Roya C. Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6270
RKLG@chevron.com

July 27, 2012

Mr. Mark Detterman
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Second Quarter 2012 Groundwater Monitoring Report
1400 Powell Street, Emeryville, California
Fuel Leak Case No.: RO0000067

Dear Mr. Detterman,

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact me at (925) 790-6270.

Sincerely,

Roya Kambin
Union Oil of California – Project Manager

Attachment
Second Quarter 2012 Monitoring Report

ARCADIS U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco
California 94104
Tel 415.374.2744
Fax 415.374.2745
www.arcadis-us.com

ENVIRONMENT

Mr. Mark Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, California 94502-6577

Subject:
Second Quarter 2012 Groundwater Monitoring Report

Date:
July 27, 2012

Contact:
Leah M. Ackerman

Phone:
415.432.6912

Email:
Leah.Ackerman@
arcadis-us.com

Our ref:
B0047937.0001

Dear Mr. Detterman:

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), ARCADIS U.S., Inc (ARCADIS) is pleased to submit the enclosed Quarterly Groundwater Monitoring Report for the following facility:

Facility No.	**Case No.**	**Location**
3737	RO0000067	1400 Powell Street Emeryville, California

If you have any questions, please contact Leah Ackerman at 415.432.6912.

Sincerely,

ARCADIS

Leah Ackerman, P.E.
Project Engineer

Copies:
Ms. Roya Kambin, EMC (electronic copy)
Mr. Najmeddin Revan, Property Owner

UNION OIL OF CALIFORNIA
QUARTERLY MONITORING REPORT
SECOND QUARTER 2012
July 27, 2012

Facility No.: 3737 Address: 1400 Powell Street, Emeryville, California

Consulting Company/Contact Person/Phone No.:	ARCADIS / Leah Ackerman/ 415.432.6912
Primary Agency/Contact Person/Regulatory ID No.:	Alameda County Environmental Health / Mr.Mark Detterman / Case No. RO 0000067

WORK PERFORMED DURING THIS REPORTING PERIOD (Second Quarter – 2012) :

1. TRC Solutions (TRC) conducted groundwater monitoring and sampling on May 20, 2012. Field data sheets and general procedures are included as **Attachment A**. Six (6) monitoring wells (MW-1A through MW-3A in the shallow zone and MW-1B through MW-3B in the deep zone) were gauged, purged, and sampled during this monitoring event.

   All collected groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g) by Environmental Protection Agency (EPA) Method 8260B; benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively), full scan of volatile organic compounds (VOCs) including oxygenates (methyl tertiary butyl ether [MTBE] and tertiary butyl alcohol [TBA]); 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC), diisopropyl ether (DIPE), tert-butyl ethyl ether (ETBE), tert-amyl methyl ether (TAME), and ethanol by EPA Method 8260B; total petroleum hydrocarbons as diesel (TPH-d) and total petroleum hydrocarbons as motor oil (TPH-mo) by EPA Method 8015B with silica gel clean-up.

   The site location map, the site plan, and the groundwater contour and hydrocarbon concentration maps are presented on **Figures 1** through **4**. Current Groundwater Gauging and Analytical Results are summarized in **Table 1**, Historical Groundwater Gauging and Analytical Results are summarized in **Table 2,** and Historical Groundwater Results from Antea are included as **Attachment B**. A copy of the laboratory analytical report and chain-of-custody documentation is included as **Attachment C.**

WORK PROPOSED FOR THE NEXT REPORTING PERIOD (Third Quarter – 2012):

1. Perform groundwater monitoring and related reporting during third quarter 2012.

Current Phase of Project:	Groundwater Monitoring
Site Use:	Active Service Station
Frequency of Sampling:	Groundwater – Quarterly
Frequency of Monitoring:	Groundwater – Quarterly
Measurable Separate-Phase Hydrocarbons (SPH) this quarter:	None
Cumulative SPH Recovered to Date:	None
SPH Recovered This Quarter:	None
Bulk Soil Removed to Date:	Six cubic yards
Bulk Soil Removed this Quarter:	None
Water Wells or Surface Waters within a 2000' Radius and Their Respective Directions:	None
Groundwater Use Designation:	Municipal and Domestic
Current Remediation Techniques:	None
Permits for Discharge (No.):	None

UNION OIL OF CALIFORNIA
QUARTERLY MONITORING REPORT
SECOND QUARTER 2012
July 27, 2012

Facility No.: 3737 Address: 1400 Powell Street, Emeryville, California

Approximate Depth to Groundwater:		Shallow Zone: 4.40 (MW-3A) – 7.77 (MW-2A) feet below top of casing		
		Deep Zone: 4.52 (MW-3B) – 7.33 (MW-1B) feet below top of casing		
Approximate Groundwater Elevation:		Shallow Zone: 11.16 (MW-2A) – 14.22 (MW-3A) feet above mean sea level		
		Deep Zone: 11.55 (MW-1B) – 14.05 (MW-3B) feet above mean sea level		
		Measured X Estimated		
Groundwater Gradient (Shallow Zone):	0.08 ft/ft	(Magnitude)	Northwest	(Direction)
Groundwater Gradient (Deep Zone):	0.004 ft/ft	(Magnitude)	South-southeast	(Direction)

DISCUSSION:

Groundwater conditions at the six (6) monitoring wells sampled during the second quarter 2012 remained generally consistent with previous quarters. The maximum concentration of TPH-d (470 micrograms per liter [µg/L]), benzene (250 µg/L), toluene (3.2 µg/L), ethylbenzene (31 µg/L), total xylenes (3.1 µg/L), MTBE (290 µg/L), TBA (2,400 µg/L), and TAME (2.1 µg/L) were detected in the samples collected from MW-2A. The maximum concentration of TPH-g (2,200 µg/) was detected in the sample collected from MW-3A. The maximum concentration of EDC (24 µg/L) was detected in the sample collected from MW-1B. EDB, DIPE, ETBE, and ethanol were not detected in any of the monitoring wells.

Groundwater elevations across the site in the shallow water-bearing zone vary by approximately three feet and create a hydraulic gradient of 0.08 foot per foot in the northwest direction. Groundwater elevations across the site in the deeper water-bearing zone vary by approximately two and one half feet and create a hydraulic gradient of 0.04 foot per foot in the south-southeast direction.

Approval was received from Alameda County Environmental Health (ACEH) in a letter dated May 10, 2012 to reduce the monitoring and sampling interval for the deep zone monitoring wells (MW-1B, MW-2B, and MW-3B) to a semi-annual basis using the first and third quarters in a given year, and to eliminate the full scan VOC analytical suites from all wells. ARCADIS will continue to analyze the fuel oxygenates and will also analyze TPH-g in the C6-C12 range using EPA Method 8015B in all the monitoring wells.

At the time that the letter from ACEH was received, the sampling event for the second quarter was already underway and therefore the deep zone wells were also monitored and sampled this sampling event. Going forward, the deep zone wells will be monitored and reported in the first and third quarters of the year.

CONCLUSIONS AND RECOMMENDATIONS:

Dissolved hydrocarbon constituent concentrations have remained relatively consistent with previous quarters. ARCADIS recommends continued groundwater monitoring and reporting.

UNION OIL OF CALIFORNIA
QUARTERLY MONITORING REPORT
SECOND QUARTER 2012
July 27, 2012

Facility No.: 3737 Address: 1400 Powell Street, Emeryville, California

ATTACHMENTS:

Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Groundwater Elevation Contour and Hydrocarbon Concentration Map (Shallow Zone)
Figure 4: Groundwater Elevation Contour and Hydrocarbon Concentration Map (Deep Zone)

Table 1: Current Groundwater Gauging and Analytical Results
Table 2: Historical Groundwater Gauging and Analytical Results

Attachment A: Field Data Sheets and General Procedures
Attachment B: Historical Groundwater Results from Antea
Attachment C: Laboratory Report and Chain-of-Custody Documentation

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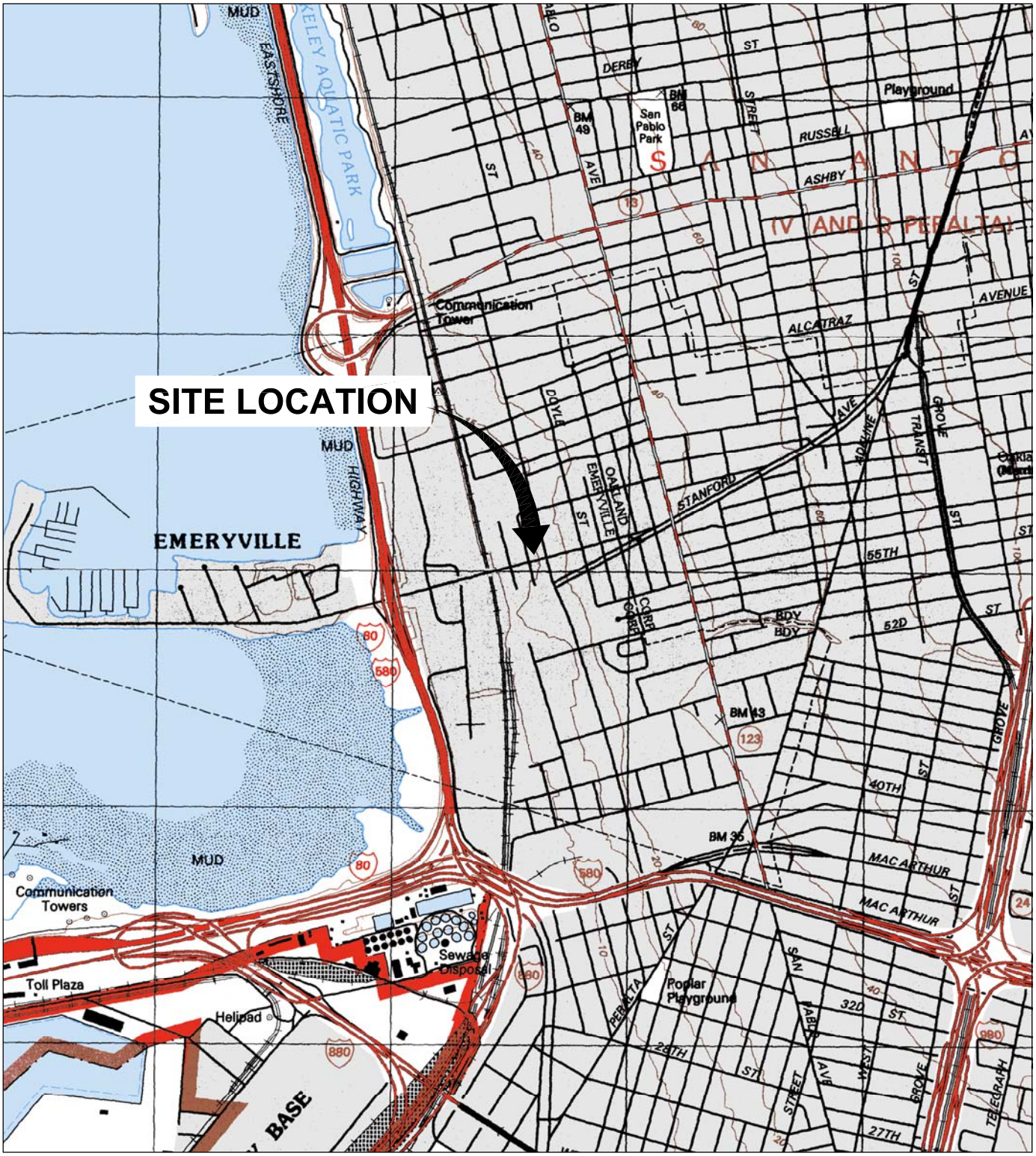
Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND WEST, CA, 1993.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

