Timothy L. Bishop
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel 925.790.6463
TimBishop@chevron.com

August 15, 2013

Mr. Keith Nowell
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: First Semi-Annual 2013 Groundwater Monitoring Report
10151 International Blvd, Oakland, California
Fuel Leak Case No.: RO0002444

Dear Mr. Nowell,

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) 790-6463.

Sincerely,

Timothy L. Bishop
Union Oil of California – Project Manager

Attachment:
First Semi-Annual 2013 Groundwater Monitoring Report

ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.
2000 Powell Street
7th Floor
Emeryville
California 94608
Tel 510.652.4500
Fax 510.652.4906
www.arcadis-us.com

Mr. Keith Nowell
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Subject:
First Half 2013 Semi-Annually Groundwater Monitoring Report Submittal

ENVIRONMENT

Dear Mr. Nowell:

Date:
August 15, 2013

Contact:
Katherine Brandt

Phone:
510.596.9675

Email:
Katherine.brandt@arcadis-us.com

Our ref:
B0047297.2013

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 Semi-Annual Groundwater Monitoring Report for the following facility:

Facility No.	**Case No.**	**Location**
7124	RO0002444	10151 International Boulevard Oakland, California

If you have any questions, please contact Katherine Brandt at 510.596.9675.

Sincerely,

ARCADIS

Katherine Brandt
Certified Project Manager

Jacob Henry, P.G.
Professional Geologist

Copies:
Ms. Cherie McCaulou, CRWQCB – San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612 (CD)
Mr. Timothy Bishop, Union Oil (electronic copy only)
Brahim and Nawa Abbushi, property owner, 10125 International Blvd, Oakland, CA 94603
Geotracker

UNION OIL OF CALIFORNIA
SEMI-ANNUALLY MONITORING REPORT
FIRST HALF 2013
August 15, 2013

Facility No.: 7124 Address: 10151 International Boulevard, Oakland, California

Sa Consulting Company/Contact Person/Phone No.:	ARCADIS / Katherine Brandt / 510.596.9675
Primary Agency/Contact Person/Regulatory ID No.:	Alameda County Health Agency / Mr. Keith Nowell / Case No. RO0002444

WORK PERFORMED DURING THIS REPORTING PERIOD (First Half – 2013) :

1. Gettler-Ryan Inc. (G-R) conducted groundwater monitoring and sampling on June 13, 2013. Field data sheets and general procedures are included as **Attachment A**. Four (4) groundwater monitoring wells (MW-1 through MW-4) were gauged and sampled during this monitoring event.

   Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g; C6-C12) by Environmental Protection Agency (EPA) Method 8015B; benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively), oxygenates (methyl tertiary butyl ether [MTBE], tertiary butyl alcohol [TBA], ethyl tertiary butyl ether [ETBE], di-isopropyl ether [DIPE], and tertiary amyl methyl ether [TAME]), ethanol, 1,2-dibromoethane (EDB), and 1,2-dichloroethane (EDC) by EPA Method 8260B. Groundwater samples were additional analyzed for methane by method RSK-175M, EPA Method 310.1 for total alkalinity as calcium carbonate ($CaCO_3$), EPA Method 300.0 for nitrate (NO_3) and sulfate, EPA Method 353.2 for nitrite (NO_2), EPA Method 415.1 for non-volatile organic carbon (NVOC), Method SM-3500-FeD for ferrous iron, and EPA Method 6010B for dissolved iron and total manganese.

   The site location map, the site plan, and the groundwater contour map are presented on **Figures 1** through **3**. Concentration maps for TPH-g, benzene, and MTBE are on **Figures 4** through **6**. Current Groundwater Gauging and Analytical Results are summarized in **Table 1**, Current Additional Groundwater Analytical Results are summarized in **Table 1a**, Historic Groundwater Gauging and Analytical Results are summarized in **Table 2**, Historic Additional Groundwater Analytical Results are summarized in **Table 2a**, and Historical Groundwater Results from TRC Solutions (TRC) 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 (Second Half – 2013):

1. Perform groundwater monitoring and related reporting during second half 2013.
2. Perform Site Assessment Activities to delineate dissolved plume

Current Phase of Project:	Groundwater Monitoring
Site Use:	Retail service station
Frequency of Sampling:	Groundwater – Semi-Annually
Frequency of Monitoring:	Groundwater – Semi-Annually
Separate-Phase Hydrocarbons (SPH) Present:	No
Cumulative SPH Recovered to Date:	None
SPH Recovered This Quarter:	None
Bulk Soil Removed to Date:	60 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 Water Supply
Current Remediation Techniques:	None

UNION OIL OF CALIFORNIA
SEMI-ANNUALLY MONITORING REPORT
FIRST HALF 2013
August 15, 2013

Facility No.: 7124 Address: 10151 International Boulevard, Oakland, California

Permits for Discharge (No.): None

Approximate Depth to Groundwater : 16.81 (MW-1) – 18.65 (MW-4) feet below top of casing
Measured X Estimated

Approximate Groundwater Elevation : 19.71 (MW-4) – 20.56 (MW-1) feet relative to mean sea level
Measured X Estimated

Groundwater Gradient: 0.011 ft/ft (Magnitude) Northeast (Direction)

DISCUSSION:

Groundwater concentrations during the first half 2013 have decreased since previous monitoring events (2012). The only dissolved concentration of the primary constituents was of MTBE (6.5 micrograms per liter [µg/L]) detected in well MW-3. Other constituents were not detected above the laboratory reporting limits for wells sampled.

The maximum concentrations of monitored natural attenuation analytes are listed as follows: The maximum dissolved concentrations of methane (0.075 milligrams per liter [mg/L]), total alkalinity as $CaCO_3$ (260 mg/L), and dissolved iron (160 µg/L) were detected in well MW-3. The maximum dissolved concentrations of NO_3 (24 mg/L), sulfate (23 mg/L), and total manganese (31,000 µg/L) were detected in well MW-1. The maximum dissolved concentrations of NVOC (4.7 mg/L) and ferrous iron (5,200 µg/L) were detected in well MW-4.

Groundwater elevations at the service station vary by less than a foot, creating a gentle hydraulic gradient of 0.011 foot per foot in the northeast direction.

