Atlantic Richfield Company

Chuck Carmel
Environmental Business Manager

PO Box 1257
San Ramon, CA 94583
Phone: (925) 275-3803
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30 July 2010

Re: Second Quarter 2010 Ground-Water Monitoring Report
Former Richfield Oil Company Station #472
6415 International Boulevard, Oakland, California
ACEH Case #RO0002982

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

Submitted by,

Chuck Carmel
Environmental Business Manager

Attachment:

Second Quarter 2010
Ground-Water Monitoring Report
Former Richfield Oil Company Service Station #472
6415 International Boulevard, Oakland, California
ACEH Case #RO0002982

Prepared for

Mr. Chuck Carmel
Environmental Business Manager
Atlantic Richfield Company
P.O. Box 1257
San Ramon, California 94583

Prepared by

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

1324 Mangrove Avenue, Suite 212
Chico, California 95926
(530) 566-1400
www.broadbentinc.com

30 July 2010

Project No. 09-88-601

Broadbent & Associates, Inc.
1324 Mangrove Ave., Suite 212
Chico, CA 95926
Voice (530) 566-1400
Fax (530) 566-1401

BROADBENT & ASSOCIATES, INC
ENVIRONMENTAL, WATER RESOURCES & ENGINEERING

30 July 2010

Project No. 09-88-601

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

Attn.: Mr. Chuck Carmel

Re: Second Quarter 2010 Ground-Water Monitoring Report, Former Richfield Oil Company Service Station #472, 6415 International Boulevard, Oakland, California
ACEH Case #RO0002982

Dear Mr. Carmel:

Provided herein is the *Second Quarter 2010 Ground-Water Monitoring Report* for Former Richfield Oil Company Service Station #472 (aka Plucky Liquors) located at 6415 International Boulevard, Oakland, Alameda County, California (Site). This report presents results of the ground-water monitoring conducted at the Site during the Second Quarter of 2010.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact me at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Thomas A. Venus, P.E.
Senior Engineer

Enclosures

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

STATION #472 GROUND-WATER MONITORING REPORT

Facility: #472 Address:	6415 International Boulevard, Oakland, California
Environmental Business Manager:	Mr. Chuck Carmel
Consulting Co./Contact Person:	Broadbent & Associates, Inc.(BAI)/Mr. Tom Venus, PE (530) 566-1400
Consultant Project No.:	09-88-601
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) ACEH Case #RO0002982
Facility Permits/Permitting Agency:	NA

WORK PERFORMED THIS QUARTER (Second Quarter 2010):

1. Prepared and submitted *First Quarter 2009 Ground-Water Monitoring Report* (BAI, 4/30/2010).
2. Conducted ground-water monitoring/sampling for Second Quarter 2010. Work performed on 2 June 2010 by Broadbent & Associates, Inc. (BAI).

WORK PROPOSED FOR NEXT QUARTER (Third Quarter 2010):

1. Prepare and submit *Second Quarter 2010 Ground-Water Monitoring Report* (contained herein).
2. Conduct ground-water monitoring/sampling for Third Quarter 2010.

QUARTERLY RESULTS SUMMARY:

Current phase of project:	**Ground-water monitoring/sampling**
Frequency of ground-water monitoring:*	**Quarterly = MW-1, MW-2, and MW-3**
Frequency of ground-water sampling:*	**Quarterly = MW-1, MW-2, and MW-3**
Is free product (FP) present on-site:	**No**
Current remediation techniques:	**NA**
Depth to ground water (below TOC):	**7.11 ft (MW-2) to 8.64 ft (MW-3)**
General ground-water flow direction:	**South**
Approximate hydraulic gradient:	**0.003 ft/ft**

* Present existing schedule. Proposed schedule modifications discussed below.

DISCUSSION:

Second Quarter 2010 ground-water monitoring and sampling was conducted at Station #472 on 2 June 2010 by BAI. Water levels were gauged in each of the three wells at the Site. No irregularities were noted during water level gauging. Depth-to-water measurements ranged from 7.11 ft at MW-2 to 8.64 ft at MW-3. Resulting ground-water surface elevations ranged from 16.56 ft above datum in well MW-1 to 16.09 ft in well MW-3. Water level elevations are summarized in Table 1. Water level elevations yielded a nearly level potentiometric ground-water flow direction and gradient to the south at approximately 0.003 ft/ft. Ground-water monitoring field data sheets are provided within Appendix A. Measured depths to ground water and respective ground-water elevations are summarized in Table 1. Current and historic ground-water flow directions and gradients are provided in Table 3. A Site Location Map is presented as Drawing 1. Potentiometric ground-water elevation contours are presented in Drawing 2.

Consistent with the current ground-water sampling schedule, water samples were collected from wells MW-1, MW-2, and MW-3 on 2 June 2010. No irregularities were reported during sampling. Samples were submitted under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. (Garden Grove, California), for analysis of Gasoline Range Organics (GRO, C6-C12) and Diesel Range Organics (DRO, C10-C28) by EPA Method 8015B; for the full spectrum of volatile organic compounds by EPA Method 8260B including 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. For samples MW-1 and MW-3, the laboratory noted the quantitation of an unknown hydrocarbon(s) in sample based on the gasoline standard. In each of the three well samples this quarter the laboratory noted the quantitation of an unknown hydrocarbon(s) in the sample based on the diesel standard. No other significant irregularities were encountered during laboratory analysis of the samples. Ground-water sampling field data sheets and the laboratory analytical report, including chain-of-custody documentation, are provided in Appendix A.

The laboratory noted that unknown hydrocarbon(s) in the GRO range were detected above the laboratory reporting limit in two wells sampled this quarter at a concentrations of 110 micrograms per liter (µg/L) in MW-1 and 100 µg/L in MW-3, and unknown hydrocarbon(s) in the DRO range were detected above the laboratory reporting limit at concentrations of 120 micrograms per liter (µg/L) in MW-1, 65 µg/L in MW-2, and 130 µg/L in MW-3. Copies of the gas chromatograms were reviewed and are provided in Appendix A. From the full spectrum EPA 8260B analyses, the sample from MW-1 had concentrations of sec-Butylbenzene and tert-Butylbenzene at 0.72 µg/l and 1.4 µg/l, respectively. The remaining analytes were not detected above their laboratory reporting limits in the three wells sampled this quarter. Ground-water monitoring laboratory analytical results are summarized in Table 1 and Table 2. The most recent GRO, Benzene, and MTBE concentrations are also reported in Drawing 2. Ground-water monitoring data (GEO_WELL) and laboratory analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation receipts are provided in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS:

Ground-water elevations, flow direction, and hydraulic gradient were generally consistent through the four quarters of monitoring conducted so far. Although the first four rounds of monitoring have each exhibited nearly level gradients, the Second Quarter 2010 monitoring data produced the shallowest gradient calculated so far. As can be seen in Table 3, the hydraulic gradients have decreased slightly each successive monitoring round. The objective for running the full-spectrum EPA Method 8260B analyses was to determine if specific non-petroleum hydrocarbons might be responsible for the occasional low concentrations detected within the GRO and DRO analyses. Significant specific non-petroleum hydrocarbons were not found by the full-spectrum EPA 8260B analysis. However, when the analytical data are reviewed, the detection of gasoline and diesel range hydrocarbons and the absence of BTEX and other volatile fuel constituents seem to indicate that hydrocarbon impacts to ground water at the site are significantly weathered. Therefore, BAI recommends that the ACEH begin considering closure for this case.

In the meantime, BAI recommends that subsequent gauging and sampling activities be modified from a quarterly to a semi-annual schedule. This recommendation is consistent with the State Water Resources Board Resolution #2009-0042. The proposed modified schedule would be gauging and sampling during the first and third calendar quarters of the year, meaning the next ground-water monitoring event would occur during the Third Quarter of 2010. The concurrence of ACEH in writing to this proposal is requested.

CLOSURE:

The findings presented in this report are based upon: observations of BAI field personnel (see Appendix A), the points investigated, and results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California). 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 Atlantic Richfield Company. It is possible that variations in soil or ground-water 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, Station #472, 6415 International Boulevard, Oakland, California

Drawing 2. Ground-Water Elevation Contour and Analytical Summary Map, 2 June 2010, Station #472, 6415 International Boulevard, Oakland, California

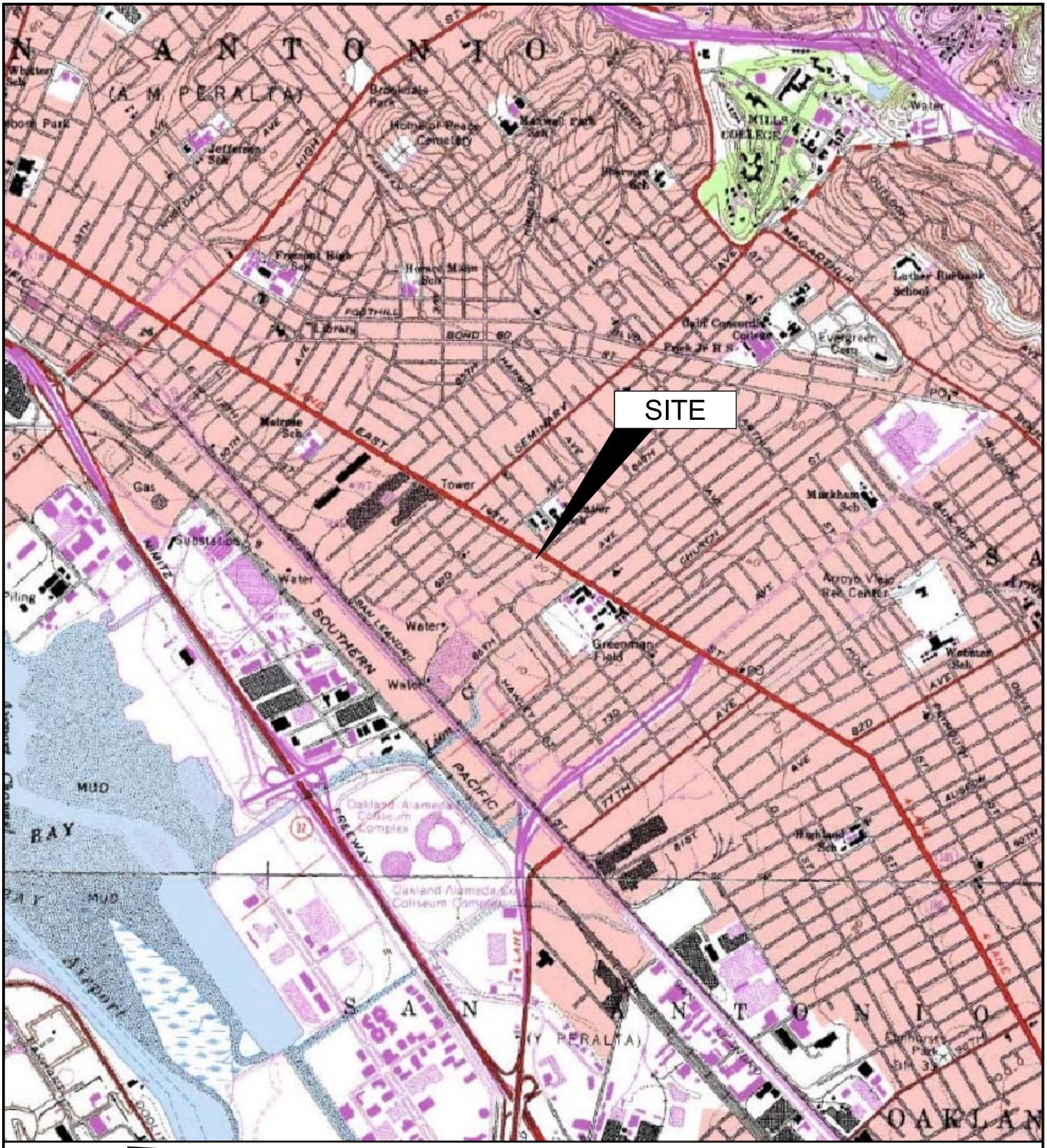
Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses, Station #472, 6415 International Blvd., Oakland, California