UNION OIL
FORMER 76 SERVICE STATION 35-1780
1400 POWELL STREET
EMERYVILLE, CALIFORNIA

SITE LOCATION MAP

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FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIVE\B0047937\0000\0002\DWG\47937N01.dwg LAYOUT: 1 SAVED: 7/3/2012 11:06 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/3/2012 11:08 AM BY: HOWES, DAVID
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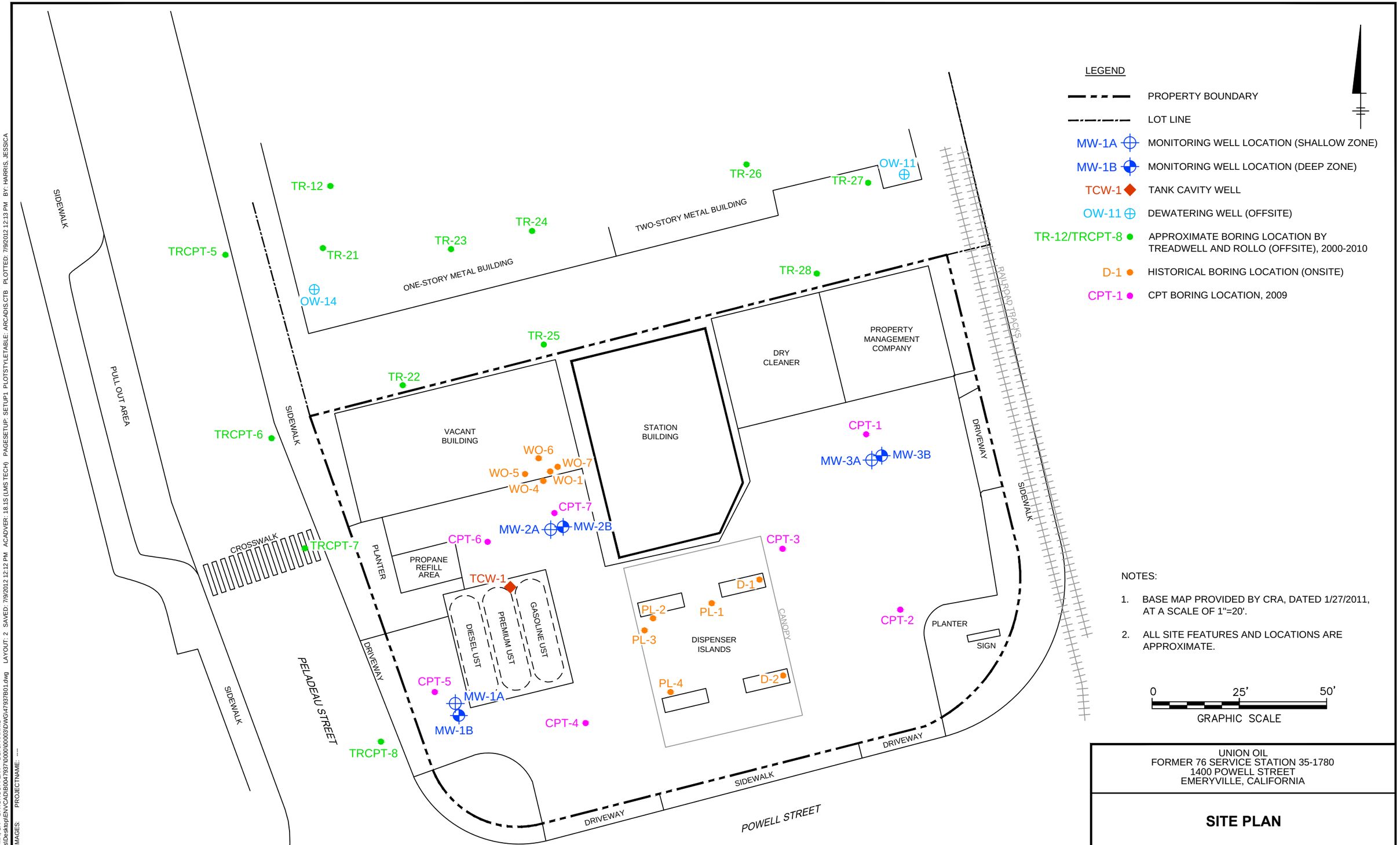

NOTES:

1. BASE MAP PROVIDED BY CRA, DATED 1/27/2011, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 25' 50'
GRAPHIC SCALE

UNION OIL
FORMER 76 SERVICE STATION 35-1780
1400 POWELL STREET
EMERYVILLE, CALIFORNIA

SITE PLAN

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FIGURE 2

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
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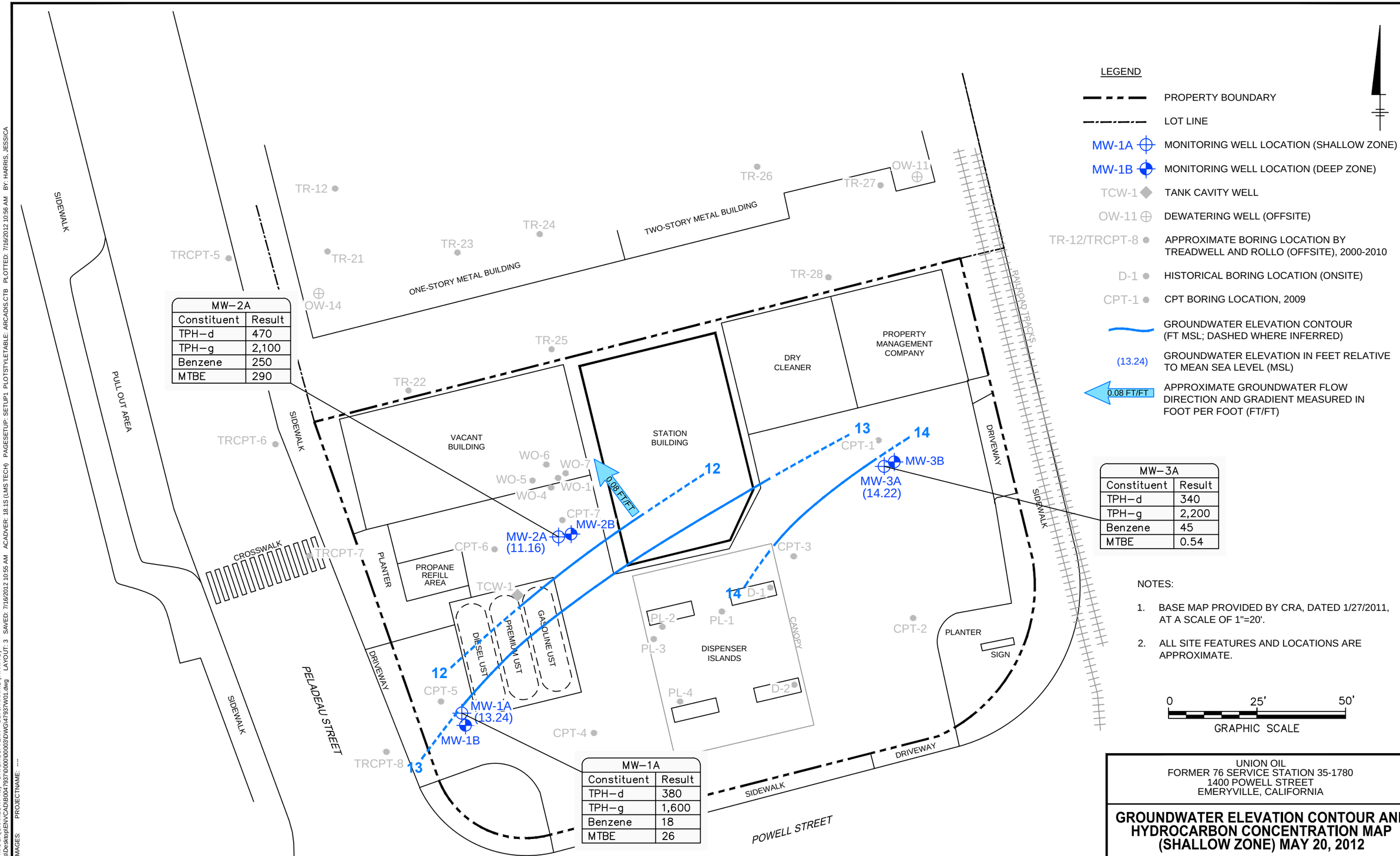

MW–2A	
Constituent	Result
TPH–d	470
TPH–g	2,100
Benzene	250
MTBE	290

MW–3A	
Constituent	Result
TPH–d	340
TPH–g	2,200
Benzene	45
MTBE	0.54

MW–1A	
Constituent	Result
TPH–d	380
TPH–g	1,600
Benzene	18
MTBE	26

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- MW-1A — MONITORING WELL LOCATION (SHALLOW ZONE)
- MW-1B — MONITORING WELL LOCATION (DEEP ZONE)
- TCW-1 — TANK CAVITY WELL
- OW-11 — DEWATERING WELL (OFFSITE)
- TR-12/TRCPT-8 — APPROXIMATE BORING LOCATION BY TREADWELL AND ROLLO (OFFSITE), 2000-2010
- D-1 — HISTORICAL BORING LOCATION (ONSITE)
- CPT-1 — CPT BORING LOCATION, 2009
- GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
- (13.24) — GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (MSL)
- 0.08 FT/FT — APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT MEASURED IN FOOT PER FOOT (FT/FT)

NOTES:

1. BASE MAP PROVIDED BY CRA, DATED 1/27/2011, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 25' 50'
GRAPHIC SCALE

UNION OIL
FORMER 76 SERVICE STATION 35-1780
1400 POWELL STREET
EMERYVILLE, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR AND HYDROCARBON CONCENTRATION MAP (SHALLOW ZONE) MAY 20, 2012