CONCLUSIONS AND RECOMMENDATIONS:

Dissolved hydrocarbon constituent concentrations have decreased since the previous monitoring event. ARCADIS recommends continued groundwater monitoring. ARCADIS has proposed additional site investigation to delineate the dissolved plume downgradient to prepare for a Low Threat Closure Request.

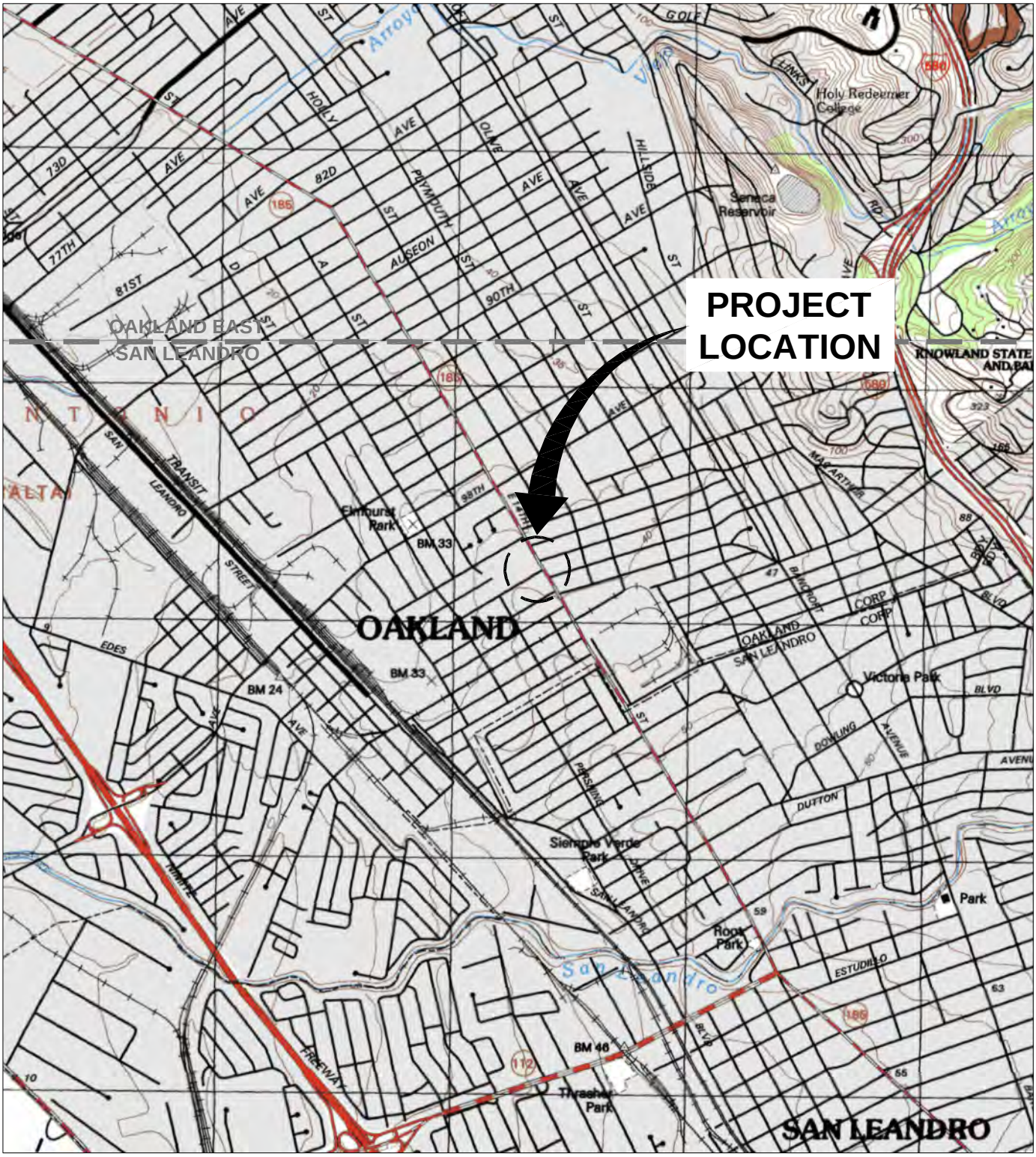
ATTACHMENTS:

Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Groundwater Contour Map
Figure 4: TPH-g Concentration Map
Figure 5: Benzene Concentration Map
Figure 6: MTBE Concentration Map

Table 1: Current Groundwater Gauging and Analytical Results
Table 1a: Current Groundwater Additional Analytical Results
Table 2: Historic Groundwater Gauging and Analytical Results
Table 2a: Historic Groundwater Additional Analytical Results

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

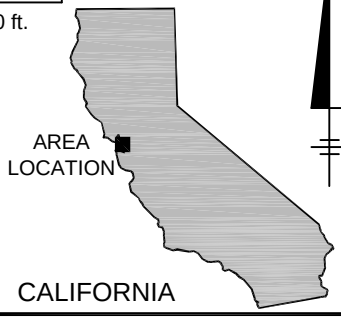
Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., SAN LEANDRO, CALIFORNIA, 1993, AND OAKLAND EAST, CALIFORNIA, 1997.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