Table 2. Summary of Fuel Additives Analytical Data, Station #472, 6415 International Blvd., Oakland, California

Table 3. Historical Ground-Water Flow Direction and Gradient, Station #472, 6415 International Blvd., Oakland, California

Appendix A. BAI Ground-Water Sampling Data Package (Includes Field Data Sheets, Laboratory Analytical Report with Chain-of-Custody Documentation, and Field Procedures)

Appendix B. GeoTracker Upload Confirmation Receipts



N

0 2000 4000

APPROXIMATE SCALE (ft)

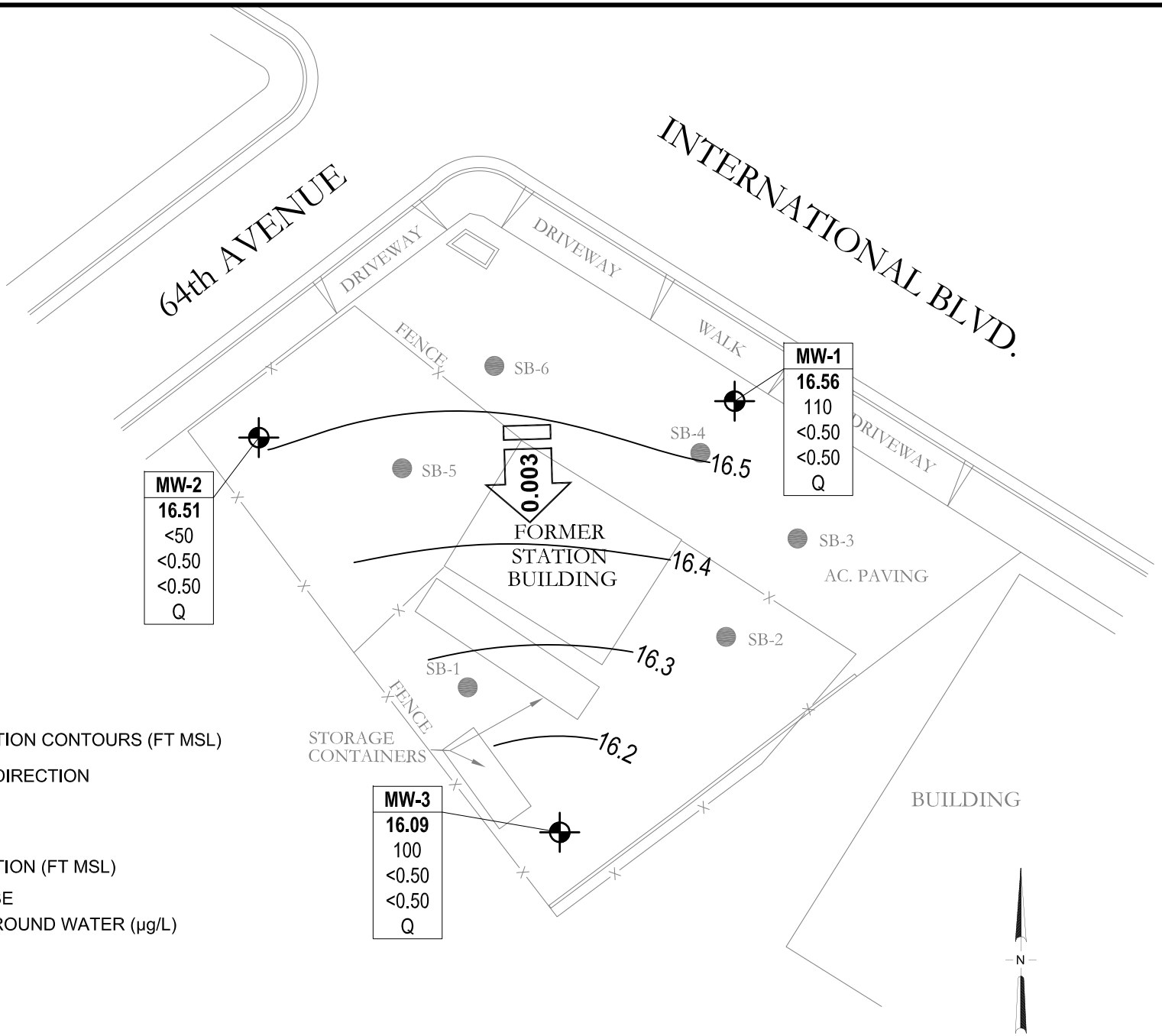
IMAGE SOURCE: USGS

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 09-88-601 Date: 07/31/09

Former Station #472
6415 International Boulevard
Oakland, California

Site Location Map

Drawing
1



LEGEND

- MONITORING WELL
- SOIL BORING
- 16.5 — GROUND-WATER ELEVATION CONTOURS (FT MSL)
- 0.003 — GROUND-WATER FLOW DIRECTION AND GRADIENT (FT/FT)

Well	WELL DESIGNATION
ELEV	GROUND-WATER ELEVATION (FT MSL)
GRO	GRO, BENZENE AND MTBE CONCENTRATIONS IN GROUND WATER (µg/L)
Benzene	
MTBE	
Q/SA/A	SAMPLING FREQUENCY
Q	SAMPLED QUARTERLY

0 30 60
SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 09-88-601 Date: 07/01/10

Former Station #472
6415 International Boulevard
Oakland, California

Ground-Water Elevation Contour and Analytical Summary Map
2 June 2010

Drawing
2

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

ARCO Service Station #472, 6415 International Boulevard, Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/ TPHd (µg/L)	TOG (µg/L)
							GRO/ TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MtBE					
MW-1																	
8/25/2009	P	LX (DRO)	24.17	9.29	--	14.88	530	<0.50	<0.50	<0.50	<0.50	0.54	--	CEL	7.21	190	--
11/11/2009	NP		24.17	8.22	--	15.95	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	CEL	--	--	--
2/17/2010	NP	LX (DRO)	24.17	7.36	--	16.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.69	CEL	7.03	70	--
6/2/2010	**NP**	**LW (GRO), LX (DRO)**	**24.17**	**7.61**	--	**16.56**	**110**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.21**	**CEL**	**7.0**	**120**	--
MW-2																	
8/25/2009	P		23.62	9.65	--	13.97	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	CEL	7.30	<50	--
11/11/2009	NP		23.62	8.09	--	15.53	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	CEL	--	--	--
2/17/2010	P		23.62	6.80	--	16.82	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.62	CEL	7.15	<50	--
6/2/2010	**NP**	**LX (DRO)**	**23.62**	**7.11**	--	**16.51**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**2.85**	**CEL**	**7.3**	**65**	--
MW-3																	
8/25/2009	P		24.73	11.07	--	13.66	63	<0.50	1.2	<0.50	<0.50	<0.50	--	CEL	7.09	85	--
11/11/2009	NP	LW (GRO)	24.73	9.56	--	15.17	88	<0.50	<0.50	<0.50	<0.50	<0.50	--	CEL	--	--	--
2/17/2010	NP		24.73	8.52	--	16.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.04	CEL	7.09	<50	--
6/2/2010	**NP**	**LW (GRO), LX (DRO)**	**24.73**	**8.64**	--	**16.09**	**100**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.22**	**CEL**	**7.1**	**130**	--

ABBREVIATIONS & SYMBOLS:
--/--- = Not analyzed/applicable/measured/available
< = Not detected at or above specified laboratory reporting limit
DO = Dissolved oxygen
DRO = Diesel range organics
DTW = Depth to water in ft bgs
GRO = Gasoline range organics, range C4-C12
GWE = Groundwater elevation measured in ft
HVOC = Halogenated volatile organic compounds
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing measured in ft
TOG = Total oil and grease
TPH-d = Total petroleum hydrocarbons as diesel
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter
CEL = CalScience Environmental Laboratories, Inc.

FOOTNOTES:
LW = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX = Quantitation of unknown hydrocarbon(s) in sample based on diesel.