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FIGURE 3

CITY: PETALUMA, CA(CRANBURY-NJ) DIV/GROUP: ENV DB: J. HARRIS (T.FATTO)
C:\Users\jharris\Desktop\ENVCADB\047937\0000\0003\DWG\47937W01.dwg LAYOUT: 3 SAVED: 7/16/2012 10:55 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 7/16/2012 10:56 AM BY: HARRIS, JESSICA
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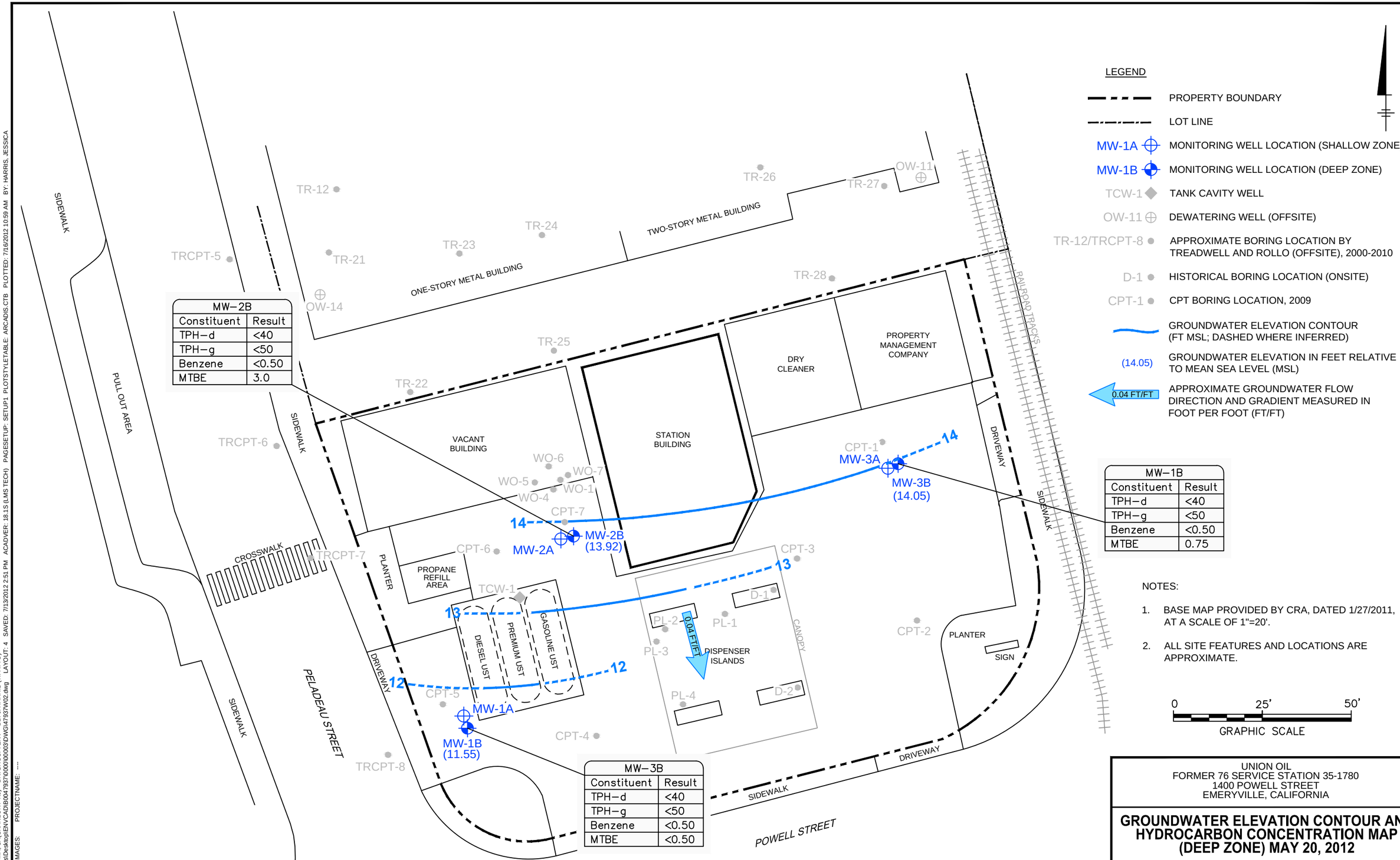

MW–2B	
Constituent	Result
TPH–d	<40
TPH–g	<50
Benzene	<0.50
MTBE	3.0

MW–3B	
Constituent	Result
TPH–d	<40
TPH–g	<50
Benzene	<0.50
MTBE	<0.50

MW–1B	
Constituent	Result
TPH–d	<40
TPH–g	<50
Benzene	<0.50
MTBE	0.75

LEGEND

- PROPERTY BOUNDARY
- LOT LINE
- MW-1A — MONITORING WELL LOCATION (SHALLOW ZONE)
- MW-1B — MONITORING WELL LOCATION (DEEP ZONE)
- TCW-1 — TANK CAVITY WELL
- OW-11 — DEWATERING WELL (OFFSITE)
- TR-12/TRCPT-8 — APPROXIMATE BORING LOCATION BY TREADWELL AND ROLLO (OFFSITE), 2000-2010
- D-1 — HISTORICAL BORING LOCATION (ONSITE)
- CPT-1 — CPT BORING LOCATION, 2009
- GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
- (14.05) — GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (MSL)
- 0.04 FT/FT — APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT MEASURED IN FOOT PER FOOT (FT/FT)

NOTES:

1. BASE MAP PROVIDED BY CRA, DATED 1/27/2011, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 25' 50'
GRAPHIC SCALE

UNION OIL
FORMER 76 SERVICE STATION 35-1780
1400 POWELL STREET
EMERYVILLE, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR AND HYDROCARBON CONCENTRATION MAP (DEEP ZONE) MAY 20, 2012

ARCADIS

FIGURE 4

CITY: PETALUMA, CA(CRANBURY-NJ) DIVGROUP: ENV DB: J. HARRIS (T-FATTO)
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XREFS: IMAGES: PROJECTNAME: ---
47937X01

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Tables

Table 1
Current Groundwater Gauging and Analytical Results
76 Station 3737
1400 Powell Street, Emeryville, California

Well ID	Date Sampled	TOC (feet AMSL)	DTW (feet bgs)	LPH Thickness (feet)	GW Elevation (feet AMSL)	Previous Quarter GWE (feet AMSL)	Change in Elevation (feet)	TPH-Motor Oil (8015B/FFP)	TPH-d (8015B/FFP)	TPH-g (Luft-GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
MW-1A	5/20/2012	18.74	5.50	0.00	13.24	13.07	-0.17	<100	380	1,600	18	0.81	5.1	2.7	26	39	<0.50	<0.50	<0.50	<0.50	0.76	<250	A52
MW-1B	5/20/2012	18.88	7.33	0.00	11.55	11.29	-0.26	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	0.75	<10	<0.50	24	<0.50	<0.50	<0.50	<250	
MW-2A	5/20/2012	18.93	7.77	0.00	11.16	11.68	0.52	<100	470	2,100	250	3.2	31	3.1	290	2,400	<0.50	<0.50	<0.50	<0.50	2.1	<250	A01, A52
MW-2B	5/20/2012	19.10	5.18	0.00	13.92	13.64	-0.28	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	3.0	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3A	5/20/2012	18.62	4.40	0.00	14.22	13.90	-0.32	<100	340	2,200	45	2.2	30	2.5	0.54	25	<0.50	0.85	<0.50	<0.50	<0.50	<250	A52
MW-3B	5/20/2012	18.57	4.52	0.00	14.05	13.95	-0.10	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Note

Analytical results given in micrograms per liter (µg/l)

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
bgs	below ground surface
AMSL	above mean sealevel
DTW	depth to water
GW	groundwater
LPH	liquid-phase hydrocarbons
TOC	top of casing (surveyed reference elevation)

Analytes

MTBE	methyl tertiary butyl ether
TBA	tertiary butyl alcohol
EDB	1,2-dibromoethane
EDC	1,2-dichloroethane (same as ethylene dichloride)
ETBE	ethyl tertiary butyl ether
TAME	tertiary amyl methyl ether
DIPE	di-isopropyl ether
TPH-g	total purgable petroleum hydrocarbons
TPH-d	total petroleum hydrcarbons as diesel
TPH-Motor Oil	total petroleum hydrocarbons as motor oil
8260B	EPA Method 8260B for TPH-g and Volatile Organic Compounds
8015B/FFP	EPA Method 8015B with silica gel clean-up for TPH-d and TPH-motor oil
A01	PQL's and MDL's are raised due to sample dilution.
A52	Chromatogram not typical of diesel

Table 2
Historical Groundwater Gauging and Analytical Results
76 Station 3737
1400 Powell Street, Emeryville, California

Well ID	Date Sampled	TOC (feet AMSL)	DTW (feet bgs)	LPH Thickness (feet)	GW Elevation (feet AMSL)	Previous Quarter GWE (feet AMSL)	Change in Elevation (feet)	TPH-Motor Oil (8015B/FFP)	TPH-d (FFP) (8015B/FFP)	TPH-g (Luft-GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	EDB	EDC	DIPE	ETBE	TAME	Ethanol	Comments
MW-1A	05/01/2011	18.74	5.68	0.00	13.06	--	--	<200	450	1,100	36	0.86	5.9	1.9	31	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/28/2011		5.72	0.00	13.02	13.06	0.04	170	540	840	21	0.68	3.8	1.8	55	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/20/2011		5.58	0.00	13.16	13.02	-0.14	<100	460	1,300	20	0.74	6.4	<1.0	40	79	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	02/19/2012		5.67	0.00	13.07	13.16	0.09	<100	610	1,300	20	0.91	6.8	2.5	59	80	<0.50	<0.50	<0.50	<0.50	2.0	<250	
	05/20/2012		5.50	0.00	13.24	13.07	-0.17	<100	380	1,600	18	0.81	5.1	2.7	26	39	<0.50	<0.50	<0.50	<0.50	0.76	<250	A52
MW-1B	05/01/2011	18.88	8.51	0.00	10.37	--	--	<200	82	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	19	<0.50	<0.50	<0.50	<250	
	08/28/2011		8.27	0.00	10.61	10.37	-0.24	<100	59	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	18	<0.50	<0.50	<0.50	<250	
	11/20/2011		7.88	0.00	11.00	10.61	-0.39	<100	69	<50	<0.50	<0.50	<0.50	<1.0	0.55	<10	<0.50	16	<0.50	<0.50	<0.50	<250	
	02/19/2012		7.59	0.00	11.29	11.00	-0.29	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	0.87	<10	<0.50	26	<0.50	<0.50	<0.50	<250	
	05/20/2012		7.33	0.00	11.55	11.29	-0.26	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	0.75	<10	<0.50	24	<0.50	<0.50	<0.50	<250	
MW-2A	05/01/2011	18.93	6.40	0.00	12.53	--	--	<1000	1,500	2,800	860	4.6	<0.50	12	220	2,500	<0.50	<0.50	<0.50	<0.50	<0.50	<250	A01
	08/28/2011		5.93	0.00	13.00	12.53	-0.47	<1000	1,600	2,300	690	<5.0	<5.0	<10	320	2,100	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	A01
	11/20/2011		5.73	0.00	13.20	13.00	-0.20	<500	1,200	1,800	440	<5.0	<5.0	<10	160	2,200	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	A01
	02/19/2012		7.25	0.00	11.68	13.20	1.52	<100	450	2,000	460	5.1	<0.50	5.8	280	3,200	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	05/20/2012		7.77	0.00	11.16	11.68	0.52	<100	470	2,100	250	3.2	<0.50	3.1	290	2,400	<0.50	<0.50	<0.50	<0.50	<0.50	<250	A01, A52
MW-2B	05/01/2011	19.10	7.57	0.00	11.53	--	--	<200	<50	<50	1.2	<0.50	<0.50	<1.0	3.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/28/2011		5.82	0.00	13.28	11.53	-1.75	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	2.3	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/20/2011		5.73	0.00	13.37	13.28	-0.09	<100	56	<50	<0.50	<0.50	<0.50	<1.0	2.0	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	02/19/2012		5.46	0.00	13.64	13.37	-0.27	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	3.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	05/20/2012		5.18	0.00	13.92	13.64	-0.28	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	3.0	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3A	05/01/2011	18.62	4.68	0.00	13.94	--	--	<200	460	2,700	130	2.7	98	3.6	<0.50	<10	<0.50	1.2	<0.50	<0.50	<0.50	<250	A01
	08/28/2011		4.92	0.00	13.70	13.94	0.24	130	440	1,700	39	0.51	28	1.6	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/20/2011		4.97	0.00	13.65	13.70	0.05	<100	330	1,200	25	0.83	17	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	02/19/2012		4.72	0.00	13.90	13.65	-0.25	<1000	1400	1,900	60	2.1	41	2.1	0.71	30	<0.50	0.80	<0.50	<0.50	<0.50	<250	A01
	05/20/2012		4.40	0.00	14.22	13.90	-0.32	<100	340	2,200	45	2.2	30	2.5	0.54	25	<0.50	0.85	<0.50	<0.50	<0.50	<250	A52
MW-3B	05/01/2011	18.57	6.68	0.00	11.89	--	--	<200	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	08/28/2011		7.29	0.00	11.28	11.89	0.61	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	11/20/2011		6.33	0.00	12.24	11.28	-0.96	<100	45	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	02/19/2012		4.62	0.00	13.95	12.24	-1.71	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
	05/20/2012		4.52	0.00	14.05	13.95	-0.10	<100	<40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Note