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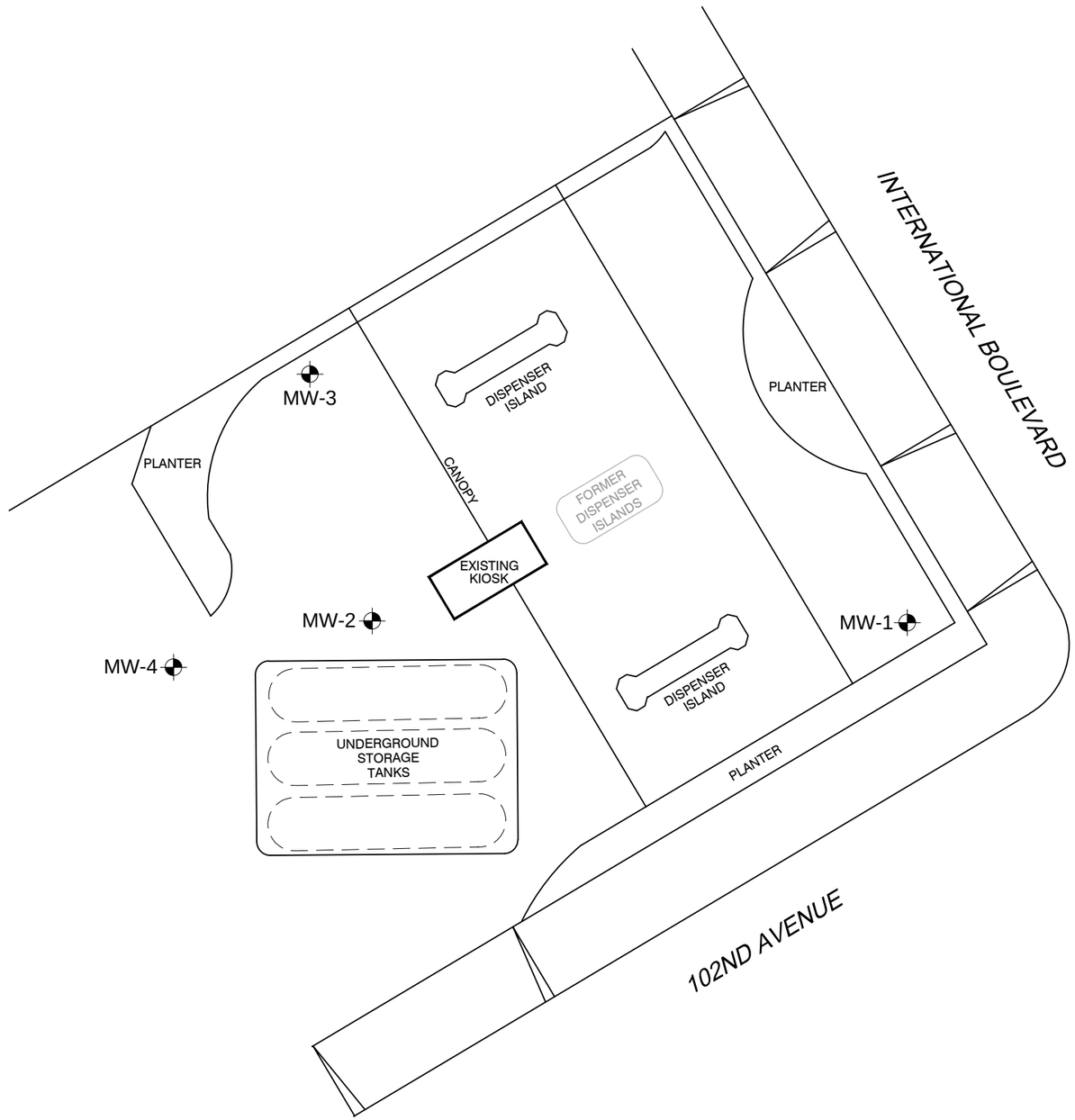
FIGURE 1



LEGEND

MW-1 GROUNDWATER MONITORING WELL

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 20' 40'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN

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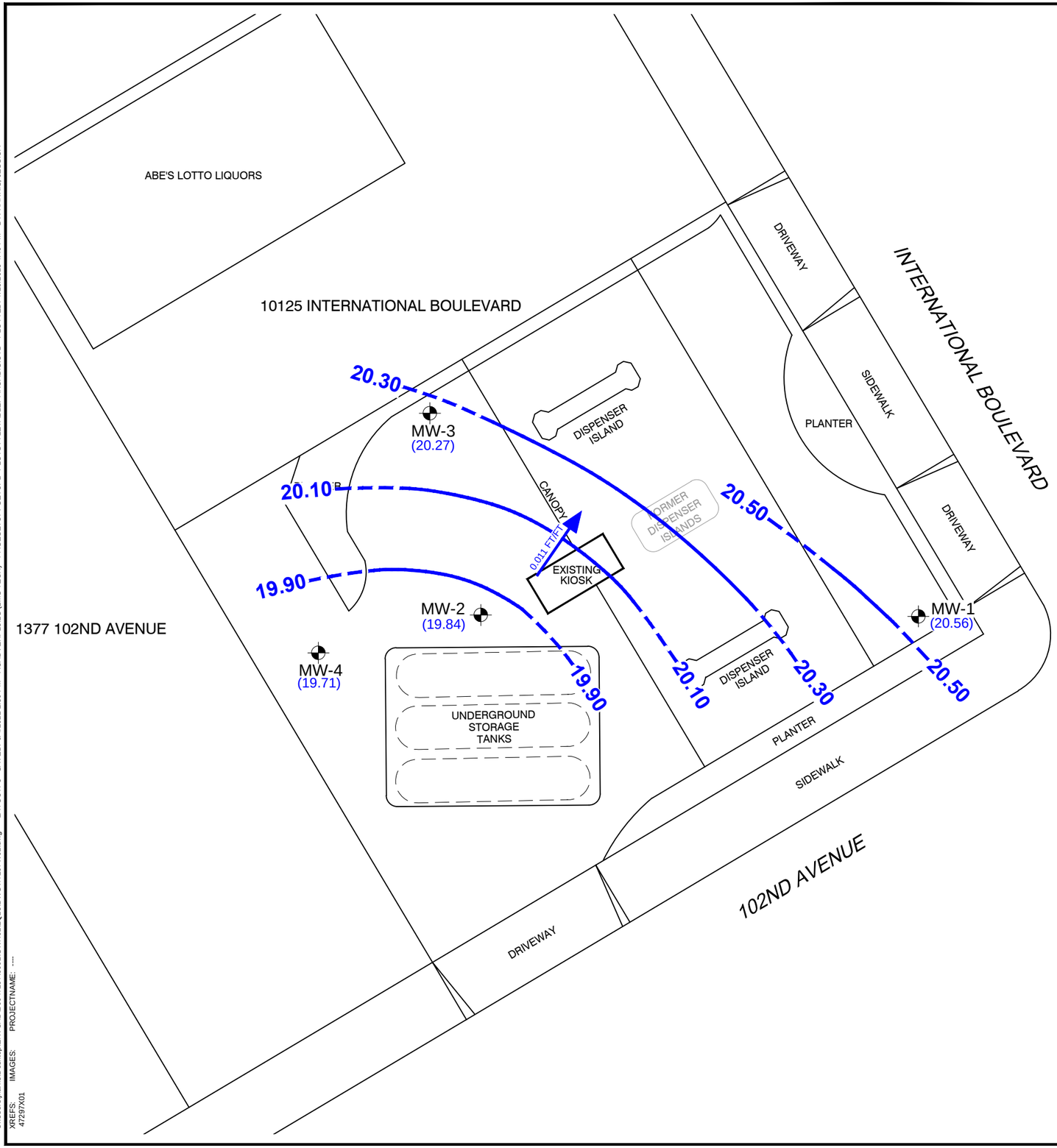
FIGURE
2