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #472, 6415 International Boulevard, Oakland, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
8/25/2009	<300	<10	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/2/2010	**<50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.72 µg/L sec-Butylbenzene, 1.4 µg/L tert-Butylbenzene**
MW-2									
8/25/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/2/2010	**<50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-3									
8/25/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/17/2010	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/2/2010	**<50**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

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

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

Table 3. Historical Ground-Water Flow Direction and Gradient

ARCO Service Station #472, 6415 International Boulevard, Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
8/25/2009	Southwest	0.01
11/11/2009	South-Southwest	0.008
2/17/2010	South	0.006
6/2/2010	**South**	**0.003**

APPENDIX A

BAI GROUND-WATER SAMPLING DATA PACKAGE
(Includes Field Data Sheets, Laboratory Analytical Report with Chain-Of-Custody Documentation, and Field Procedures)

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

FIELD DATA REPORT

DATE: 6/2/10
PERSONNEL:
WEATHER:

PROJECT NO.: 09-88-601
COMMENTS:

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	1121		7.61									
mw-2	1125		7.11									
mw-3	1122		8.64									

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

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

Groundwater Sampling Data Sheet

Well I.D.: MW-2
Project Name/Location: BP 4/T2 Project #: 09.7716C
Sampler's Name: EPSB Date: 6/2/10
Purging Equipment: B
Sampling Equipment: B.L.C
Casing Type: PVC
Casing Diameter: 4 inch
Total Well Depth: _____ feet
Depth to Water: - 7.61 feet
Water Column Thickness: = _____ feet
Unit Casing Volume*: x _____ gallon / foot
Casing Water Volume: = _____ gallons
Casing Volume: x 3 each
Estimated Purge Volume: = _____ gallons
Free product measurement (if present): _____

***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.

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1125	1.21	61	-	729.4	7.18	7.0	
		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: _____ gallons
Depth to Water at Sample Collection: _____ feet
Sample Collection Time: 1135 Purged Dry? (Y / N)

Comments: NP

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

Groundwater Sampling Data Sheet

Well I.D.: MW-2
Project Name/Location: BP 47 Project #: 09'8816C1
Sampler's Name: EFSB Date: 6/21/10
Purging Equipment: —
Sampling Equipment: Bailer
Casing Type: PVC
Casing Diameter: 4 inch
Total Well Depth: _____ feet
Depth to Water: 7.11 feet
Water Column Thickness: _____ feet
Unit Casing Volume*: _____ gallon / foot
Casing Water Volume: _____ gallons
Casing Volume: 3 each
Estimated Purge Volume: _____ gallons
Free product measurement (if present): _____

***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.

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1131	2.85		—		70.9	7.3	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: _____ gallons
Depth to Water at Sample Collection: _____ feet
Sample Collection Time: 1135 Purged Dry? (Y / N)

Comments: NP

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

Groundwater Sampling Data Sheet

Well I.D.: MW-3
Project Name/Location: BP 4175 Project #: 09.84.604
Sampler's Name: EFSP Date: 6/21/10
Purging Equipment:
Sampling Equipment: Bailer
Casing Type: PVC
Casing Diameter: 4 inch
Total Well Depth: _____ feet
Depth to Water: - 8.64 feet
Water Column Thickness: = _____ feet
Unit Casing Volume*: x _____ gallon / foot
Casing Water Volume: = _____ gallons
Casing Volume: x 3 each
Estimated Purge Volume: = _____ gallons
Free product measurement (if present): _____

***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.

Purged (gallons)	Time (24:00)	DO	ORP (mV)	Fe	Conductance (µS)	Temperature (Fahrenheit)	pH	Observations
0	1138	1.22	-1	-	9748	70.6	7.1	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: _____ gallons
Depth to Water at Sample Collection: _____ feet
Sample Collection Time: 1140 Purged Dry? (Y / N)

Comments: NP

Calscience
Environmental
Laboratories, Inc.

June 17, 2010

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

Subject: **Calscience Work Order No.: 10-06-0218**
Client Reference: ARCO 472

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/3/2010 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.	Date Received: 06/03/10
1324 Mangrove Ave, Ste 212	Work Order No: 10-06-0218
Chico, CA 95926-2642	Preparation: EPA 3510C
	Method: EPA 8015B (M)

Project: ARCO 472 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	**10-06-0218-1-G**	**06/02/10 11:30**	**Aqueous**	**GC 49**	**06/04/10**	**06/05/10 02:06**	**100604B09**

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

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics (C10-C28)	120	50	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
Decachlorobiphenyl	82	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**10-06-0218-2-G**	**06/02/10 11:35**	**Aqueous**	**GC 49**	**06/04/10**	**06/05/10 02:21**	**100604B09**

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

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics (C10-C28)	65	50	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
Decachlorobiphenyl	96	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**10-06-0218-3-G**	**06/02/10 11:40**	**Aqueous**	**GC 49**	**06/04/10**	**06/05/10 02:38**	**100604B09**

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

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics (C10-C28)	130	50	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
Decachlorobiphenyl	80	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-699-213**	**N/A**	**Aqueous**	**GC 49**	**06/04/10**	**06/04/10 17:38**	**100604B09**

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics (C10-C28)	ND	50	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
Decachlorobiphenyl	82	68-140			

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.	Date Received: 06/03/10
1324 Mangrove Ave, Ste 212	Work Order No: 10-06-0218
Chico, CA 95926-2642	Preparation: EPA 5030B
	Method: EPA 8015B (M)

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**10-06-0218-1-E**	**06/02/10 11:30**	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10 16:43**	**100604B01**

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

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	110	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	96	38-134	

MW-2	**10-06-0218-2-E**	**06/02/10 11:35**	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10 18:58**	**100604B01**

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	91	38-134	

MW-3	**10-06-0218-3-E**	**06/02/10 11:40**	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10 19:32**	**100604B01**

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

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	100	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	94	38-134	

Method Blank	**099-12-695-841**	**N/A**	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10 16:09**	**100604B01**

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	88	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.	Date Received:	06/03/10
1324 Mangrove Ave, Ste 212	Work Order No:	10-06-0218
Chico, CA 95926-2642	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**10-06-0218-1-A**	**06/02/10 11:30**	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10 16:59**	**100608L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	10	1		Ethylbenzene	ND	0.50	1	
Benzene	ND	0.50	1		2-Hexanone	ND	10	1	
Bromobenzene	ND	0.50	1		Isopropylbenzene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		p-Isopropyltoluene	ND	0.50	1	
Bromodichloromethane	ND	0.50	1		Methylene Chloride	ND	1.0	1	
Bromoform	ND	0.50	1		4-Methyl-2-Pentanone	ND	5.0	1	
Bromomethane	ND	1.0	1		Naphthalene	ND	1.0	1	
2-Butanone	ND	5.0	1		n-Propylbenzene	ND	0.50	1	
n-Butylbenzene	ND	0.50	1		Styrene	ND	0.50	1	
sec-Butylbenzene	0.72	0.50	1		Chloroprene	ND	0.50	1	
tert-Butylbenzene	1.4	0.50	1		1,1,1,2-Tetrachloroethane	ND	0.50	1	
Carbon Disulfide	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	0.50	1	
Carbon Tetrachloride	ND	0.50	1		Tetrachloroethene	ND	0.50	1	
Chlorobenzene	ND	0.50	1		Toluene	ND	0.50	1	
Chloroethane	ND	0.50	1		1,2,3-Trichlorobenzene	ND	0.50	1	
2-Chloroethyl Vinyl Ether	ND	5.0	1		Ethyl Methacrylate	ND	5.0	1	
Chloroform	ND	0.50	1		1,2,4-Trichlorobenzene	ND	0.50	1	
Chloromethane	ND	0.50	1		1,1,1-Trichloroethane	ND	0.50	1	
2-Chlorotoluene	ND	0.50	1		Hexachloro-1,3-Butadiene	ND	2.0	1	
4-Chlorotoluene	ND	0.50	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.50	1	
Dibromochloromethane	ND	0.50	1		1,1,2-Trichloroethane	ND	0.50	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		Iodomethane	ND	10	1	
1,2-Dibromoethane	ND	0.50	1		Trichloroethene	ND	0.50	1	
Dibromomethane	ND	0.50	1		Trichlorofluoromethane	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1		Isobutyl Alcohol	ND	10	1	
1,3-Dichlorobenzene	ND	0.50	1		1,2,3-Trichloropropane	ND	1.0	1	
1,4-Dichlorobenzene	ND	0.50	1		1,2,4-Trimethylbenzene	ND	0.50	1	
Dichlorodifluoromethane	ND	1.0	1		Methacrylonitrile	ND	10	1	
1,1-Dichloroethane	ND	0.50	1		Methyl Methacrylate	ND	5.0	1	
1,2-Dichloroethane	ND	0.50	1		1,3,5-Trimethylbenzene	ND	0.50	1	
1,1-Dichloroethene	ND	0.50	1		Vinyl Acetate	ND	5.0	1	
c-1,2-Dichloroethene	ND	0.50	1		Vinyl Chloride	ND	0.50	1	
t-1,2-Dichloroethene	ND	0.50	1		Xylenes (total)	ND	0.50	1	
Acetonitrile	ND	10	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dichloropropane	ND	0.50	1		t-1,4-Dichloro-2-Butene	ND	5.0	1	
Acrolein	ND	20	1		Tetrahydrofuran	ND	5.0	1	
Acrylonitrile	ND	10	1		Propionitrile	ND	10	1	
1,3-Dichloropropane	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
2,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Allyl Chloride	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
1,1-Dichloropropene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
c-1,3-Dichloropropene	ND	0.50	1		Ethanol	ND	50	1	
t-1,3-Dichloropropene	ND	0.50	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Broadbent & Associates, Inc.	Date Received:	06/03/10
1324 Mangrove Ave, Ste 212	Work Order No:	10-06-0218
Chico, CA 95926-2642	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**10-06-0218-1-A**	**06/02/10 11:30**	**W**	**GC/MS WW**	**06/08/10**	**06/08/10 16:59**	**100608L01**