Analytical results given in micrograms per liter (µg/l)

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
bgs	below ground surface
AMSL	above mean sealevel
DTW	depth to water
GW	groundwater
LPH	liquid-phase hydrocarbons
TOC	top of casing (surveyed reference elevation)

Table 2
Historical Groundwater Gauging and Analytical Results
76 Station 3737
1400 Powell Street, Emeryville, California

Analytes

MTBE	methyl tertiary butyl ether
TBA	tertiary butyl alcohol
EDB	1,2-dibromoethane
EDC	1,2-dichloroethane (same as ethylene dichloride)
ETBE	ethyl tertiary butyl ether
TAME	tertiary amyl methyl ether
DIPE	di-isopropyl ether
TPH-g	total purgable petroleum hydrocarbons
TPH-d	total petroleum hydrcarbons as diesel
TPH-Motor Oil	total petroleum hydrocarbons as motor oil
8260B	EPA Method 8260B for TPH-g and Volatile Organic Compounds
8015B/FFP	EPA Method 8015B with silica gel clean-up for TPH-d and TPH-motor oil
A01	PQL's and MDL's are raised due to sample dilution.
A52	Chromatogram not typical of diesel

ARCADIS

Attachment A

Field Data Sheets and General Procedures

123 Technology Drive West
Irvine, CA 92618

949.727.9336 PHONE
949.727.7399 FAX

www.TRCsolutions.com

DATE: May 30, 2012

TO: Leah Ackerman
Arcadis
100 Montgomery Street, Suite 300
San Francisco, California 94104

SITE: Unocal Site 3737
Facility 351780
1400 Powell Street, Emeryville, CA

RE: Transmittal of Groundwater Monitoring Data

Dear Ms. Ackerman,

Please find attached the field data sheets, chain of custody (COC) forms, and technical services request (TSR) form for the monitoring event that was completed on May 20, 2012. Field measurements and collection of samples submitted to the laboratory were completed in general accordance with our usual groundwater monitoring protocol which is also attached for your reference.

Please call me at 949-727-7345 if you have questions.

Sincerely,

TRC

Christina Carrillo
Groundwater Program Coordinator

GENERAL FIELD PROCEDURES

Groundwater Gauging and Sampling Assignments

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater gauging and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

Fluid Level Measurements (Gauging)

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Unless otherwise instructed, a well that is found to contain a measureable amount of LPH (0.01 foot) is not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed.

Purging and Groundwater Parameter Measurement

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps. The pump intake is initially set at about 5 feet below the level of water in the casing, and is lowered as needed to compensate for falling water level. Pump depths are recorded in Field Notes.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurements are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously, using a flow cell, until they become stable in general accordance with EPA guidelines.

Groundwater Sample Collection

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

GENERAL FIELD PROCEDURES

Samples are collected by lowering a new, disposable polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

Sample containers are labeled with project number (or site number), well designation, sample date, sample time, and the sampler's initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

Sequence of Gauging, Purging and Sampling

The sequence in which monitoring activities are conducted is specified on the TSR. In general, wells are gauged beginning with the least affected well and ending with the well that has the highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected to the most-affected well. If wells must be gauged or sampled out of order, alternate interface probes and/or pumps are utilized and are noted in field documentation.

Decontamination

In order to reduce the possibility of cross contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging, and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liquinox and water and rinsing twice. The final rinse is in deionized water.

Purge Water Disposal

Purge water is generally collected in labeled drums for disposal as non-hazardous waste. Drums may be left on site for disposal by others, or transported to a collection location at a TRC field office, in either Fullerton, California or Concord, California, for eventual transfer to a licensed treatment or recycling facility. Alternatively, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

Exceptions

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, are documented in field notes on the following pages.

FIELD MONITORING DATA SHEET

Technician: Banks Job #/Task #: 189791.0035.1780 Date: 5-20-12

Site # 3737 Project Manager A.F. Page 1 of 1

Well #	TOC	Time Gauged	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-3B	✓	0750	23.80	4.52	—	—	1142	2"
MW-1B	✓	0757	21.70	7.33	—	—	1157	2"
MW-2B	✓	0805	23.58	5.18	—	—	1217	2"
MW-1A	✓	0811	9.70	5.50	—	—	1125	2"
MW-3A	✓	0819	9.22	4.40	—	—	1115	2"
MW-2A	✓	0825	10.15	7.77	—	—	1103	2" Pre-Purge Time 0850 for 8015 Analysis
								Note MW-2A
							*	Pre purge Time
							BR	~~0855~~ 0850 for
								8015 Analysis

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: B Aulis

Site: 3737 Project No.: 189791.0035.1780 Date: 5-22-12

Well No. MW-2A Purge Method: HB

Depth to Water (feet): 7.77 Depth to Product (feet): —

Total Depth (feet) 10.15 LPH & Water Recovered (gallons): —

Water Column (feet): 2.38 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 8.24 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0854	0856		1	2514	19.8	6.47			
			2	—	—	—			
			3	—	—	—			

Static at Time Sampled	Total Gallons Purged	Sample Time
9.33	.5	1103

Comments: Pre-Purge sample 0850 Dry at ~1 Gl. Did not recover 2 hrs ~~Used 8015~~ BR. Submitted pre purge for 8015 analysis.

Well No. MW-3A Purge Method: HB

Depth to Water (feet): 4.40 Depth to Product (feet): —

Total Depth (feet) 9.22 LPH & Water Recovered (gallons): —

Water Column (feet): 4.82 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 5.36 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0900			1	1177	22.3	7.12			
	0906		2	1192	22.1	6.87			
			3	—	—	—			

Static at Time Sampled	Total Gallons Purged	Sample Time
4.65	2	1115

Comments: Dry at 2 Gl, Did not recover 45 Min

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: Basilio

Site: 3737 Project No.: 189791.0035.1780 Date: 5-20-12

Well No. MW-1A Purge Method: HB

Depth to Water (feet): 5.50 Depth to Product (feet): —

Total Depth (feet) 9.70 LPH & Water Recovered (gallons): —

Water Column (feet): 4.20 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 6.34 1 Well Volume (gallons): 1

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, (C))	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0910			1	699.7	19.7	7.10			
	0914		2	747.7	19.4	6.94			
			3	—	—	—			

Static at Time Sampled	Total Gallons Purged	Sample Time
5.70	2	1125

Comments: Dry at 2 gls. Did not recover 45 min

Well No. MW-3B Purge Method: S&S

Depth to Water (feet): 4.52 Depth to Product (feet): —

Total Depth (feet) 23.80 LPH & Water Recovered (gallons): —

Water Column (feet): 19.28 Casing Diameter (Inches): 2

80% Recharge Depth(feet): 8.37 1 Well Volume (gallons): 4

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, (C))	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0935	0938		4	1336	21.2	7.44			
			8	—	—	—			
			12	—	—	—			

Static at Time Sampled	Total Gallons Purged	Sample Time
5.42	4	1142

Comments: Dry at 4 gls. Did not recover in 45 min

TRC

GROUNDWATER SAMPLING FIELD NOTES

Technician: Banks

Site: 3737 Project No.: 189791.0035.1780 Date: 5-20-12

Well No. MW-1B
Purge Method: S&S
Depth to Water (feet): 7.33
Depth to Product (feet): —
Total Depth (feet) 21.70
LPH & Water Recovered (gallons): —
Water Column (feet): 14.37
Casing Diameter (Inches): 2
80% Recharge Depth(feet): 10.20
1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
0957			3	1302	20.6	7.13			
	1001		6	1296	20.5	6.86			
			9	—	—	—			

Static at Time Sampled	Total Gallons Purged	Sample Time
9.10	6	1157

Comments: Dry at 6 gals. Did not recover 45 min

Well No. MW-2B
Purge Method: S&S
Depth to Water (feet): 5.18
Depth to Product (feet): —
Total Depth (feet) 23.58
LPH & Water Recovered (gallons): —
Water Column (feet): 18.40
Casing Diameter (Inches): 2
80% Recharge Depth(feet): 8.86
1 Well Volume (gallons): 4

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
Pre-Purge									
1008	1011		4	983.4	21.0	7.92			
			8						
			12						

Static at Time Sampled	Total Gallons Purged	Sample Time
8.98	4	1217

Comments: Dry at 4 gals. Did not recover 80% 2hrs.

TRC

STATEMENT OF NON-COMPLETION OF JOB

DATE OF EVENT: 5-20-12 SITE ID: 3737

TECH: Bailie CALLED SUPERVISOR: (YES) / NO

CALLED PM: (YES) / NO NAME OF PM: Anju F.

WELL ID: MW-2A

Submitted Pre purge samples for 8015 Analysis, due lack of water when sampling post purge. Submitted 8260B and ethanol analysis post purge.

WELL ID:

WELL ID:

TRC

WELL BOX CONDITION REPORT

SITE NO. 3737

ADDRESS 1400 Powell St.

