
Facility Name:	**BP #11104**
File Name:	**GEO_WELL.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**8/10/2011 10:32:02 AM**
Confirmation Number:	**4898171842**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

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

Submittal Type:	**EDF - Monitoring Report - Semi-Annually**
Submittal Title:	**3Q11 GW Monitoring**
Facility Global ID:	**T0600101651**
Facility Name:	**BP #11104**
File Name:	**11070218.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**8/10/2011 10:30:15 AM**
Confirmation Number:	**2050537049**

VIEW QC REPORT

VIEW DETECTIONS REPORT