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,2-Dichloroethane-d4	109	80-128		Dibromofluoromethane	104	80-127	
Toluene-d8	102	80-120		1,4-Bromofluorobenzene	97	68-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.		Date Received:	06/03/10
1324 Mangrove Ave, Ste 212		Work Order No:	10-06-0218
Chico, CA 95926-2642		Preparation:	EPA 5030B
		Method:	EPA 8260B
		Units:	ug/L
Project: ARCO 472			Page 3 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**10-06-0218-2-A**	**06/02/10 11:35**	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10 17:27**	**100608L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	10	1		Ethylbenzene	ND	0.50	1	
Benzene	ND	0.50	1		2-Hexanone	ND	10	1	
Bromobenzene	ND	0.50	1		Isopropylbenzene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		p-Isopropyltoluene	ND	0.50	1	
Bromodichloromethane	ND	0.50	1		Methylene Chloride	ND	1.0	1	
Bromoform	ND	0.50	1		4-Methyl-2-Pentanone	ND	5.0	1	
Bromomethane	ND	1.0	1		Naphthalene	ND	1.0	1	
2-Butanone	ND	5.0	1		n-Propylbenzene	ND	0.50	1	
n-Butylbenzene	ND	0.50	1		Styrene	ND	0.50	1	
sec-Butylbenzene	ND	0.50	1		Chloroprene	ND	0.50	1	
tert-Butylbenzene	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	0.50	1	
Carbon Disulfide	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	0.50	1	
Carbon Tetrachloride	ND	0.50	1		Tetrachloroethene	ND	0.50	1	
Chlorobenzene	ND	0.50	1		Toluene	ND	0.50	1	
Chloroethane	ND	0.50	1		1,2,3-Trichlorobenzene	ND	0.50	1	
2-Chloroethyl Vinyl Ether	ND	5.0	1		Ethyl Methacrylate	ND	5.0	1	
Chloroform	ND	0.50	1		1,2,4-Trichlorobenzene	ND	0.50	1	
Chloromethane	ND	0.50	1		1,1,1-Trichloroethane	ND	0.50	1	
2-Chlorotoluene	ND	0.50	1		Hexachloro-1,3-Butadiene	ND	2.0	1	
4-Chlorotoluene	ND	0.50	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.50	1	
Dibromochloromethane	ND	0.50	1		1,1,2-Trichloroethane	ND	0.50	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		Iodomethane	ND	10	1	
1,2-Dibromoethane	ND	0.50	1		Trichloroethene	ND	0.50	1	
Dibromomethane	ND	0.50	1		Trichlorofluoromethane	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1		Isobutyl Alcohol	ND	10	1	
1,3-Dichlorobenzene	ND	0.50	1		1,2,3-Trichloropropane	ND	1.0	1	
1,4-Dichlorobenzene	ND	0.50	1		1,2,4-Trimethylbenzene	ND	0.50	1	
Dichlorodifluoromethane	ND	1.0	1		Methacrylonitrile	ND	10	1	
1,1-Dichloroethane	ND	0.50	1		Methyl Methacrylate	ND	5.0	1	
1,2-Dichloroethane	ND	0.50	1		1,3,5-Trimethylbenzene	ND	0.50	1	
1,1-Dichloroethene	ND	0.50	1		Vinyl Acetate	ND	5.0	1	
c-1,2-Dichloroethene	ND	0.50	1		Vinyl Chloride	ND	0.50	1	
t-1,2-Dichloroethene	ND	0.50	1		Xylenes (total)	ND	0.50	1	
Acetonitrile	ND	10	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dichloropropane	ND	0.50	1		t-1,4-Dichloro-2-Butene	ND	5.0	1	
Acrolein	ND	20	1		Tetrahydrofuran	ND	5.0	1	
Acrylonitrile	ND	10	1		Propionitrile	ND	10	1	
1,3-Dichloropropane	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
2,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Allyl Chloride	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
1,1-Dichloropropene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
c-1,3-Dichloropropene	ND	0.50	1		Ethanol	ND	50	1	
t-1,3-Dichloropropene	ND	0.50	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Broadbent & Associates, Inc.	Date Received:	06/03/10
1324 Mangrove Ave, Ste 212	Work Order No:	10-06-0218
Chico, CA 95926-2642	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	**10-06-0218-2-A**	**06/02/10 11:35**	**W**	**GC/MS WW**	**06/08/10**	**06/08/10 17:27**	**100608L01**

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,2-Dichloroethane-d4	114	80-128		Dibromofluoromethane	109	80-127	
Toluene-d8	99	80-120		1,4-Bromofluorobenzene	95	68-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 06/03/10
Work Order No: 10-06-0218
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**10-06-0218-3-A**	**06/02/10 11:40**	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10 17:55**	**100608L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	10	1		Ethylbenzene	ND	0.50	1	
Benzene	ND	0.50	1		2-Hexanone	ND	10	1	
Bromobenzene	ND	0.50	1		Isopropylbenzene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		p-Isopropyltoluene	ND	0.50	1	
Bromodichloromethane	ND	0.50	1		Methylene Chloride	ND	1.0	1	
Bromoform	ND	0.50	1		4-Methyl-2-Pentanone	ND	5.0	1	
Bromomethane	ND	1.0	1		Naphthalene	ND	1.0	1	
2-Butanone	ND	5.0	1		n-Propylbenzene	ND	0.50	1	
n-Butylbenzene	ND	0.50	1		Styrene	ND	0.50	1	
sec-Butylbenzene	ND	0.50	1		Chloroprene	ND	0.50	1	
tert-Butylbenzene	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	0.50	1	
Carbon Disulfide	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	0.50	1	
Carbon Tetrachloride	ND	0.50	1		Tetrachloroethene	ND	0.50	1	
Chlorobenzene	ND	0.50	1		Toluene	ND	0.50	1	
Chloroethane	ND	0.50	1		1,2,3-Trichlorobenzene	ND	0.50	1	
2-Chloroethyl Vinyl Ether	ND	5.0	1		Ethyl Methacrylate	ND	5.0	1	
Chloroform	ND	0.50	1		1,2,4-Trichlorobenzene	ND	0.50	1	
Chloromethane	ND	0.50	1		1,1,1-Trichloroethane	ND	0.50	1	
2-Chlorotoluene	ND	0.50	1		Hexachloro-1,3-Butadiene	ND	2.0	1	
4-Chlorotoluene	ND	0.50	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.50	1	
Dibromochloromethane	ND	0.50	1		1,1,2-Trichloroethane	ND	0.50	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		Iodomethane	ND	10	1	
1,2-Dibromoethane	ND	0.50	1		Trichloroethene	ND	0.50	1	
Dibromomethane	ND	0.50	1		Trichlorofluoromethane	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1		Isobutyl Alcohol	ND	10	1	
1,3-Dichlorobenzene	ND	0.50	1		1,2,3-Trichloropropane	ND	1.0	1	
1,4-Dichlorobenzene	ND	0.50	1		1,2,4-Trimethylbenzene	ND	0.50	1	
Dichlorodifluoromethane	ND	1.0	1		Methacrylonitrile	ND	10	1	
1,1-Dichloroethane	ND	0.50	1		Methyl Methacrylate	ND	5.0	1	
1,2-Dichloroethane	ND	0.50	1		1,3,5-Trimethylbenzene	ND	0.50	1	
1,1-Dichloroethene	ND	0.50	1		Vinyl Acetate	ND	5.0	1	
c-1,2-Dichloroethene	ND	0.50	1		Vinyl Chloride	ND	0.50	1	
t-1,2-Dichloroethene	ND	0.50	1		Xylenes (total)	ND	0.50	1	
Acetonitrile	ND	10	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dichloropropane	ND	0.50	1		t-1,4-Dichloro-2-Butene	ND	5.0	1	
Acrolein	ND	20	1		Tetrahydrofuran	ND	5.0	1	
Acrylonitrile	ND	10	1		Propionitrile	ND	10	1	
1,3-Dichloropropane	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
2,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Allyl Chloride	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
1,1-Dichloropropene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
c-1,3-Dichloropropene	ND	0.50	1		Ethanol	ND	50	1	
t-1,3-Dichloropropene	ND	0.50	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.	Date Received:	06/03/10
1324 Mangrove Ave, Ste 212	Work Order No:	10-06-0218
Chico, CA 95926-2642	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	**10-06-0218-3-A**	**06/02/10 11:40**	**W**	**GC/MS WW**	**06/08/10**	**06/08/10 17:55**	**100608L01**

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,2-Dichloroethane-d4	111	80-128		Dibromofluoromethane	105	80-127	
Toluene-d8	100	80-120		1,4-Bromofluorobenzene	97	68-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.		Date Received:	06/03/10
1324 Mangrove Ave, Ste 212		Work Order No:	10-06-0218
Chico, CA 95926-2642		Preparation:	EPA 5030B
		Method:	EPA 8260B
		Units:	ug/L
Project: ARCO 472			Page 7 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-10-025-1,584**	**N/A**	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10 11:56**	**100608L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	10	1		Ethylbenzene	ND	0.50	1	
Benzene	ND	0.50	1		2-Hexanone	ND	10	1	
Bromobenzene	ND	0.50	1		Isopropylbenzene	ND	0.50	1	
Bromochloromethane	ND	1.0	1		p-Isopropyltoluene	ND	0.50	1	
Bromodichloromethane	ND	0.50	1		Methylene Chloride	ND	1.0	1	
Bromoform	ND	0.50	1		4-Methyl-2-Pentanone	ND	5.0	1	
Bromomethane	ND	1.0	1		Naphthalene	ND	1.0	1	
2-Butanone	ND	5.0	1		n-Propylbenzene	ND	0.50	1	
n-Butylbenzene	ND	0.50	1		Styrene	ND	0.50	1	
sec-Butylbenzene	ND	0.50	1		Chloroprene	ND	0.50	1	
tert-Butylbenzene	ND	0.50	1		1,1,1,2-Tetrachloroethane	ND	0.50	1	
Carbon Disulfide	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	0.50	1	
Carbon Tetrachloride	ND	0.50	1		Tetrachloroethene	ND	0.50	1	
Chlorobenzene	ND	0.50	1		Toluene	ND	0.50	1	
Chloroethane	ND	0.50	1		1,2,3-Trichlorobenzene	ND	0.50	1	
2-Chloroethyl Vinyl Ether	ND	5.0	1		Ethyl Methacrylate	ND	5.0	1	
Chloroform	ND	0.50	1		1,2,4-Trichlorobenzene	ND	0.50	1	
Chloromethane	ND	0.50	1		1,1,1-Trichloroethane	ND	0.50	1	
2-Chlorotoluene	ND	0.50	1		Hexachloro-1,3-Butadiene	ND	2.0	1	
4-Chlorotoluene	ND	0.50	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.50	1	
Dibromochloromethane	ND	0.50	1		1,1,2-Trichloroethane	ND	0.50	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		Iodomethane	ND	10	1	
1,2-Dibromoethane	ND	0.50	1		Trichloroethene	ND	0.50	1	
Dibromomethane	ND	0.50	1		Trichlorofluoromethane	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1		Isobutyl Alcohol	ND	10	1	
1,3-Dichlorobenzene	ND	0.50	1		1,2,3-Trichloropropane	ND	1.0	1	
1,4-Dichlorobenzene	ND	0.50	1		1,2,4-Trimethylbenzene	ND	0.50	1	
Dichlorodifluoromethane	ND	1.0	1		Methacrylonitrile	ND	10	1	
1,1-Dichloroethane	ND	0.50	1		Methyl Methacrylate	ND	5.0	1	
1,2-Dichloroethane	ND	0.50	1		1,3,5-Trimethylbenzene	ND	0.50	1	
1,1-Dichloroethene	ND	0.50	1		Vinyl Acetate	ND	5.0	1	
c-1,2-Dichloroethene	ND	0.50	1		Vinyl Chloride	ND	0.50	1	
t-1,2-Dichloroethene	ND	0.50	1		Xylenes (total)	ND	0.50	1	
Acetonitrile	ND	10	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
1,2-Dichloropropane	ND	0.50	1		t-1,4-Dichloro-2-Butene	ND	5.0	1	
Acrolein	ND	20	1		Tetrahydrofuran	ND	5.0	1	
Acrylonitrile	ND	10	1		Propionitrile	ND	10	1	
1,3-Dichloropropane	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
2,2-Dichloropropane	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	0.50	1	
Allyl Chloride	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
1,1-Dichloropropene	ND	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
c-1,3-Dichloropropene	ND	0.50	1		Ethanol	ND	50	1	
t-1,3-Dichloropropene	ND	0.50	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Broadbent & Associates, Inc.	Date Received:	06/03/10
1324 Mangrove Ave, Ste 212	Work Order No:	099-10-025
Chico, CA 95926-2642	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	