DATE 5-20-12

PERFOMED BY: Bianka

PAGE 1 OF 1

Well Name	Current Well Box Size	# of Ears	# of Stripped Ears	# of Broken Ears	# of Broken Bolts	# of Missing Bolts	Seal Damaged	Missing Lid	Broken Lid	Well Box Is Exposed	Well Box Is Below Grade	Unable to Access	Unable to Locate	Foundation Damaged	Paved Over	Street Well	Saw Cut Needed	System Well	USA Marked Well	Comments
MW-3B	12"	2																		
MW-1B	12"	2												✓						
MW-2B	12"	2																		
MW-1A	12"	2												✓						
MW-3A	12"	2																		
MW-2A	12"	2																		

TRC

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 1 of 1

Union Oil Site ID: 3737	Union Oil Consultant: CRA
Site Global ID: T0601[illegible]5436	Consultant Contact: [illegible]
Site Address: 1400 Rowell St. Fairfield	Consultant Phone No.: [illegible]
Union Oil PM: [illegible]	Sampling Company: TRC
Union Oil PM Phone No.: [illegible]	Sampled By (PRINT): [illegible]
Charge Code: NWRTB- 0 [illegible] -0- LAB	Sampler Signature: [illegible]
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.	**BC Laboratories, Inc.** **Project Manager: Molly Meyers** 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

ANALYSES REQUIRED

Turnaround Time (TAT): Standard ☑ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

[illegible]

Notes / Comments

SAMPLE ID						TPH - Diesel by EPA 8015	TPH - G by GC/MS	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	TPH - [illegible]					
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers											
MW-1A	W-S-A		120520	1125	5	X	X		X		X					
MW-1B	W-S-A			1159												
MW-2A	W-S-A			0950 / 1103												
MW-2B	W-S-A			1217												
MW-3A	W-S-A			1115												
MW-3B	W-S-A			1142												
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															
	W-S-A															

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
[illegible]	TRC	5/21/12 1415						
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
Dana Bogan	BCLAB	5-21-12 1415						

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

25-Apr-12

Site ID:	3737	**Project No.:**	189791.0035.1780 / 00TA01
Address	1400 Powell Street	**Client:**	Roya Kambin
City:	Emeryville	**Contact #:**	925-790-6270
Cross Street:	Peladeau Street	**PM:**	Jim Schneider CRA
		PM Contact #:	949-648-5202

Total number of wells: 6 **Min. Well Diameter (in.):** **# of Techs, # of Hrs:** 1, 6

Depth to Water (ft.): **Max. Well Diameter (in.):** **Travel Time (hrs):**

Max. Well Depth (ft): **Hotel PO#:**

ACTIVITIES:		Frequency	Notes
Gauging:	☑	Quarterly	
Purge/Sampling:	☑	Quarterly	
No Purge/Sample	☐		

RELATED ACTIVITIES		Note
Drums:	☑	
Other Activities:	☐	
Traffic Control:	☐	

PERMIT INFORMATION:

NOTIFICATIONS:

Station Owner/Operator: Mr. Najmeddin Ravan, 510-653-2251. He is at the station until noon.

5/18 notified
1152

SITE INFORMATION:

The site is currently a Chevron station. It can only be sampled on a Sunday per the access agreement.

Prior to gauging, uncap all wells and allow to equilibrate for 15 minutes.

Well MW-2A does not recharge quickly.
- collect a no purge sample (these will be submitted if the well does not recharge after purging)
- then purge and sample the well
- if the well recharges after purging, please collect post-purge samples (submit these to the laboratory and discard the pre-purge samples)

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

25-Apr-12

Site ID:	3737	**Project No.:**	189791.0035.1780 / 00TA01
Address	1400 Powell Street	**Client:**	Roya Kambin
City:	Emeryville	**Contact #:**	925-790-6270
Cross Street:	Peladeau Street	**PM:**	Jim Schneider CRA
		PM Contact #:	949-648-5202

LAB INFORMATION:

Global ID: T06019745736

Lab WO: 351780

Lab Used: BC

Lab Notes: Lab Analyses:
TPH-G by 8260B, Full Scan 8260B including OXYS, Ethanol by 8260B [Containers: 3 voas w/ HCl]
TPH-Diesel by 8015 w/ silica gel cleanup, TPH-Motor Oil by 8015 w/ silica gel cleanup [Container: two 1L ambers unpreserved]

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

25-Apr-12

Site ID.: 3737
Address 1400 Powell Street
City: Emeryville
Cross Street Peladeau Street

			Gauging				Sampling				Field Measurements			
Well IDs	Benz.	MTBE	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Pre-Purge	Post-Purge	Type	Comments
MW-3B	0	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		
MW-1B	0	0.87	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		
MW-2B	0	3.1	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		
MW-1A	20	59	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		
MW-3A	60	0.71	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		
MW-2A	460	280	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐		

ARCADIS

Attachment B

Historical Groundwater Results from Antea

Table 2
Summary of Current Groundwater Analytical Data
Chevron Branded Service Station No. 3737
1400 Powell Street
Emeryville, California

Sample ID	Date	Time	Depth to Water	TOC Elevation	Groundwater Elevation	TPH-G (µg/L)	TPH-D (µg/L)	TPH-MO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	ETBE (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	n-Butyl-benzene (µg/L)	sec-Butyl-benzene (µg/L)	Chloroform (µg/L)	Isopropyl-benzene (µg/L)	p-Isopropyl-toluene (µg/L)	Napthalene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5 Trimethyl-benzene (µg/L)
MW-1A	1/26/2011	2:20	5.8	18.743	12.94	**960**	**450** A52	<200	**8.4**	<0.50	**1.9**	**1.6**	**50**	**1.4**	**62**	<0.50	<250	<0.50	<0.50	<0.50	**2.2**	**1.2**	<0.50	**4.2**	**1.8**	**1.8**	**7.3**	**1.0**	**1.2**
MW-1B	1/26/2011	1:20	9.46	18.884	9.42	<50	<50	<200	<0.50	<0.50	<0.50	<1.0	**0.66**	<0.50	<10	<0.50	<250	<0.50	<0.50	**24**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2A	1/26/2011	10:33	8.02	18.925	10.91	**2,500**	**1,200**	<1000	**100**	**2.2**	**28**	**9.0**	**140**	<0.50	**1,300**	<0.50	<250	<0.50	<0.50	<0.50	**6.6**	**3.9**	**2.5**	**14**	**7.6**	**17**	**23**	**2.5**	**2.4**
MW-2B	1/26/2011	2:10	5.51	19.099	13.59	<50	<50	<200	**0.55**	<0.50	<0.50	<1.0	**3.4**	<0.50	<10	<0.50	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3A	1/26/2011	2:30	4.75	18.616	13.87	**3,100**	**830**	<200	**160**	<5.0	**96**	<10	<5.0	<5.0	<100	<5.0	<2500	<5.0	<5.0	<5.0	<5.0	**6.2**	<5.0	**40**	**9.2**	<5.0	**54**	<5.0	<5.0
MW-3B	1/26/2011	1:35	7.33	18.571	11.24	<50	**57**	<200	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<10	<0.50	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
COMP	1/26/2011	1:15	NA	NA	NA	**1,200**	**350**	<200	**13**	**0.57**	**5.4**	**1.5**	**6.0**	<0.50	**92**	<0.50	**15,000**	<0.50	<0.50	**3.6**	**5.3**	**2.3**	<0.50	**4.0**	**2.9**	**5.6**	**8.4**	**0.60**	**0.52**
ESL	--	--	--	--	--	100	100	100	1	40	30	20	5	NA	12	NA	NA	NA	0.05	0.5	NA	NA	70	NA	NA	17	NA	NA	NA

Notes:

Depth to water measured in feet below top of casing
Groundwtaer elevation measured in feet above mean sea level
Bold concentrations indicate detection above laboratory reporting limit

(µg/L)	micrograms per liter
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TPH-G	Total Petroleum Hydrocarbons as Gasoline
MTBE	methyl tertiary butyl ether
TBA	tertiary buty alcohol
ETBE	ethyl tertiary butyl ether
DIPE	di-isopropyl ether
TAME	tertiary amyl ethyl ether
EDB	ethylene dibromide
1,2-DCA	1,2-dichloroethane
ESL	Regional Water Quality Control Board - San Francisco Region Environmental Screening Level
A52	Data Qualifier: Chromatogram not typical of diesel

ESL based on residential land use, shallow soil, and groundwater as a potential drinking resource.
TPH-D and TPH-MO analysis by Environmental Protection Agency (EPA) Test Method 8015 with Silica Gel Cleanup
All other analyses by EPA Method 8260B.
Samples were analyzed for a full VOC Scan by EPA Method 8260B with oxygenates and lead scavengers. All Oxygenates and lead scavenger data are summarized, only VOCs with detections are presented in table.
Data qualifiers regarding sample dilution, surrogate recovery, or quality control are not presented in table. Please refer to laboratory reports for full explanation of qualifiers.

ARCADIS

Attachment C

Laboratory Report and Chain-of-Custody Documentation

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 06/05/2012

Leah Ackerman

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Project:	3737
BC Work Order:	1209293
Invoice ID:	B123424

Enclosed are the results of analyses for samples received by the laboratory on 5/21/2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

Table of Contents

1209293

CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 1 of 1

Union Oil Site ID: 3737	Union Oil Consultant: CRA
Site Global ID: T0601974573 6	Consultant Contact: Jim Kaniecker
Site Address: 1400 Powell St. Emeryville	Consultant Phone No.: 949-648-5202
Union Oil PM: Roya Kambin	Sampling Company: TRC
Union Oil PM Phone No.: 925-790-6270	Sampled By (PRINT):
Charge Code: NWRTB- 0 351780 -0- LAB	Sampler Signature:

This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.

BC Laboratories, Inc.
Project Manager: Molly Meyers
4100 Atlas Court, Bakersfield, CA 93308
Phone No. 661-327-4911

SAMPLE ID						ANALYSES REQUIRED											
Field Point Name	Matrix	DTW	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015 w/silica gel cleanup	TPH - G by ~~GCMS~~ 8260B	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B, Full Scan 8260B including OXYS	EPA 8260B Full List with OXYS	TPH-Motor Oil by 8015 w/silica gel cleanup						Notes / Comments
MW-1A	W-S-A	-1	120520	1125	5	X	X		X		X						
MW-1B	W-S-A	-2		1157													
MW-2A	W-S-A	-3		0850 / 1103													
MW-2B	W-S-A	-4		1217													
MW-3A	W-S-A	-5		1115													
MW-3B	W-S-A	-6		1142													
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

Turnaround Time (TAT): Standard ☑ 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions: Prepurge sample time for MW-2A 0850 for 8015 Analysis. Post purge sample time 1103 for 8260B and ethanol Analysis.