LEGEND

MW-1	GROUNDWATER MONITORING WELL
(20.56)	GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (FT MSL)
20.30	GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
0.011FT/FT	APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FOOT PER FOOT)

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE SAMPLED AND GAUGED ON JUNE 13, 2013.

0 20' 40'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP

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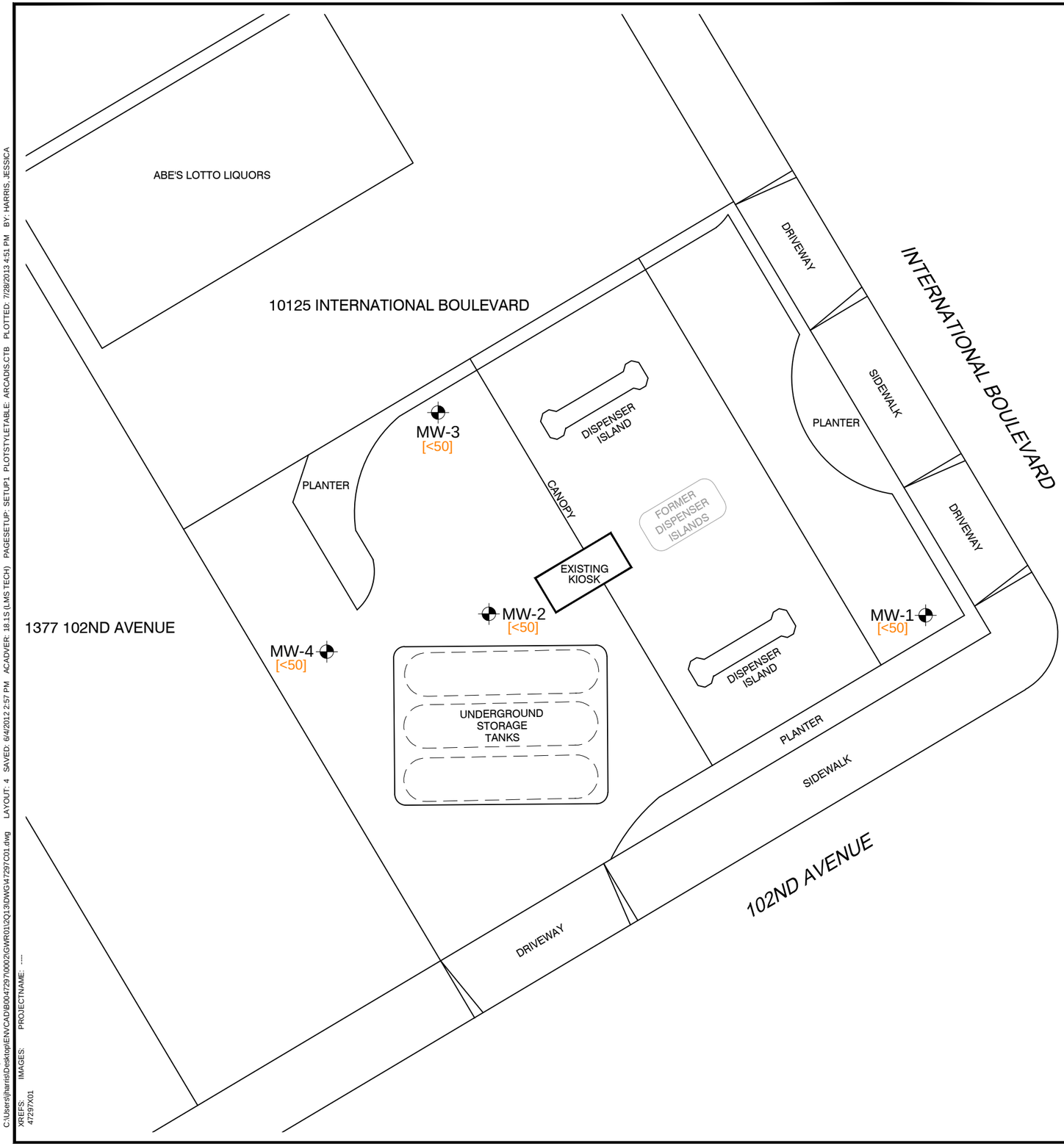
FIGURE 3

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCADD\B004729700002\GWR01\2Q13\DWG\47297W01.dwg LAYOUT: 3 SAVED: 6/4/2012 2:50 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 7/28/2013 4:46 PM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ---
47297X01



LEGEND

MW-1	GROUNDWATER MONITORING WELL
[TPH-g]	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (C6-C12) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE GAUGED AND SAMPLED ON JUNE 13, 2013.