Project: ARCO 472

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-10-025-1,584**	**N/A**	**W**	**GC/MS WW**	**06/08/10**	**06/08/10 11:56**	**100608L01**

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,2-Dichloroethane-d4	108	80-128		Dibromofluoromethane	106	80-127	
Toluene-d8	99	80-120		1,4-Bromofluorobenzene	95	68-120	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 06/03/10
Work Order No: 10-06-0218
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project ARCO 472

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-1	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10**	**100604S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	105	109	38-134	4	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 06/03/10
Work Order No: 10-06-0218
Preparation: EPA 5030B
Method: EPA 8260B

Project ARCO 472

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-06-0212-3	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10**	**100608S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	93	76-124	3	0-20	
Carbon Tetrachloride	102	99	74-134	3	0-20	
Chlorobenzene	96	94	80-120	1	0-20	
1,2-Dibromoethane	95	95	80-120	0	0-20	
1,2-Dichlorobenzene	95	92	80-120	4	0-20	
1,2-Dichloroethane	98	97	80-120	1	0-20	
1,1-Dichloroethene	95	85	73-127	11	0-20	
Ethylbenzene	94	90	78-126	4	0-20	
Toluene	94	91	80-120	4	0-20	
Trichloroethene	97	93	77-120	4	0-20	
Vinyl Chloride	101	98	72-126	3	0-20	
Methyl-t-Butyl Ether (MTBE)	93	93	67-121	0	0-49	
Tert-Butyl Alcohol (TBA)	99	97	36-162	2	0-30	
Diisopropyl Ether (DIPE)	100	98	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	95	95	69-123	0	0-30	
Tert-Amyl-Methyl Ether (TAME)	94	93	65-120	1	0-20	
Ethanol	114	126	30-180	10	0-72	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Broadbent & Associates, Inc.	Date Received: N/A
1324 Mangrove Ave, Ste 212	Work Order No: 10-06-0218
Chico, CA 95926-2642	Preparation: EPA 3510C
	Method: EPA 8015B (M)

Project: ARCO 472

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-699-213	**Aqueous**	**GC 49**	**06/04/10**	**06/04/10**	**100604B09**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Diesel Range Organics (C10-C28)	105	105	75-117	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 10-06-0218
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: ARCO 472

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-695-841	**Aqueous**	**GC 11**	**06/04/10**	**06/04/10**	**100604B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	105	107	78-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 10-06-0218
Preparation: EPA 5030B
Method: EPA 8260B

Project: ARCO 472

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-025-1,584	**Aqueous**	**GC/MS WW**	**06/08/10**	**06/08/10**	**100608L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	94	94	80-120	73-127	0	0-20	
Carbon Tetrachloride	98	98	74-134	64-144	0	0-20	
Chlorobenzene	95	93	80-120	73-127	2	0-20	
1,2-Dibromoethane	98	101	79-121	72-128	2	0-20	
1,2-Dichlorobenzene	95	93	80-120	73-127	2	0-20	
1,2-Dichloroethane	100	101	80-120	73-127	1	0-20	
1,1-Dichloroethene	96	96	78-126	70-134	0	0-28	
Ethylbenzene	95	93	80-120	73-127	1	0-20	
Toluene	95	94	80-120	73-127	0	0-20	
Trichloroethene	95	95	79-127	71-135	0	0-20	
Vinyl Chloride	101	101	72-132	62-142	0	0-20	
Methyl-t-Butyl Ether (MTBE)	95	100	69-123	60-132	5	0-20	
Tert-Butyl Alcohol (TBA)	92	90	63-123	53-133	2	0-20	
Diisopropyl Ether (DIPE)	99	101	59-137	46-150	2	0-37	
Ethyl-t-Butyl Ether (ETBE)	96	99	69-123	60-132	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	94	99	70-120	62-128	5	0-20	
Ethanol	111	102	28-160	6-182	9	0-57	

Total number of LCS compounds : 17
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

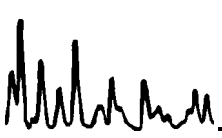
Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 10-06-0218

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.
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.

Qualifier	Definition
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.



Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

0218

Page 1 of 1

BP/ARC Project Name: ARCO 472 | Req Due Date (mm/dd/yy): STD-TAT | Rush TAT: Yes ___ No X

BP/ARC Facility No: 472 | Lab Work Order Number:

Lab Name:	Cal Science	BP/ARC Facility Address:	6415 International Boulevard	Consultant/Contractor:	Broadbent & Associates, Inc.
Lab Address:	7440 Lincoln Way	City, State, ZIP Code:	Oakland, CA 94621	Consultant/Contractor Project No:	09-88-601-1-813
Lab PM:	Richard Villafania	Lead Regulatory Agency:	ACEH	Address:	1324 Mangrove Ave. Ste. 212, Chico, CA 95926
Lab Phone:	714-895-5494 / 714-895-7501 (fax)	California Global ID No.:	T10000000417	Consultant/Contractor PM:	Tom Venus
Lab Shipping Accnt:	9255	Enfos Proposal No:	004L0-0003	Phone:	530-566-1400 / 530-566-1401 (fax)
Lab Bottle Order No:		Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email EDD To:	tvenus@broadbentinc.com
Other Info:		Stage:	Appraise (1) Activity: Monitoring (813)	Invoice To:	BP/ARC X Contractor ___

BP/ARC EBM: Chuck Carmel

EBM Phone: 925-275-3803

EBM Email: charles.carmel@bp.com

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

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 / DRO (8015M)	Full Spectrum 8260 (including BTEX, 5 Oxys, EDB, 1,2-DCA, and Ethanol)								Comments
1	MW-1	6/2/10	1130		X				X			X			X	X								
2	MW-2	"	1135		X				X			X			X	X								
3	MW-3	"	1140		X				X			X			X	X								
4	TB - 472-100602	6/2/10	1150		X			2				X												ON HOLD

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

Sampler's Name:	Sam Barkley / Eric Farrar	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	BAI		6/2/10	1230			
Shipment Method:	GSO	Ship Date: 6/2/10					
Shipment Tracking No:	106193736					6/3/10	1030

Special Instructions: Please cc results to bpedf@broadbentinc.com

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

BP/ARC LaMP COC Rev. 6 01/01/2009

0218

PLEASE PRESS FIRMLY

1 FROM

DATE 6/2/10

COMPANY BAI

ADDRESS 875 Cottonwood Cir

ADDRESS

STE/ ROOM

CITY Vacaville

ZIP CODE 95688

SENDERS NAME Sara

PHONE NUMBER 530-

2 TO

COMPANY CAL SCIENCE

NAME

PHONE NUMBER 714-

ADDRESS 7440 HAWKINS VIEW

ADDRESS

STE/ ROOM

CITY GARDEN GROVE

ZIP CODE 92841

3 YOUR INTERNAL BILLING REFERENCE WILL APPEAR ON YOUR INVOICE

SPECIAL INSTRUCTIONS

GSO GOLDEN STATE OVERNIGHT

1-800-322-5555

WWW.GSO.COM

SHIPPING AIR BILL

GSO COPY

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 EXP. DATE

8 PICK UP INFORMATION _____ TIME _____ DRIVER # _____ ROUTE

106193736

PEEL OFF HERE

106193736

9 GSO TRACKING NUMBER

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 10-06-0218

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Broadbent DATE: 06/03/10

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

Temperature 2.2 °C + 0.5 °C (CF) = 2.7 °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 ☐ Metals Only ☐ PCBs Only **Initial:** JH

CUSTODY SEALS INTACT:

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

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

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☑	☐
☑ Collection date/time, matrix, and/or # of containers logged in based on sample labels. Verified 6/10			
☐ 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 / Residual Chlorine / Dissolved Sulfide received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

Water: ☐VOA 6 ☑VOAh ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB 2 ☑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#:** 100517A **Labeled/Checked by:** YC

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

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:** YC

Area Percent Report

Data File Name : C:\HPCHEM\1\DATA\100604\10060407.D
Operator :
Instrument : GC 11
Sample Name : 06-0218-1E 5ML MW-1
Run Time Bar Code:
Acquired on : 04 Jun 10 04:43 pm
Report Created on: 05 Jun 10 09:38 am