CHK BY: KQ

DISTRIBUTION: WHITE ☐ YELLOW ☐ SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	TRC	5/20/12 1415 stored Refrigerator	Gary Bogan	BC Lab	5/21/12 1830	I Dulay	BC LAB	5-21-12 21:30
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
Gary Bogan	BC Lab	5-21-12 1405	I Dulay	BC LAB	5-21-12 18:30	KOM	BC lab	5-21-12 2130

Chain of Custody and Cooler Receipt Form for 1209293 Page 2 of 2

BC LABORATORIES INC. **SAMPLE RECEIPT FORM** Rev. No. 12 06/24/08 Page 1 Of 1

Submission #: 1209293

SHIPPING INFORMATION	SHIPPING CONTAINER
Federal Express ☐ UPS ☐ Hand Delivery ☐	Ice Chest ☒ None ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____	Box ☐ Other ☐ (Specify)_____

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

☒ COC Received YES ☐ NO

Emissivity: 0.95 Container: Amber Thermometer ID: 177

Temperature: A 2-3 °C / C 2-1 °C

Date/Time 5-21-12 2136

Analyst Init KIQ

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A3	A3	A3	A3	A3	A3	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER	BC	BC	BC	BC	BC	BC				
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:

Sample Numbering Completed By: JDW Date/Time: 5/21/12 2320

A = Actual / C = Corrected

[H:\DOCS\WP80\LAB_DOCS\FORMS\SAMREC2.WPD]

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1209293-01	**COC Number:**	---	**Receive Date:** 05/21/2012 21:30
	Project Number:	3737	**Sampling Date:** 05/20/2012 11:25
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-1A-W-120520	**Lab Matrix:** Water
	Sampled By:	TRCI	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T06019745736
			Location ID (FieldPoint): MW-1A
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1209293-02	**COC Number:**	---	**Receive Date:** 05/21/2012 21:30
	Project Number:	3737	**Sampling Date:** 05/20/2012 11:57
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-1B-W-120520	**Lab Matrix:** Water
	Sampled By:	TRCI	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T06019745736
			Location ID (FieldPoint): MW-1B
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1209293-03	**COC Number:**	---	**Receive Date:** 05/21/2012 21:30
	Project Number:	3737	**Sampling Date:** 05/20/2012 11:03
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-2A-W-120520	**Lab Matrix:** Water
	Sampled By:	TRCI	**Sample Type:** Groundwater
			Delivery Work Order:
			Global ID: T06019745736
			Location ID (FieldPoint): MW-2A
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1209293-04	**COC Number:**	---	**Receive Date:**	05/21/2012 21:30
	Project Number:	3737	**Sampling Date:**	05/20/2012 12:17
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-2B-W-120520	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T06019745736			
	Location ID (FieldPoint): MW-2B			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1209293-05	**COC Number:**	---	**Receive Date:**	05/21/2012 21:30
	Project Number:	3737	**Sampling Date:**	05/20/2012 11:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3A-W-120520	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T06019745736			
	Location ID (FieldPoint): MW-3A			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
1209293-06	**COC Number:**	---	**Receive Date:**	05/21/2012 21:30
	Project Number:	3737	**Sampling Date:**	05/20/2012 11:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3B-W-120520	**Lab Matrix:**	Water
	Sampled By:	TRCI	**Sample Type:**	Groundwater
	Delivery Work Order:			
	Global ID: T06019745736			
	Location ID (FieldPoint): MW-3B			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-01 | **Client Sample Name:** 3737, MW-1A-W-120520, 5/20/2012 11:25:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	**18**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromoform	ND	ug/L	0.50	EPA-8260	ND		1
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		1
n-Butylbenzene	**6.0**	**ug/L**	**0.50**	**EPA-8260**	ND		1
sec-Butylbenzene	**5.2**	**ug/L**	**0.50**	**EPA-8260**	ND		1
tert-Butylbenzene	**0.59**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		1
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Chloroform	ND	ug/L	0.50	EPA-8260	ND		1
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		1
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-01 | **Client Sample Name:** 3737, MW-1A-W-120520, 5/20/2012 11:25:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		1
Ethylbenzene	**5.1**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		1
Isopropylbenzene	**25**	**ug/L**	**0.50**	**EPA-8260**	ND		1
p-Isopropyltoluene	**2.1**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		1
Methyl t-butyl ether	**26**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Naphthalene	**1.6**	**ug/L**	**0.50**	**EPA-8260**	ND		1
n-Propylbenzene	**39**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Styrene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	**0.81**	**ug/L**	**0.50**	**EPA-8260**	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	**2.7**	**ug/L**	**1.0**	**EPA-8260**	ND		1
t-Amyl Methyl ether	**0.76**	**ug/L**	**0.50**	**EPA-8260**	ND		1
t-Butyl alcohol	**39**	**ug/L**	**10**	**EPA-8260**	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-01 | **Client Sample Name:** 3737, MW-1A-W-120520, 5/20/2012 11:25:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	**1600**	**ug/L**	**50**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	99.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	111	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/29/12	05/30/12 19:09	MGC	MS-V5	1	BVE2096

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-01 | **Client Sample Name:** 3737, MW-1A-W-120520, 5/20/2012 11:25:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	**380**	**ug/L**	**40**	**EPA-8015B/FFP**	ND	**A52**	1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	78.0	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/05/12 12:46	MWB	GC-2	1	BVF0064

Arcadis
2999 Oak Rd, Suite 300
Walnut Creek, CA 94597

Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-02 | **Client Sample Name:** 3737, MW-1B-W-120520, 5/20/2012 11:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromoform	ND	ug/L	0.50	EPA-8260	ND		1
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		1
n-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
sec-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
tert-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		1
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Chloroform	ND	ug/L	0.50	EPA-8260	ND		1
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		1
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	**24**	**ug/L**	**0.50**	**EPA-8260**	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-02 | **Client Sample Name:** 3737, MW-1B-W-120520, 5/20/2012 11:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		1
Isopropylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	EPA-8260	ND		1
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		1
Methyl t-butyl ether	**0.75**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Naphthalene	ND	ug/L	0.50	EPA-8260	ND		1
n-Propylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Styrene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-02 | **Client Sample Name:** 3737, MW-1B-W-120520, 5/20/2012 11:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	90.5	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/29/12	05/30/12 18:46	MGC	MS-V5	1	BVE2096

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-02 | **Client Sample Name:** 3737, MW-1B-W-120520, 5/20/2012 11:57:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	ND	ug/L	40	EPA-8015B/FFP	ND		1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	51.2	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/04/12 19:32	MWB	GC-2	1	BVF0064

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-03 | **Client Sample Name:** 3737, MW-2A-W-120520, 5/20/2012 11:03:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	**250**	**ug/L**	**5.0**	**EPA-8260**	ND	**A01**	1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		2
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		2
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		2
Bromoform	ND	ug/L	0.50	EPA-8260	ND		2
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		2
n-Butylbenzene	**0.99**	**ug/L**	**0.50**	**EPA-8260**	ND		2
sec-Butylbenzene	**2.2**	**ug/L**	**0.50**	**EPA-8260**	ND		2
tert-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		2
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		2
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		2
Chloroform	ND	ug/L	0.50	EPA-8260	ND		2
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		2
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		2
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		2
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		2
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		2
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		2
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		2
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		2
1,1-Dichloroethane	**0.52**	**ug/L**	**0.50**	**EPA-8260**	ND		2
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		2
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		2
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		2
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		2
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		2
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		2
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		2
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		2

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Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-03 | **Client Sample Name:** 3737, MW-2A-W-120520, 5/20/2012 11:03:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		2
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		2
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		2
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		2
Ethylbenzene	**31**	**ug/L**	**0.50**	**EPA-8260**	ND		2
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		2
Isopropylbenzene	**10**	**ug/L**	**0.50**	**EPA-8260**	ND		2
p-Isopropyltoluene	ND	ug/L	0.50	EPA-8260	ND		2
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		2
Methyl t-butyl ether	**290**	**ug/L**	**5.0**	**EPA-8260**	ND	**A01**	1
Naphthalene	**2.5**	**ug/L**	**0.50**	**EPA-8260**	ND		2
n-Propylbenzene	**8.1**	**ug/L**	**0.50**	**EPA-8260**	ND		2
Styrene	ND	ug/L	0.50	EPA-8260	ND		2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		2
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		2
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		2
Toluene	**3.2**	**ug/L**	**0.50**	**EPA-8260**	ND		2
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		2
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		2
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		2
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		2
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		2
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		2
1,2,4-Trimethylbenzene	**1.2**	**ug/L**	**0.50**	**EPA-8260**	ND		2
1,3,5-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		2
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		2
Total Xylenes	**3.1**	**ug/L**	**1.0**	**EPA-8260**	ND		2
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	ND		2
t-Butyl alcohol	**2400**	**ug/L**	**100**	**EPA-8260**	ND	**A01**	1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		2
Ethanol	ND	ug/L	250	EPA-8260	ND		2

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-03 | **Client Sample Name:** 3737, MW-2A-W-120520, 5/20/2012 11:03:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		2
Total Purgeable Petroleum Hydrocarbons	**2100**	**ug/L**	**50**	**Luft-GC/MS**	ND		2
1,2-Dichloroethane-d4 (Surrogate)	101	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	95.6	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	96.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	101	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	97.1	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/29/12	05/30/12 19:31	MGC	MS-V5	10	BVE2096
2	EPA-8260	05/29/12	05/30/12 12:25	MGC	MS-V5	1	BVE2096

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-03 | **Client Sample Name:** 3737, MW-2A-W-120520, 5/20/2012 11:03:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	**470**	**ug/L**	**40**	**EPA-8015B/FFP**	ND	**A52**	1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	88.5	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/05/12 13:10	MWB	GC-2	1	BVF0064

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-04 | **Client Sample Name:** 3737, MW-2B-W-120520, 5/20/2012 12:17:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromoform	ND	ug/L	0.50	EPA-8260	ND		1
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		1
n-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
sec-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
tert-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		1
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Chloroform	ND	ug/L	0.50	EPA-8260	ND		1
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		1
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1

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Project Number: 351780
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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-04 | **Client Sample Name:** 3737, MW-2B-W-120520, 5/20/2012 12:17:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		1
Isopropylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	EPA-8260	ND		1
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		1
Methyl t-butyl ether	**3.0**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Naphthalene	ND	ug/L	0.50	EPA-8260	ND		1
n-Propylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Styrene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-04 | **Client Sample Name:** 3737, MW-2B-W-120520, 5/20/2012 12:17:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	97.8	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	95.3	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/29/12	05/30/12 17:39	MGC	MS-V5	1	BVE2096

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-04 | **Client Sample Name:** 3737, MW-2B-W-120520, 5/20/2012 12:17:00PM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	ND	ug/L	40	EPA-8015B/FFP	ND		1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	40.3	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/04/12 20:20	MWB	GC-2	1	BVF0064

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-05 | **Client Sample Name:** 3737, MW-3A-W-120520, 5/20/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	**45**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromoform	ND	ug/L	0.50	EPA-8260	ND		1
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		1
n-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
sec-Butylbenzene	**2.8**	**ug/L**	**0.50**	**EPA-8260**	ND		1
tert-Butylbenzene	**0.62**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		1
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Chloroform	ND	ug/L	0.50	EPA-8260	ND		1
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		1
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	**0.85**	**ug/L**	**0.50**	**EPA-8260**	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-05 | **Client Sample Name:** 3737, MW-3A-W-120520, 5/20/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		1
Ethylbenzene	**30**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		1
Isopropylbenzene	**20**	**ug/L**	**0.50**	**EPA-8260**	ND		1
p-Isopropyltoluene	**1.8**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		1
Methyl t-butyl ether	**0.54**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Naphthalene	**2.0**	**ug/L**	**0.50**	**EPA-8260**	ND		1
n-Propylbenzene	**25**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Styrene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	**2.2**	**ug/L**	**0.50**	**EPA-8260**	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3,5-Trimethylbenzene	**0.76**	**ug/L**	**0.50**	**EPA-8260**	ND		1
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	**2.5**	**ug/L**	**1.0**	**EPA-8260**	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	ND		1
t-Butyl alcohol	**25**	**ug/L**	**10**	**EPA-8260**	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1