0 20' 40'
GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

TPH-g CONCENTRATION MAP

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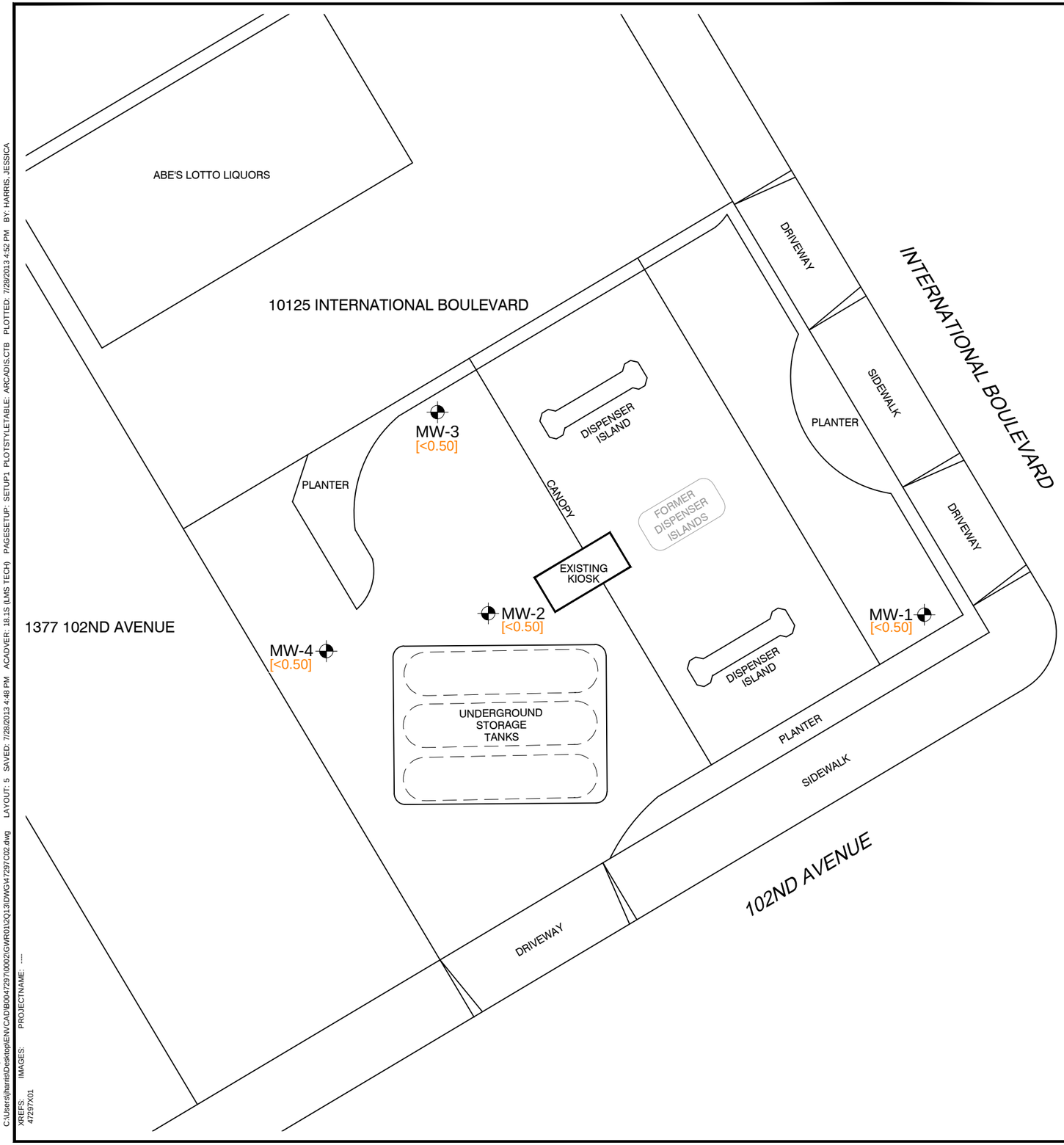
FIGURE
4



LEGEND

MW-1 ⊕	GROUNDWATER MONITORING WELL
[BENZ]	BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE GAUGED AND SAMPLED ON JUNE 13, 2013.

0 20' 40'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

BENZENE CONCENTRATION MAP

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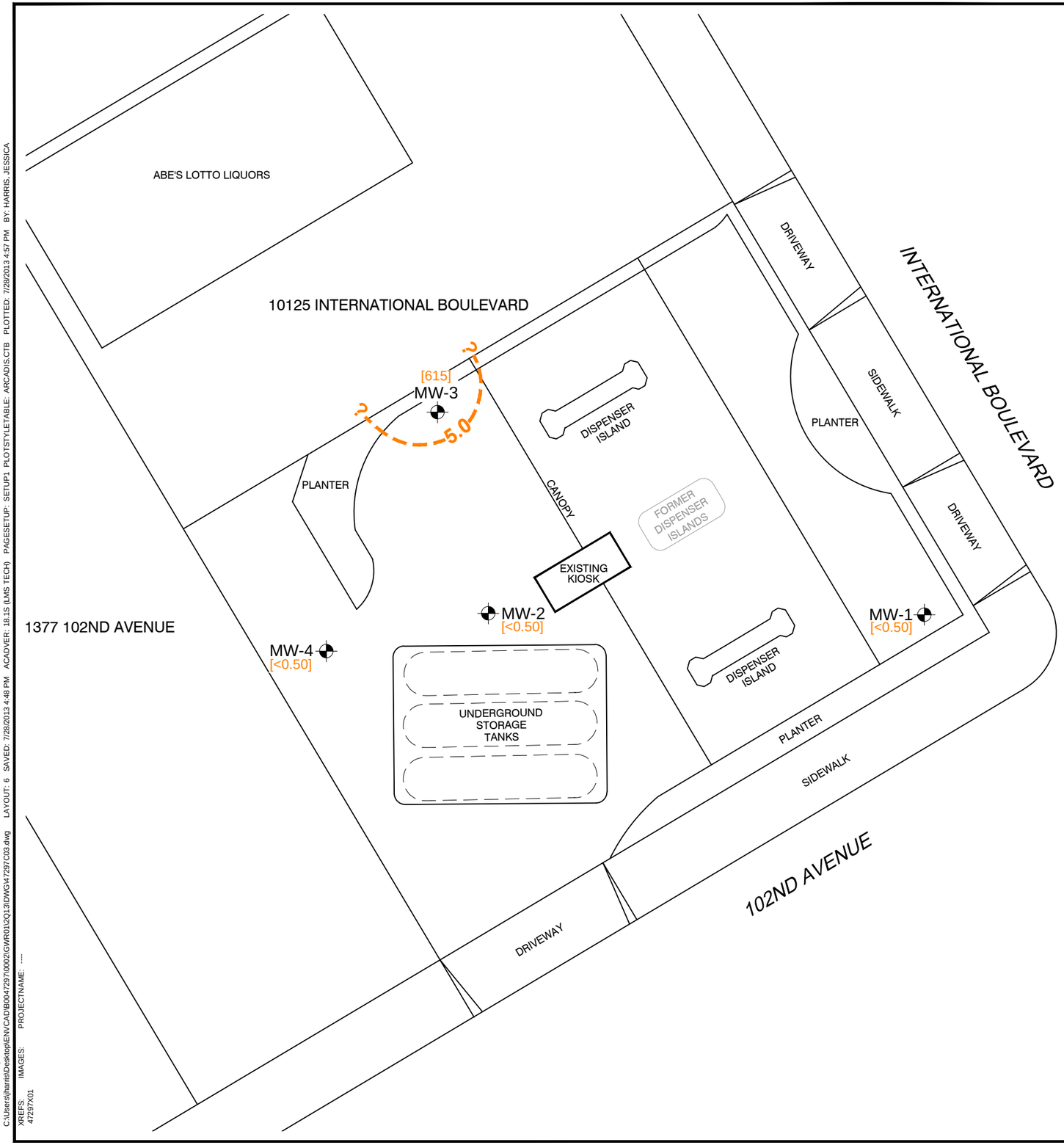
FIGURE
5