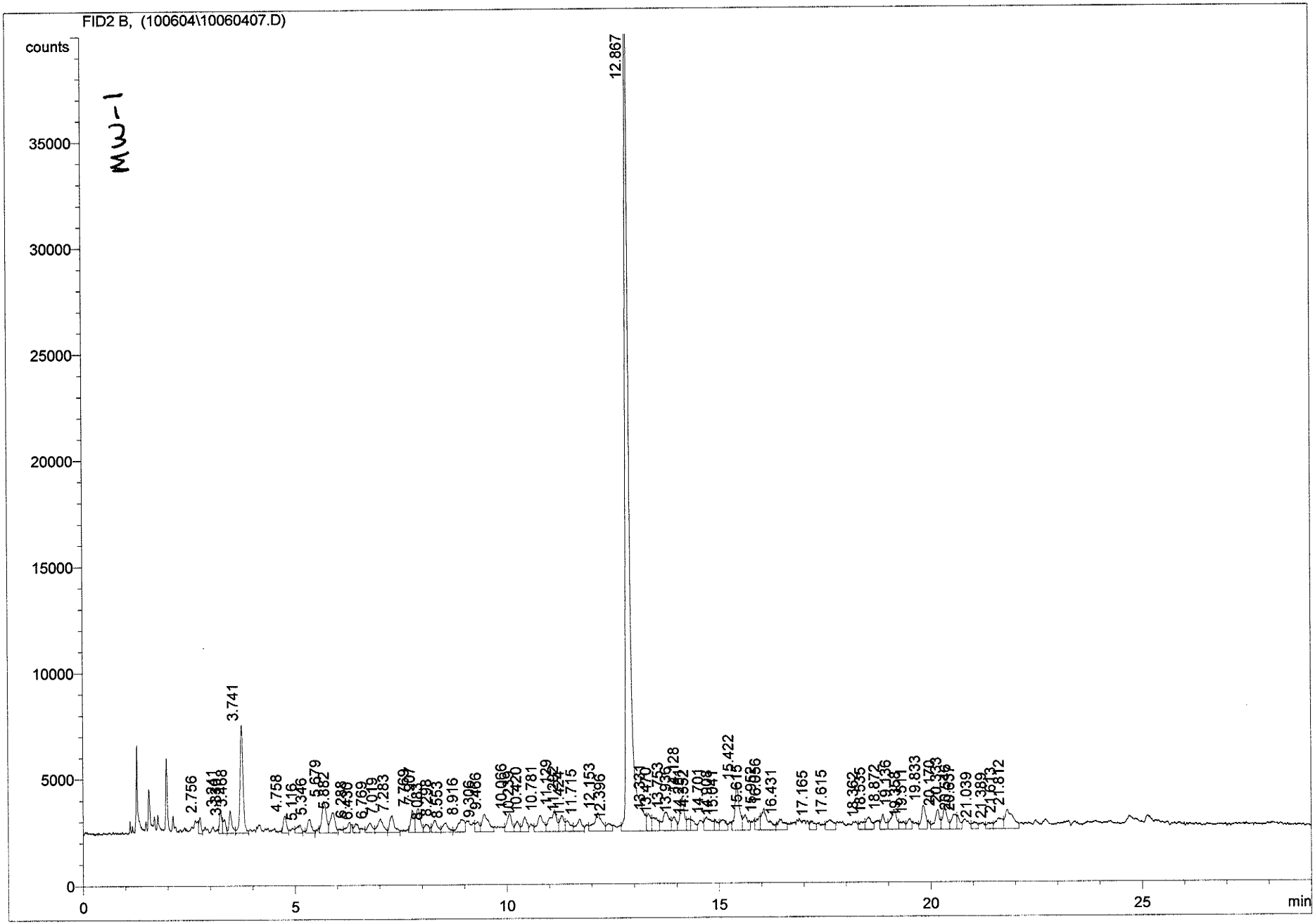
Page Number :
Vial Number : Vial 7
Injection Number : 1
Sequence Line : 7
Instrument Method: 80158021.M
Analysis Method : FID.MTH

Sig. 1 in C:\HPCHEM\1\DATA\100604\10060407.D

Pk	Ret Time	Area	Height	Peak	Width	Response %
1	2.756	2552	763	VV	0.051	0.401
2	3.241	4026	1039	VV	0.059	0.632
3	3.330	2770	640	VV	0.063	0.435
4	3.468	4917	1049	VV	0.068	0.773
5	3.741	25117	5092	VV	0.075	3.946
6	4.758	4223	800	VV	0.082	0.664
7	5.116	2740	383	VV	0.107	0.430
8	5.346	4037	631	VV	0.095	0.634
9	5.679	10683	1481	VV	0.105	1.678
10	5.882	7419	910	VV	0.113	1.166
11	6.288	2936	485	VV	0.101	0.461
12	6.430	2857	424	VV	0.091	0.449
13	6.769	3551	459	VV	0.099	0.558
14	7.019	5815	638	VV	0.117	0.914
15	7.283	5979	776	VV	0.104	0.939
16	7.769	6033	1024	VV	0.080	0.948
17	7.907	7807	1124	VV	0.097	1.227
18	8.083	2646	367	VV	0.102	0.416
19	8.298	4246	544	VV	0.104	0.667
20	8.553	3790	441	VV	0.112	0.595
21	8.916	6063	590	VV	0.131	0.953
22	9.306	2986	472	VV	0.085	0.469
23	9.466	8886	839	VV	0.137	1.396
24	10.066	6454	851	VV	0.107	1.014
25	10.239	3039	498	VV	0.082	0.477
26	10.420	4964	691	VV	0.095	0.780
27	10.781	7417	759	VV	0.130	1.165
28	11.129	10903	1030	VV	0.131	1.713
29	11.292	5182	732	VV	0.097	0.814
30	11.424	4120	492	VV	0.107	0.647
31	11.715	5135	577	VV	0.115	0.807
32	12.153	10670	854	VV	0.158	1.676
33	12.396	2993	352	VV	0.108	0.470
34	12.867	252106	40727	VV	0.091	39.607
35	13.331	5055	775	VV	0.086	0.794
36	13.470	5855	626	VV	0.122	0.920
37	13.753	10188	860	VV	0.149	1.601
38	13.936	4201	663	VV	0.081	0.660
39	14.128	11185	1576	VV	0.110	1.757
40	14.251	3077	545	VV	0.094	0.483
41	14.352	3574	520	VV	0.115	0.561
42	14.701	7090	587	VV	0.160	1.114
43	14.908	2655	490	VV	0.090	0.417
44	15.041	5004	500	VV	0.128	0.786
45	15.422	16059	2150	VV	0.107	2.523
46	15.615	5968	718	VV	0.108	0.938
47	15.952	4072	641	VV	0.106	0.640
48	16.056	10936	1017	VV	0.134	1.718
49	16.431	5607	518	VV	0.140	0.881
50	17.165	3180	436	VV	0.122	0.500
51	17.615	5430	464	VV	0.148	0.853
52	18.362	2995	364	VV	0.103	0.471
53	18.535	5407	578	VV	0.122	0.849
54	18.872	4816	710	VV	0.091	0.757
55	19.136	8726	912	VV	0.124	1.371
56	19.358	2916	383	VV	0.127	0.458

Pk	Ret Time	Area	Height	Peak	Width	Response %
57	19.511	3280	510	VV	0.091	0.515
58	19.833	7837	1117	VV	0.102	1.231
59	20.170	6973	898	VV	0.110	1.095
60	20.333	7645	1030	VV	0.100	1.201
61	20.546	5509	692	VV	0.106	0.865
62	20.637	3075	642	VV	0.080	0.483
63	21.039	2658	328	VV	0.140	0.418
64	21.389	2593	294	VV	0.124	0.407
65	21.613	5922	536	VV	0.156	0.930
66	21.812	11966	903	VH	0.191	1.880

Total area = 636516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7.769
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9.306
10.966
10.420
10.781
11.129
11.715
12.153
13.753
15.422
16.431
17.165
17.615
18.362
18.872
19.833
21.039
21.812
0
5
10
15
20
25
min

Area Percent Report

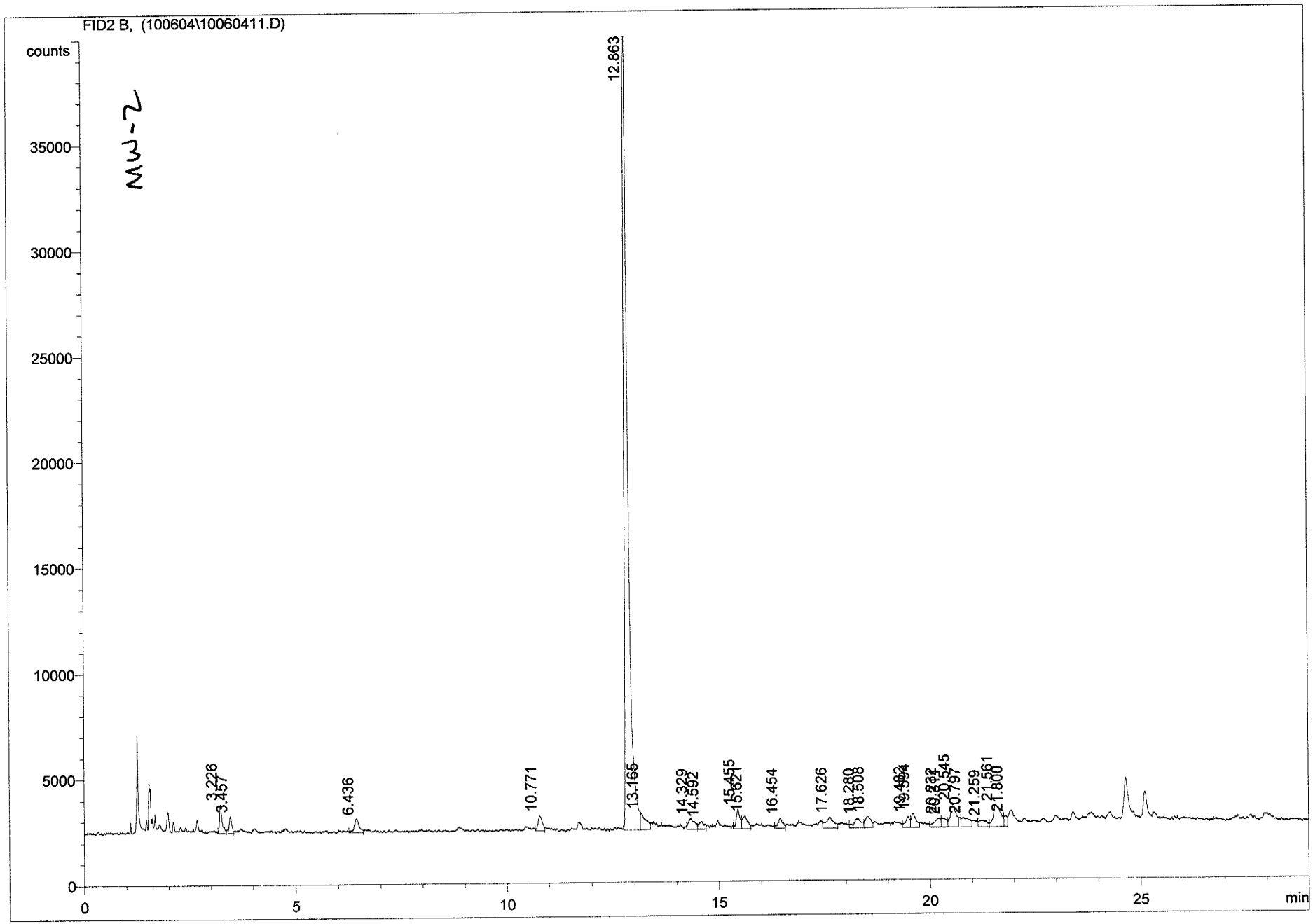
Data File Name : C:\HPCHEM\1\DATA\100604\10060411.D
Operator :
Instrument : GC 11 MW-2
Sample Name : 06-0218-2E 5ML
Run Time Bar Code:
Acquired on : 04 Jun 10 06:58 pm
Report Created on: 05 Jun 10 09:38 am