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Project: 3737
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Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-05 | **Client Sample Name:** 3737, MW-3A-W-120520, 5/20/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	**2200**	**ug/L**	**50**	**Luft-GC/MS**	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	99.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	114	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/29/12	05/30/12 18:02	MGC	MS-V5	1	BVE2096

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-05 | **Client Sample Name:** 3737, MW-3A-W-120520, 5/20/2012 11:15:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	**340**	**ug/L**	**40**	**EPA-8015B/FFP**	ND	**A52**	1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	64.5	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/05/12 13:33	MWB	GC-2	1	BVF0064

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-06 | **Client Sample Name:** 3737, MW-3B-W-120520, 5/20/2012 11:42:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Bromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromodichloromethane	ND	ug/L	0.50	EPA-8260	ND		1
Bromoform	ND	ug/L	0.50	EPA-8260	ND		1
Bromomethane	ND	ug/L	1.0	EPA-8260	ND		1
n-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
sec-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
tert-Butylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Carbon tetrachloride	ND	ug/L	0.50	EPA-8260	ND		1
Chlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Chloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Chloroform	ND	ug/L	0.50	EPA-8260	ND		1
Chloromethane	ND	ug/L	0.50	EPA-8260	ND		1
2-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
4-Chlorotoluene	ND	ug/L	0.50	EPA-8260	ND		1
Dibromochloromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
Dibromomethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,2-Dichloroethene	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	EPA-8260	ND		1

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Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-06 | **Client Sample Name:** 3737, MW-3B-W-120520, 5/20/2012 11:42:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,1-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
cis-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	EPA-8260	ND		1
Total 1,3-Dichloropropene	ND	ug/L	1.0	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	EPA-8260	ND		1
Isopropylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	EPA-8260	ND		1
Methylene chloride	ND	ug/L	1.0	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Naphthalene	ND	ug/L	0.50	EPA-8260	ND		1
n-Propylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Styrene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Tetrachloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Trichloroethene	ND	ug/L	0.50	EPA-8260	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	EPA-8260	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Vinyl chloride	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1209293-06 | **Client Sample Name:** 3737, MW-3B-W-120520, 5/20/2012 11:42:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	97.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	92.7	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	05/30/12	05/30/12 18:24	MGC	MS-V5	1	BVE2124

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Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

BCL Sample ID: 1209293-06 | **Client Sample Name:** 3737, MW-3B-W-120520, 5/20/2012 11:42:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (FFP)	ND	ug/L	40	EPA-8015B/FFP	ND		1
TPH - Motor Oil	ND	ug/L	100	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)	57.7	%	37 - 134 (LCL - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	05/23/12	06/04/12 21:06	MWB	GC-2	1	BVF0064

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVE2096						
Benzene	BVE2096-BLK1	ND	ug/L	0.50		
Bromobenzene	BVE2096-BLK1	ND	ug/L	0.50		
Bromochloromethane	BVE2096-BLK1	ND	ug/L	0.50		
Bromodichloromethane	BVE2096-BLK1	ND	ug/L	0.50		
Bromoform	BVE2096-BLK1	ND	ug/L	0.50		
Bromomethane	BVE2096-BLK1	ND	ug/L	1.0		
n-Butylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
sec-Butylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
tert-Butylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
Carbon tetrachloride	BVE2096-BLK1	ND	ug/L	0.50		
Chlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
Chloroethane	BVE2096-BLK1	ND	ug/L	0.50		
Chloroform	BVE2096-BLK1	ND	ug/L	0.50		
Chloromethane	BVE2096-BLK1	ND	ug/L	0.50		
2-Chlorotoluene	BVE2096-BLK1	ND	ug/L	0.50		
4-Chlorotoluene	BVE2096-BLK1	ND	ug/L	0.50		
Dibromochloromethane	BVE2096-BLK1	ND	ug/L	0.50		
1,2-Dibromo-3-chloropropane	BVE2096-BLK1	ND	ug/L	1.0		
1,2-Dibromoethane	BVE2096-BLK1	ND	ug/L	0.50		
Dibromomethane	BVE2096-BLK1	ND	ug/L	0.50		
1,2-Dichlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
1,3-Dichlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
1,4-Dichlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
Dichlorodifluoromethane	BVE2096-BLK1	ND	ug/L	0.50		
1,1-Dichloroethane	BVE2096-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVE2096-BLK1	ND	ug/L	0.50		
1,1-Dichloroethene	BVE2096-BLK1	ND	ug/L	0.50		
cis-1,2-Dichloroethene	BVE2096-BLK1	ND	ug/L	0.50		
trans-1,2-Dichloroethene	BVE2096-BLK1	ND	ug/L	0.50		
Total 1,2-Dichloroethene	BVE2096-BLK1	ND	ug/L	1.0		
1,2-Dichloropropane	BVE2096-BLK1	ND	ug/L	0.50		
1,3-Dichloropropane	BVE2096-BLK1	ND	ug/L	0.50		
2,2-Dichloropropane	BVE2096-BLK1	ND	ug/L	0.50		
1,1-Dichloropropene	BVE2096-BLK1	ND	ug/L	0.50		

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Reported: 06/05/2012 15:41
Project: 3737
Project Number: 351780
Project Manager: Leah Ackerman