LEGEND

MW-1	GROUNDWATER MONITORING WELL
[MTBE]	METHYL TERTIARY BUTYL ETHER CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
5.0	MTBE ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
<	DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED JANUARY 2010, AT A SCALE OF 1"=20'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. ALL MONITORING WELLS WERE GAUGED AND SAMPLED ON JUNE 13, 2013.

0 20' 40'

GRAPHIC SCALE

UNION OIL
STATION NO. 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

MTBE CONCENTRATION MAP

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FIGURE 6

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Tables

Table 1
Current Groundwater Gauging and Analytical Results
76 Station 7124
10151 International Boulevard, Oakland, California

Well ID	Date Sampled	TOC Elevation (feet MSL)	DTW (feet bTOC)	LPH Thickness (feet)	GW Elevation (feet MSL)	Previous Quarter GWE (feet MSL)	Change in Elevation (feet)	TPH-g (8015B)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	TAME	ETBE	Ethanol	EDB	EDC	Comments
MW-1	6/13/2013	37.37	16.81	0.00	20.56	23.17	-2.61	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-2	6/13/2013	37.87	18.03	0.00	19.84	22.24	-2.40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-3	6/13/2013	37.72	17.45	0.00	20.27	21.32	-1.05	<50	<0.50	<0.50	<0.50	<1.0	6.5	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-4	6/13/2013	38.36	18.65	0.00	19.71	22.68	-2.97	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	

Note

Analytical results given in micrograms per liter (µg/l), unless otherwise stated

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
TOC	top of casing (surveyed reference elevation)
feet MSL	feet relative to mean sea level
DTW	depth to water
bTOC	below top of casing
LPH	liquid-phase hydrocarbons
GW	groundwater
GWE	groundwater elevation
µg/l	micrograms per liter (approx. equivalent to parts per billion, ppb)

Analytes

TPH-g	total petroleum hydrocarbons with gasoline (C6-C12)
MTBE	methyl tertiary butyl ether
TBA	tertiary butyl alcohol
DIPE	di-isopropyl ether
TAME	tertiary amyl methyl ether
ETBE	ethyl tertiary butyl ether
EDB	1,2-dibromoethane (same as ethylene dibromide)
EDC	1,2-dichloroethane (same ethylene dichloride)
8015B	EPA Method 8015B for TPH-g (C6-C12)
EPA	Environmental Protection Agency
8260B	EPA Method 8260B for BTEX/MTBE, Oxygenates, EDB, EDC, and ethanol

Table 1a
Current Additional Groundwater Analytical Results
76 Station 7124
10151 International Boulevard, Oakland, California

Well ID	Date Sampled	Methane (mg/L)	Total Alkalinity as CaCO3 (mg/L)	NO3 (mg/L)	NO2 (mg/L)	Sulfate (mg/L)	Total Sulfide (mg/L)	NVOC (mg/L)	Iron (II) Species	Dissolved Iron	Total Manganese	Comments
MW-1	6/13/2013	<0.0010	140	24	<0.17	23	<0.50	1.1	<100	<50	31,000	A10
MW-2	6/13/2013	<0.0010	180	<0.44	<0.17	20	<0.10	1.0	250	120	9,700	
MW-3	6/13/2013	0.075	260	<0.44	<0.17	<1.0	<0.10	1.4	3,200	160	5,700	
MW-4	6/13/2013	<0.0010	210	<0.44	<0.17	15	<0.50	4.7	5,200	<50	7,900	A01, A10

Note

Analytical results given in micrograms per liter (µg/l), unless otherwise stated

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
mg/l	milligrams per liter (approx. equivalent to parts per million, ppm)
µg/l	micrograms per liter (approx. equivalent to parts per billion, ppb)

Analytes

CaCO3	calcium carbonate
NO3	nitrate
NO2	nitrite
NVOC	non-volatile organic carbon
RSK-175M	Method RSK-175M for Methane
310.1	EPA Method 310.1 for Total Alkalinity as CaCO3
EPA	Environmental Protection Agency
300.0	EPA Method 300.0 for NO3 and Sulfate
353.2	EPA Method 353.2 for NO2
SM-4500SD	Method SM-4500SD for Total Sulfide
415.1	EPA Method 415.1 for NVOC
SM-3500-FeD	Method SM-3500-FeD for Iron (II) Species
6010B	EPA Method 6010B for Dissolved Iron and Total Manganese

Notes

A01	PQL's and MDL's are raised due to sample dilution.
PQL	practical quantitation limit
MDL	method detection limit
A10	PQL's and MDL's were raised due to matrix interference.