Page Number :
Vial Number : Vial 11
Injection Number : 1
Sequence Line : 11
Instrument Method: 80158021.M
Analysis Method : FID.MTH

Sig. 1 in C:\HPCHEM\1\DATA\100604\10060411.D

Pk	Ret Time	Area	Height	Peak	Width	Response %
1	3.226	5919	1384	VV	0.081	1.649
2	3.457	3331	815	VV	0.062	0.928
3	6.436	5159	658	VV	0.111	1.438
4	10.771	5076	741	VV	0.088	1.414
5	12.863	237759	40728	VV	0.087	66.247
6	13.165	7258	816	VV	0.148	2.022
7	14.329	5257	519	VV	0.132	1.465
8	14.592	3197	389	VV	0.107	0.891
9	15.455	5867	943	VV	0.082	1.635
10	15.621	5242	643	VV	0.106	1.460
11	16.454	3932	500	VV	0.105	1.096
12	17.626	6683	524	VV	0.162	1.862
13	18.280	5542	470	VV	0.151	1.544
14	18.508	5200	544	VV	0.133	1.449
15	19.482	3744	534	VV	0.090	1.043
16	19.594	5285	669	VV	0.108	1.473
17	20.232	4552	458	VV	0.166	1.268
18	20.311	3548	432	VV	0.115	0.988
19	20.545	10473	1103	VV	0.121	2.918
20	20.797	6098	470	VV	0.158	1.699
21	21.259	4119	350	VV	0.149	1.148
22	21.561	13069	1036	VV	0.159	3.641
23	21.800	2588	542	VV	0.070	0.721

Total area = 358896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6.436
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14.329
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15.455
15.621
16.454
17.626
18.280
18.508
20.797
21.259
21.561
21.800
0
5
10
15
20
25
min

Area Percent Report

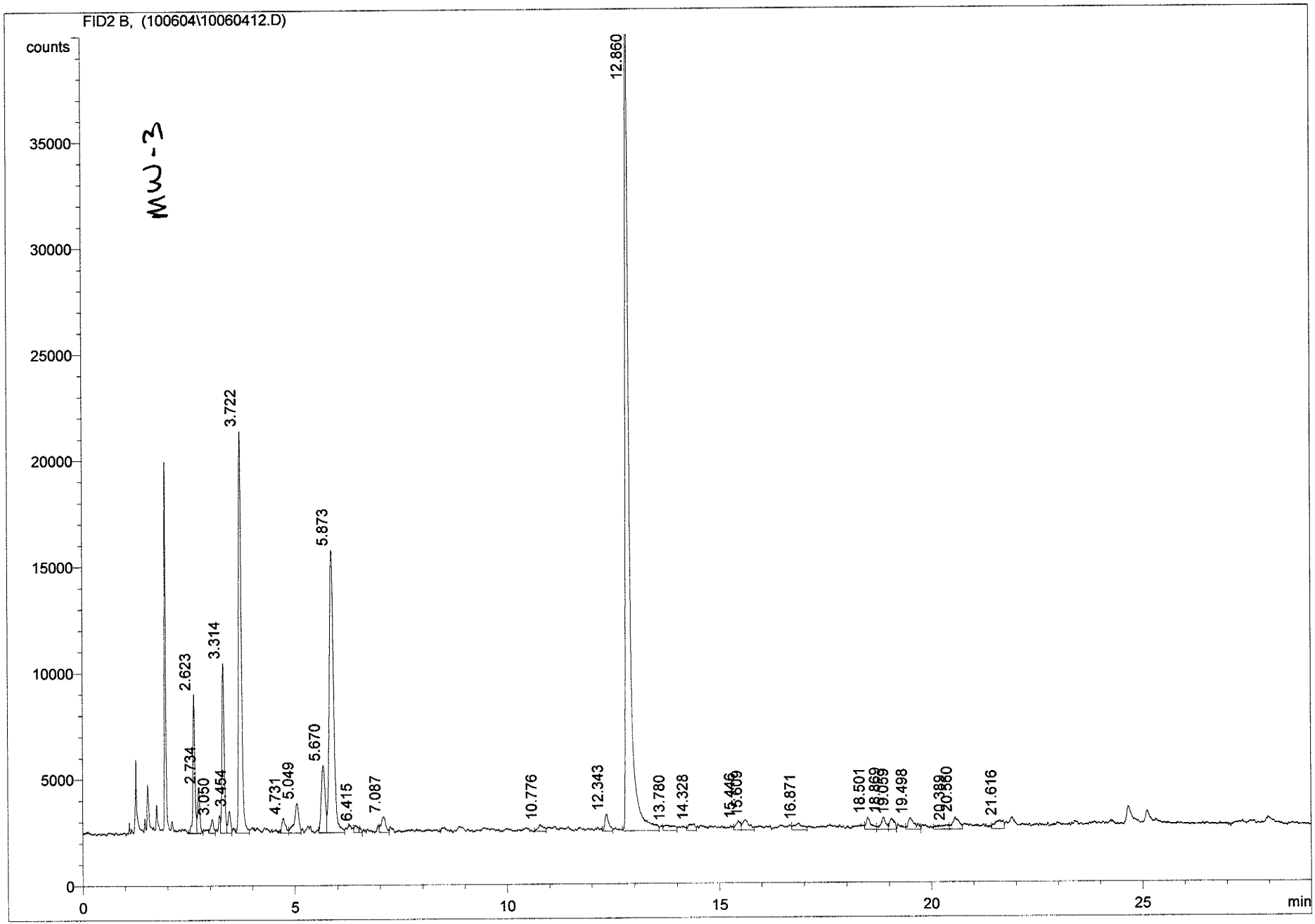
Data File Name : C:\HPCHEM\1\DATA\100604\10060412.D
Operator :
Instrument : GC 11 MW-3
Sample Name : 06-0218-3E 5ML
Run Time Bar Code:
Acquired on : 04 Jun 10 07:32 pm
Report Created on: 05 Jun 10 09:39 am

Page Number :
Vial Number : Vial 12
Injection Number : 1
Sequence Line : 12
Instrument Method: 80158021.M
Analysis Method : FID.MTH

Sig. 1 in C:\HPCHEM\1\DATA\100604\10060412.D

Pk	Ret Time	Area	Height	Peak	Width	Response %
1	2.623	20927	6529	PV	0.049	3.517
2	2.734	7707	2136	VV	0.055	1.295
3	3.050	3065	657	VV	0.070	0.515
4	3.314	29939	8012	VV	0.058	5.032
5	3.454	4401	1055	VV	0.061	0.740
6	3.722	85357	18933	VV	0.070	14.347
7	4.731	4039	683	PV	0.076	0.679
8	5.049	10089	1386	VV	0.105	1.696
9	5.670	19630	3180	VV	0.095	3.299
10	5.873	92592	13291	VV	0.106	15.563
11	6.415	2604	361	VV	0.106	0.438
12	7.087	5563	734	VV	0.114	0.935
13	10.776	2902	353	PV	0.115	0.488
14	12.343	5118	783	VV	0.097	0.860
15	12.860	246179	39944	VV	0.092	41.378
16	13.780	4059	274	VV	0.211	0.682
17	14.328	3238	309	VV	0.152	0.544
18	15.446	3191	366	VV	0.119	0.536
19	15.609	5359	474	VV	0.160	0.901
20	16.871	4300	300	VV	0.178	0.723
21	18.501	4703	578	VV	0.119	0.791
22	18.869	4695	588	VV	0.109	0.789
23	19.059	4067	535	VV	0.111	0.684
24	19.498	5945	527	VV	0.154	0.999
25	20.389	3417	227	VV	0.201	0.574
26	20.560	6092	623	VV	0.144	1.024
27	21.616	5775	447	VV	0.173	0.971