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVE2096						
cis-1,3-Dichloropropene	BVE2096-BLK1	ND	ug/L	0.50		
trans-1,3-Dichloropropene	BVE2096-BLK1	ND	ug/L	0.50		
Total 1,3-Dichloropropene	BVE2096-BLK1	ND	ug/L	1.0		
Ethylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
Hexachlorobutadiene	BVE2096-BLK1	ND	ug/L	0.50		
Isopropylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
p-Isopropyltoluene	BVE2096-BLK1	ND	ug/L	0.50		
Methylene chloride	BVE2096-BLK1	ND	ug/L	1.0		
Methyl t-butyl ether	BVE2096-BLK1	ND	ug/L	0.50		
Naphthalene	BVE2096-BLK1	ND	ug/L	0.50		
n-Propylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
Styrene	BVE2096-BLK1	ND	ug/L	0.50		
1,1,1,2-Tetrachloroethane	BVE2096-BLK1	ND	ug/L	0.50		
1,1,2,2-Tetrachloroethane	BVE2096-BLK1	ND	ug/L	0.50		
Tetrachloroethene	BVE2096-BLK1	ND	ug/L	0.50		
Toluene	BVE2096-BLK1	ND	ug/L	0.50		
1,2,3-Trichlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
1,2,4-Trichlorobenzene	BVE2096-BLK1	ND	ug/L	0.50		
1,1,1-Trichloroethane	BVE2096-BLK1	ND	ug/L	0.50		
1,1,2-Trichloroethane	BVE2096-BLK1	ND	ug/L	0.50		
Trichloroethene	BVE2096-BLK1	ND	ug/L	0.50		
Trichlorofluoromethane	BVE2096-BLK1	ND	ug/L	0.50		
1,2,3-Trichloropropane	BVE2096-BLK1	ND	ug/L	1.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	BVE2096-BLK1	ND	ug/L	0.50		
1,2,4-Trimethylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
1,3,5-Trimethylbenzene	BVE2096-BLK1	ND	ug/L	0.50		
Vinyl chloride	BVE2096-BLK1	ND	ug/L	0.50		
Total Xylenes	BVE2096-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BVE2096-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BVE2096-BLK1	ND	ug/L	10		
Diisopropyl ether	BVE2096-BLK1	ND	ug/L	0.50		
Ethanol	BVE2096-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BVE2096-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BVE2096-BLK1	ND	ug/L	50		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVE2096						
1,2-Dichloroethane-d4 (Surrogate)	BVE2096-BLK1	107	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVE2096-BLK1	99.1	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVE2096-BLK1	94.9	%	86 - 115 (LCL - UCL)		
QC Batch ID: BVE2124						
Benzene	BVE2124-BLK1	ND	ug/L	0.50		
Bromobenzene	BVE2124-BLK1	ND	ug/L	0.50		
Bromochloromethane	BVE2124-BLK1	ND	ug/L	0.50		
Bromodichloromethane	BVE2124-BLK1	ND	ug/L	0.50		
Bromoform	BVE2124-BLK1	ND	ug/L	0.50		
Bromomethane	BVE2124-BLK1	ND	ug/L	1.0		
n-Butylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
sec-Butylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
tert-Butylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
Carbon tetrachloride	BVE2124-BLK1	ND	ug/L	0.50		
Chlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
Chloroethane	BVE2124-BLK1	ND	ug/L	0.50		
Chloroform	BVE2124-BLK1	ND	ug/L	0.50		
Chloromethane	BVE2124-BLK1	ND	ug/L	0.50		
2-Chlorotoluene	BVE2124-BLK1	ND	ug/L	0.50		
4-Chlorotoluene	BVE2124-BLK1	ND	ug/L	0.50		
Dibromochloromethane	BVE2124-BLK1	ND	ug/L	0.50		
1,2-Dibromo-3-chloropropane	BVE2124-BLK1	ND	ug/L	1.0		
1,2-Dibromoethane	BVE2124-BLK1	ND	ug/L	0.50		
Dibromomethane	BVE2124-BLK1	ND	ug/L	0.50		
1,2-Dichlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
1,3-Dichlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
1,4-Dichlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
Dichlorodifluoromethane	BVE2124-BLK1	ND	ug/L	0.50		
1,1-Dichloroethane	BVE2124-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVE2124-BLK1	ND	ug/L	0.50		
1,1-Dichloroethene	BVE2124-BLK1	ND	ug/L	0.50		
cis-1,2-Dichloroethene	BVE2124-BLK1	ND	ug/L	0.50		
trans-1,2-Dichloroethene	BVE2124-BLK1	ND	ug/L	0.50		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVE2124						
Total 1,2-Dichloroethene	BVE2124-BLK1	ND	ug/L	1.0		
1,2-Dichloropropane	BVE2124-BLK1	ND	ug/L	0.50		
1,3-Dichloropropane	BVE2124-BLK1	ND	ug/L	0.50		
2,2-Dichloropropane	BVE2124-BLK1	ND	ug/L	0.50		
1,1-Dichloropropene	BVE2124-BLK1	ND	ug/L	0.50		
cis-1,3-Dichloropropene	BVE2124-BLK1	ND	ug/L	0.50		
trans-1,3-Dichloropropene	BVE2124-BLK1	ND	ug/L	0.50		
Total 1,3-Dichloropropene	BVE2124-BLK1	ND	ug/L	1.0		
Ethylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
Hexachlorobutadiene	BVE2124-BLK1	ND	ug/L	0.50		
Isopropylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
p-Isopropyltoluene	BVE2124-BLK1	ND	ug/L	0.50		
Methylene chloride	BVE2124-BLK1	ND	ug/L	1.0		
Methyl t-butyl ether	BVE2124-BLK1	ND	ug/L	0.50		
Naphthalene	BVE2124-BLK1	ND	ug/L	0.50		
n-Propylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
Styrene	BVE2124-BLK1	ND	ug/L	0.50		
1,1,1,2-Tetrachloroethane	BVE2124-BLK1	ND	ug/L	0.50		
1,1,2,2-Tetrachloroethane	BVE2124-BLK1	ND	ug/L	0.50		
Tetrachloroethene	BVE2124-BLK1	ND	ug/L	0.50		
Toluene	BVE2124-BLK1	ND	ug/L	0.50		
1,2,3-Trichlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
1,2,4-Trichlorobenzene	BVE2124-BLK1	ND	ug/L	0.50		
1,1,1-Trichloroethane	BVE2124-BLK1	ND	ug/L	0.50		
1,1,2-Trichloroethane	BVE2124-BLK1	ND	ug/L	0.50		
Trichloroethene	BVE2124-BLK1	ND	ug/L	0.50		
Trichlorofluoromethane	BVE2124-BLK1	ND	ug/L	0.50		
1,2,3-Trichloropropane	BVE2124-BLK1	ND	ug/L	1.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	BVE2124-BLK1	ND	ug/L	0.50		
1,2,4-Trimethylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
1,3,5-Trimethylbenzene	BVE2124-BLK1	ND	ug/L	0.50		
Vinyl chloride	BVE2124-BLK1	ND	ug/L	0.50		
Total Xylenes	BVE2124-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BVE2124-BLK1	ND	ug/L	0.50		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVE2124						
t-Butyl alcohol	BVE2124-BLK1	ND	ug/L	10		
Diisopropyl ether	BVE2124-BLK1	ND	ug/L	0.50		
Ethanol	BVE2124-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BVE2124-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BVE2124-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BVE2124-BLK1	114	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVE2124-BLK1	98.9	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVE2124-BLK1	101	%	86 - 115 (LCL - UCL)		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVE2096										
Benzene	BVE2096-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
Bromodichloromethane	BVE2096-BS1	LCS	26.600	25.000	ug/L	106		70 - 130		
Chlorobenzene	BVE2096-BS1	LCS	25.610	25.000	ug/L	102		70 - 130		
Chloroethane	BVE2096-BS1	LCS	26.740	25.000	ug/L	107		70 - 130		
1,4-Dichlorobenzene	BVE2096-BS1	LCS	25.090	25.000	ug/L	100		70 - 130		
1,1-Dichloroethane	BVE2096-BS1	LCS	27.800	25.000	ug/L	111		70 - 130		
1,1-Dichloroethene	BVE2096-BS1	LCS	28.230	25.000	ug/L	113		70 - 130		
Toluene	BVE2096-BS1	LCS	25.020	25.000	ug/L	100		70 - 130		
Trichloroethene	BVE2096-BS1	LCS	25.170	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVE2096-BS1	LCS	10.740	10.000	ug/L	107		76 - 114		
Toluene-d8 (Surrogate)	BVE2096-BS1	LCS	9.9200	10.000	ug/L	99.2		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVE2096-BS1	LCS	10.190	10.000	ug/L	102		86 - 115		
QC Batch ID: BVE2124										
Benzene	BVE2124-BS1	LCS	27.710	25.000	ug/L	111		70 - 130		
Bromodichloromethane	BVE2124-BS1	LCS	28.220	25.000	ug/L	113		70 - 130		
Chlorobenzene	BVE2124-BS1	LCS	26.210	25.000	ug/L	105		70 - 130		
Chloroethane	BVE2124-BS1	LCS	27.220	25.000	ug/L	109		70 - 130		
1,4-Dichlorobenzene	BVE2124-BS1	LCS	26.650	25.000	ug/L	107		70 - 130		
1,1-Dichloroethane	BVE2124-BS1	LCS	28.330	25.000	ug/L	113		70 - 130		
1,1-Dichloroethene	BVE2124-BS1	LCS	28.790	25.000	ug/L	115		70 - 130		
Toluene	BVE2124-BS1	LCS	25.540	25.000	ug/L	102		70 - 130		
Trichloroethene	BVE2124-BS1	LCS	26.330	25.000	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVE2124-BS1	LCS	10.810	10.000	ug/L	108		76 - 114		
Toluene-d8 (Surrogate)	BVE2124-BS1	LCS	9.7800	10.000	ug/L	97.8		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVE2124-BS1	LCS	10.230	10.000	ug/L	102		86 - 115		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVE2096	Used client sample: N										
Benzene	MS	1209283-01	ND	29.470	25.000	ug/L		118		70 - 130	
	MSD	1209283-01	ND	28.430	25.000	ug/L	3.6	114	20	70 - 130	
Bromodichloromethane	MS	1209283-01	ND	28.040	25.000	ug/L		112		70 - 130	
	MSD	1209283-01	ND	27.430	25.000	ug/L	2.2	110	20	70 - 130	
Chlorobenzene	MS	1209283-01	ND	27.800	25.000	ug/L		111		70 - 130	
	MSD	1209283-01	ND	25.970	25.000	ug/L	6.8	104	20	70 - 130	
Chloroethane	MS	1209283-01	ND	28.890	25.000	ug/L		116		70 - 130	
	MSD	1209283-01	ND	27.140	25.000	ug/L	6.2	109	20	70 - 130	
1,4-Dichlorobenzene	MS	1209283-01	ND	28.130	25.000	ug/L		113		70 - 130	
	MSD	1209283-01	ND	25.310	25.000	ug/L	10.6	101	20	70 - 130	
1,1-Dichloroethane	MS	1209283-01	ND	29.630	25.000	ug/L		119		70 - 130	
	MSD	1209283-01	ND	28.550	25.000	ug/L	3.7	114	20	70 - 130	
1,1-Dichloroethene	MS	1209283-01	ND	30.050	25.000	ug/L		120		70 - 130	
	MSD	1209283-01	ND	28.860	25.000	ug/L	4.0	115	20	70 - 130	
Toluene	MS	1209283-01	ND	27.520	25.000	ug/L		110		70 - 130	
	MSD	1209283-01	ND	26.060	25.000	ug/L	5.4	104	20	70 - 130	
Trichloroethene	MS	1209283-01	ND	27.410	25.000	ug/L		110		70 - 130	
	MSD	1209283-01	ND	26.090	25.000	ug/L	4.9	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1209283-01	ND	10.810	10.000	ug/L		108		76 - 114	
	MSD	1209283-01	ND	10.930	10.000	ug/L	1.1	109		76 - 114	
Toluene-d8 (Surrogate)	MS	1209283-01	ND	9.9900	10.000	ug/L		99.9		88 - 110	
	MSD	1209283-01	ND	10.030	10.000	ug/L	0.4	100		88 - 110	
4-Bromofluorobenzene (Surrogate)	MS	1209283-01	ND	10.310	10.000	ug/L		103		86 - 115	
	MSD	1209283-01	ND	10.180	10.000	ug/L	1.3	102		86 - 115	
QC Batch ID: BVE2124	Used client sample: N										
Benzene	MS	1209463-01	ND	28.840	25.000	ug/L		115		70 - 130	
	MSD	1209463-01	ND	30.660	25.000	ug/L	6.1	123	20	70 - 130	
Bromodichloromethane	MS	1209463-01	ND	30.150	25.000	ug/L		121		70 - 130	
	MSD	1209463-01	ND	31.640	25.000	ug/L	4.8	127	20	70 - 130	
Chlorobenzene	MS	1209463-01	ND	28.730	25.000	ug/L		115		70 - 130	
	MSD	1209463-01	ND	29.830	25.000	ug/L	3.8	119	20	70 - 130	
Chloroethane	MS	1209463-01	ND	28.480	25.000	ug/L		114		70 - 130	
	MSD	1209463-01	ND	29.690	25.000	ug/L	4.2	119	20	70 - 130	
1,4-Dichlorobenzene	MS	1209463-01	ND	28.390	25.000	ug/L		114		70 - 130	
	MSD	1209463-01	ND	29.410	25.000	ug/L	3.5	118	20	70 - 130	
1,1-Dichloroethane	MS	1209463-01	ND	29.140	25.000	ug/L		117		70 - 130	
	MSD	1209463-01	ND	31.510	25.000	ug/L	7.8	126	20	70 - 130	

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVE2124	Used client sample: N										
1,1-Dichloroethene	MS	1209463-01	ND	30.460	25.000	ug/L		122		70 - 130	
	MSD	1209463-01	ND	31.430	25.000	ug/L	3.1	126	20	70 - 130	
Toluene	MS	1209463-01	ND	28.280	25.000	ug/L		113		70 - 130	
	MSD	1209463-01	ND	28.970	25.000	ug/L	2.4	116	20	70 - 130	
Trichloroethene	MS	1209463-01	ND	28.650	25.000	ug/L		115		70 - 130	
	MSD	1209463-01	ND	28.990	25.000	ug/L	1.2	116	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1209463-01	ND	10.410	10.000	ug/L		104		76 - 114	
	MSD	1209463-01	ND	11.280	10.000	ug/L	8.0	113		76 - 114	
Toluene-d8 (Surrogate)	MS	1209463-01	ND	10.030	10.000	ug/L		100		88 - 110	
	MSD	1209463-01	ND	10.010	10.000	ug/L	0.2	100		88 - 110	
4-Bromofluorobenzene (Surrogate)	MS	1209463-01	ND	10.320	10.000	ug/L		103		86 - 115	
	MSD	1209463-01	ND	10.550	10.000	ug/L	2.2	106		86 - 115	

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Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BVF0064						
TPH - Diesel (FFP)	BVF0064-BLK2	ND	ug/L	40		
TPH - Motor Oil	BVF0064-BLK2	ND	ug/L	100		
Tetracosane (Surrogate)	BVF0064-BLK2	51.2	%	37 - 134 (LCL - UCL)		

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Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BVF0064										
TPH - Diesel (FFP)	BVF0064-BS2	LCS	270.13	500.00	ug/L	54.0		52 - 128		
Tetracosane (Surrogate)	BVF0064-BS2	LCS	9.4959	20.000	ug/L	47.5		37 - 134		

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Purgeable Aromatics and Total Petroleum Hydrocarbons (Silica Gel Treated)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BVF0064	Used client sample: N										
TPH - Diesel (FFP)	MS	1110024-92	ND	415.99	500.00	ug/L		83.2		50 - 127	
	MSD	1110024-92	ND	318.85	500.00	ug/L	26.4	63.8	24	50 - 127	
Tetracosane (Surrogate)	MS	1110024-92	ND	14.123	20.000	ug/L		70.6		37 - 134	
	MSD	1110024-92	ND	11.022	20.000	ug/L	24.7	55.1		37 - 134	

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Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
A52	Chromatogram not typical of diesel.