Table 2
Historic Groundwater Gauging and Analytical Results
76 Station 7124
10151 International Boulevard, Oakland, California

Well ID	Date Sampled	TOC Elevation (feet MSL)	DTW (feet bTOC)	LPH Thickness (feet)	GW Elevation (feet MSL)	Previous Quarter GWE (feet MSL)	Change in Elevation (feet)	TPH-g (8015B)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	TAME	ETBE	Ethanol	EDB	EDC	Comments
MW-1	11/2/2011	37.37	16.38	0.00	20.99	21.02	-0.03	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-1	4/6/2012	37.37	14.20	0.00	23.17	20.99	2.18	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-1	6/13/2013	37.37	16.81	0.00	20.56	23.17	-2.61	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-2	11/2/2011	37.87	17.15	0.00	20.72	20.19	0.53	96	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-2	4/6/2012	37.87	15.63	0.00	22.24	20.72	1.52	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-2	6/13/2013	37.87	18.03	0.00	19.84	22.24	-2.40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-3	11/2/2011	37.72	17.55	0.00	20.17	20.07	0.10	880	<0.50	<0.50	<0.50	<1.0	35	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-3	4/6/2012	37.72	16.40	0.00	21.32	20.17	1.15	1,000	<0.50	<0.50	<0.50	<1.0	210	85	<0.50	<0.50	<0.50	<250	<0.50	<0.50	A01
MW-3	6/13/2013	37.72	17.45	0.00	20.27	21.32	-1.05	<50	<0.50	<0.50	<0.50	<1.0	6.5	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-4	11/2/2011	38.36	18.27	0.00	20.09	20.08	0.01	170	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-4	4/6/2012	38.36	15.68	0.00	22.68	20.09	2.59	200	<0.50	<0.50	<0.50	<1.0	1.7	58	<0.50	<0.50	<0.50	<250	<0.50	<0.50	
MW-4	6/13/2013	38.36	18.65	0.00	19.71	22.68	-2.97	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<250	<0.50	<0.50	

Note

Analytical results given in micrograms per liter (µg/l), unless otherwise stated

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
TOC	top of casing (surveyed reference elevation)
feet MSL	feet relative to mean sea level
DTW	depth to water
bTOC	below top of casing
LPH	liquid-phase hydrocarbons
GW	groundwater
GWE	groundwater elevation
µg/l	micrograms per liter (approx. equivalent to parts per billion, ppb)

Analytes

TPH-g	total petroleum hydrocarbons with gasoline (C6-C12)
MTBE	methyl tertiary butyl ether
TBA	tertiary butyl alcohol
DIPE	di-isopropyl ether
TAME	tertiary amyl methyl ether
ETBE	ethyl tertiary butyl ether
EDB	1,2-dibromoethane (same as ethylene dibromide)
EDC	1,2-dichloroethane (same ethylene dichloride)
8015B	EPA Method 8015B for TPH-g (C6-C12)
EPA	Environmental Protection Agency
8260B	EPA Method 8260B for BTEX/MTBE, Oxygenates, EDB, EDC, and ethanol

Notes

A01	PQL's and MDL's are raised due to sample dilution.
PQL	practical quantitation limit
MDL	method detection limit

Table 2a
Historic Additional Groundwater Analytical Results
76 Station 7124
10151 International Boulevard, Oakland, California

Well ID	Date Sampled	Methane (mg/L)	Total Alkalinity as CaCO3 (mg/L)	NO3 (mg/L)	NO2 (mg/L)	Sulfate (mg/L)	Total Sulfide (mg/L)	NVOC (mg/L)	Iron (II) Species	Dissolved Iron	Total Manganese	Comments
MW-1	6/13/2013	<0.0010	140	24	<0.17	23	<0.50	1.1	<100	<50	31,000	A10
MW-2	6/13/2013	<0.0010	180	<0.44	<0.17	20	<0.10	1.0	250	120	9,700	
MW-3	6/13/2013	0.075	260	<0.44	<0.17	<1.0	<0.10	1.4	3,200	160	5,700	
MW-4	6/13/2013	<0.0010	210	<0.44	<0.17	15	<0.50	4.7	5,200	<50	7,900	A01, A10

Note

Analytical results given in micrograms per liter (µg/l), unless otherwise stated

Standard Abbreviations

--	not analyzed, measured, or collected
<	not detected at or above laboratory detection limit
mg/l	milligrams per liter (approx. equivalent to parts per million, ppm)
µg/l	micrograms per liter (approx. equivalent to parts per billion, ppb)

Analytes

CaCO3	calcium carbonate
NO3	nitrate
NO2	nitrite
NVOC	non-volatile organic carbon
RSK-175M	Method RSK-175M for Methane
310.1	EPA Method 310.1 for Total Alkalinity as CaCO3
EPA	Environmental Protection Agency
300.0	EPA Method 300.0 for NO3 and Sulfate
353.2	EPA Method 353.2 for NO2
SM-4500SD	Method SM-4500SD for Total Sulfide
415.1	EPA Method 415.1 for NVOC
SM-3500-FeD	Method SM-3500-FeD for Iron (II) Species
6010B	EPA Method 6010B for Dissolved Iron and Total Manganese

Notes

A01	PQL's and MDL's are raised due to sample dilution.
PQL	practical quantitation limit
MDL	method detection limit
A10	PQL's and MDL's were raised due to matrix interference.

ARCADIS

Attachment A

Field Data Sheets and General Procedures

GETTLER-RYAN INC.

TRANSMITTAL

June 25, 2013
G-R #385639

TO: Ms. Katherine Brandt
Arcadis
2000 Powell Street, 7th Floor
Emeryville, CA 94608

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

RE: Chevron Facility
#351638/7124
10151 International Boulevard
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **First Semi-Annual Event of June 13, 2013**

COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced data for your use.

Please provide us the updated historical data prior to the next monitoring and sampling event for our field use.

Please feel free to contact me if you have any comments/questions.

trans/351638 7124

WELL CONDITION STATUS SHEET

Client/
Facility #: **Chevron #351638 / 7124**
Site Address: **10151 International Blvd.**
City: **Oakland, CA**

Job #: **385639**
Event Date: 6-13-13
Sampler: MC

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Retap	Apron Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) Inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y/N	REPLACE CAP Y/N	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Y/N
MW-1	OK							NO	NO	EMCO/12"/2	NO
MW-2	OK							↓	↓	↓	↓
MW-3	OK							↓	↓	↓	↓
MW-4	OK							↓	↓	MORRISON/12"/2	↓

Comments

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards, as directed by the scope of work. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Environmental Management Company, the purge water and decontamination water generated during sampling activities is transported by Clean Harbors Environmental Services to Seaport Environmental located in Redwood City, California.