Total area = 594954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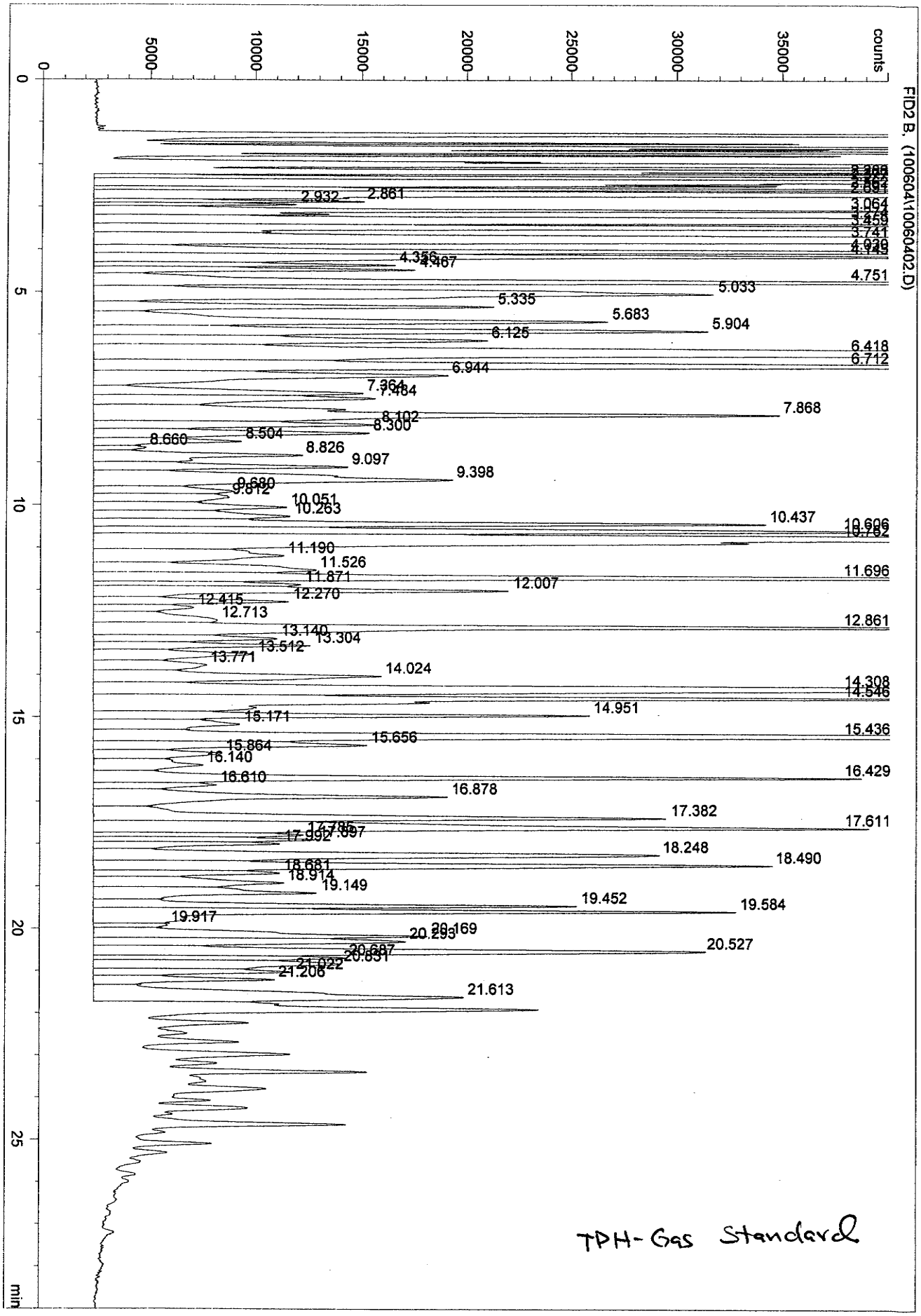
19.498
21.616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15
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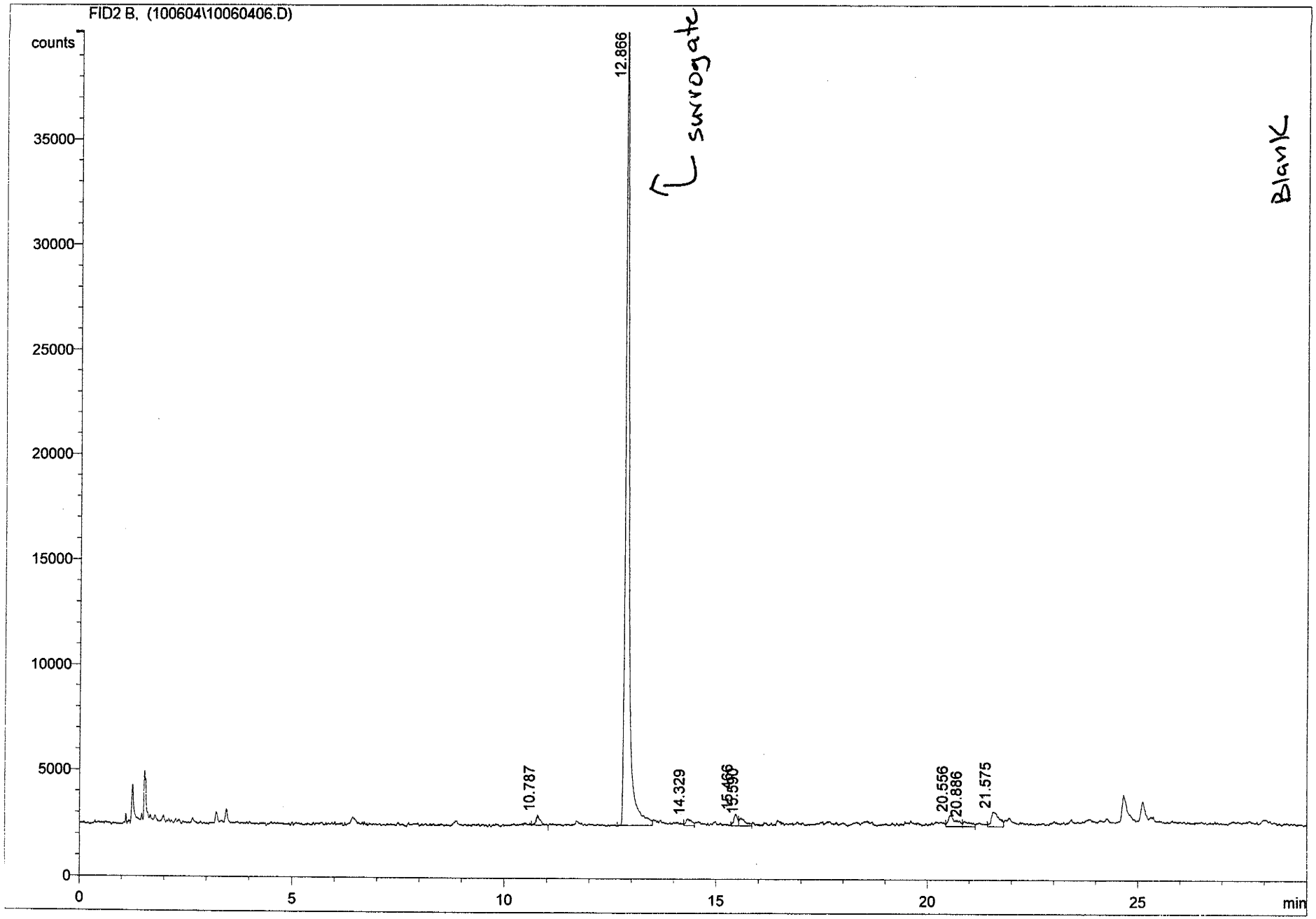
TPH-Gas Standard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14.329
15.466
15.590
20.556
20.886
21.575
0
5
10
15
20
25
min

FIELD PROCEDURES

A.1 QUALITY ASSURANCE/QUALITY CONTROL FIELD PROTOCOLS

Field protocols have been implemented to maximize 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-Phase Product Measurement

Prior to ground-water sample collection from each monitor well, the presence of free-phase product and depth to ground water shall be measured. Depth to ground water will be measured with a standard M-Scope water level indicator (or equivalent) that has been decontaminated prior to its use in accordance with procedures discussed below. Depth to ground water will be gauged from a saw cut notch at the top of the well casing on each well head. Once depth to water has been measured, a new disposable bailer will be utilized to monitor for the presence and thickness of free-phase product.

A.1.2 Monitor Well Purging

Subsequent to measuring depth to ground water, a minimum of three casing volumes of water will be purged from each monitor well using a Geosquirt submersible pump (or equivalent) 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. To assure that the sample collected is representative of formation water, several field parameters will be monitored during the purging process and the sample will not be collected until these parameters have stabilized to within 10% of a measured value. These parameters will include temperature, pH, and conductivity. If a well is purged dry, the sample will not be collected until the well has recovered to a minimum 50% of its initial volume.

Ground-water sampling equipment (e.g., M-scope and the Geosquirt purge pump) will be thoroughly cleansed with a solution of Liquinox, rinsed with tap water, and finally rinsed with control water prior to use in each well. Pre-cleaned disposable bailers and disposable plastic tubing will be dedicated to each individual well.

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 clean disposable bailer and transferred to laboratory-prepared 40 ml vials, in duplicate; such that no head space or air bubbles are present in the sample. The samples will be properly labeled (sample identification, sampler initials, date and time of collection, site location, and requested analyses), placed in an ice chest with blue ice, and delivered to an analytical laboratory.

A.1.4 Surface Water Sample Collection

Surface water samples will be collected from mid-depth in the central area of the associated stream. Water samples will be collected in laboratory-prepared 40 ml vials by dipping the vial into the stream water. Each vial will be inverted to check that no head space or bubbles are present. The samples will be properly labeled and transported as described above.

A.1.5 Chain of Custody Procedure

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 personally responsible for the care and custody of the samples collected until they are properly transferred.

Samples will have individual 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 sampler for the client.

The staff person conducting the sampling will determine whether proper custody procedures were followed during the field work.

Transfer of Custody and Shipment

A COC will accompany samples during transfer and shipment. When transferring samples, the individual's relinquishing and receiving the samples will sign, date, and note the time on the COC. This COC 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 courier.

A.1.6 Field Records

In addition to sample identification numbers and Chain-of Custody records, Daily Field Report records will be maintained by staff personnel to provide daily records of significant events, observations, and measurements during field investigations. These documents will contain information such as: personnel present, site conditions, sampling procedures, measurement procedures, calibration records, 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 records.

APPENDIX B

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:	2Q10 GEO_WELL 472
Facility Global ID:	T10000000417
Facility Name:	ARCO # / PLUCKY LIQUORS
File Name:	GEO_WELL.zip
Organization Name:	Broadbent & Associates, Inc.
Username:	BROADBENT-C
IP Address:	67.118.40.90
Submittal Date/Time:	7/6/2010 10:30:08 AM
Confirmation Number:	7708535730

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 - Quarterly**
Submittal Title:	**2Q10 GW Monitoring**
Facility Global ID:	**T10000000417**
Facility Name:	**ARCO # / PLUCKY LIQUORS**
File Name:	**10060218.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/6/2010 10:31:00 AM**
Confirmation Number:	**5304932594**

VIEW QC REPORT

VIEW DETECTIONS REPORT