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 6-13-13 (inclusive)
City: Oakland, CA Sampler: ML

Well ID MW- 1 Date Monitored: 6-13-13
Well Diameter 4 in.
Total Depth 29.85 ft.
Depth to Water 16.81 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

13.04 xVF 0.66 = 8.6 x3 case volume = Estimated Purge Volume: 25.8 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.41

Purge Equipment:

Disposable Bailer	
Stainless Steel Bailer	
Stack Pump	X
Suction Pump	
Grundfos	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:

Start Time (purge): 0800 Weather Conditions: SUNNY
Sample Time/Date: 0830 6-13-13 Water Color: BROWN Odor: Y / (N)
Approx. Flow Rate: 2 gpm. Sediment Description: Light
Did well de-water? NO If yes, Time: Volume: gal DTW @ Sampling: 17.02

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm ~~µS~~)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0804	8	7.05	0.33	20.6	PRE: 1.4	PRE: -40
0809	16	7.07	0.36	20.0		
0813	24	7.09	0.35	19.9		
					POST: 1.2	POST: -46

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 1	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(C6-C12)(8015)/BTEX+MTBE(8260)/ 8 OXYS (8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 6-13-13 (inclusive)
City: Oakland, CA Sampler: ML

Well ID MW-2 Date Monitored: 6-13-13
Well Diameter 4 in.
Total Depth 25.26 ft.
Depth to Water 18.03 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.23 xVF .66 = 4.7 x3 case volume = Estimated Purge Volume: 14.1 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.47

Purge Equipment:		Sampling Equipment:	
Disposable Bailer		Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump	X	Metal Filters	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
QED Bladder Pump			
Other:			

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:

Start Time (purge): 0855 Weather Conditions: Sunny
Sample Time/Date: 0930 / 6-13-13 Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: 1 gpm. Sediment Description: Light
Did well de-water? No If yes, Time: Volume: gal. DTW @ Sampling: 18.26

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0900	5	7.29	0.34	20.4	PRE: 1.1	PRE: -15
0905	10	7.25	0.37	20.1		
0910	15	7.24	0.38	20.0		
					POST: 1.2	POST: -11

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	6 x voa vial	YES	HCL	BC LABS	TPH-GRO(C6-C12)(8015)/BTEX+MTBE(8260)/ 8 OXYS (8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 6-13-13 (inclusive)
City: Oakland, CA Sampler: ML

Well ID MW-3 Date Monitored: 6-13-13
Well Diameter 4 in.
Total Depth 25.21 ft.
Depth to Water 17.95 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.26 xVF .66 = 4.7 x3 case volume = Estimated Purge Volume: 14.1 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.40

Purge Equipment:
Disposable Bailer ____
Stainless Steel Bailer ____
Stack Pump X
Suction Pump ____
Grundfos ____
Peristaltic Pump ____
QED Bladder Pump ____
Other: ____

Sampling Equipment:
Disposable Bailer X
Pressure Bailer ____
Metal Filters ____
Peristaltic Pump ____
QED Bladder Pump ____
Other: ____

Time Started: ____ (2400 hrs)
Time Completed: ____ (2400 hrs)
Depth to Product: ____ ft
Depth to Water: ____ ft
Hydrocarbon Thickness: ____ ft
Visual Confirmation/Description: ____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ____ gal
Amt Removed from Well: ____ gal
Water Removed: ____

Start Time (purge): 1045 Weather Conditions: Sunny
Sample Time/Date: 1120 / 6-13-13 Water Color: GRAY Odor: (Y) / N Light
Approx. Flow Rate: 1 gpm. Sediment Description: Light
Did well de-water? no If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 18.61

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm mS pS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1050	5	7.29	0.40	21.0	PRE: 1.1	PRE: -21
1055	10	7.25	0.36	20.6		
1100	15	7.24	0.37	20.4		
					POST: 1.1	POST: -17

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	10 x voa vial	YES	HCL	BC LABS	TPH-GRO(C6-C12)(8015)/BTEX+MTBE(8260)/ 8 OXYS (8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS: ____

Add/Replaced Gasket: ____ Add/Replaced Bolt: ____ Add/Replaced Lock: ____ Add/Replaced Plug: ____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #351638 / 7124 Job Number: 385639
Site Address: 10151 International Blvd. Event Date: 6-13-13 (inclusive)
City: Oakland, CA Sampler: ML

Well ID MW-4 Date Monitored: 6-13-13
Well Diameter 4 in.
Total Depth 24.98 ft.
Depth to Water 18.65 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.33 xVF 0.66 = 4.1 x3 case volume = Estimated Purge Volume: 12.3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 19.91

Purge Equipment:
Disposable Bailer
Stainless Steel Bailer
Stack Pump X
Suction Pump
Grundfos
Peristaltic Pump
QED Bladder Pump
Other:

Sampling Equipment:
Disposable Bailer X
Pressure Bailer
Metal Filters
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:

Start Time (purge): 0950 Weather Conditions: Sunny
Sample Time/Date: 1020 / 6-13-13 Water Color: GRAY Odor: Y / (N)
Approx. Flow Rate: 1 gpm. Sediment Description: Light
Did well de-water? no If yes, Time: Volume: gal. DTW @ Sampling: 18.99

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (mS / µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0954	4	7.43	0.34	20.8	PRE: 1.0	PRE: -79
0958	8	7.29	0.32	20.4		
1003	13	7.34	0.31	20.3		
					POST: 0.8	POST: -28

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	10 x voa vial	YES	HCL	BC LABS	TPH-GRO(C6-C12)(8015)/BTEX+MTBE(8260)/ 8 OXYS (8260)
	1 x 1 liter poly	YES	NP	BC LABS	NITRATE/NITRITE/SULFATE/ALKALINITY/DISSOLVED IRON
	1 x 500ml poly	YES	ZnAc	BC LABS	SULFIDE
	1 x 500ml amber	YES	H2SO4	BC LABS	TOC
	1 x 250ml poly	YES	HCL	BC LABS	FERROUS IRON
	1 x 500ml poly	YES	HNO3	BC LABS	TOTAL MANGANESE
	2 x voa vial	YES	NP	BC LABS	METHANE

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

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: 1124	Union Oil Consultant: ARCADIS
Site Global ID: T0600173591	Consultant Contact: KATHERINE BRANDT
Site Address: 10151 INTERNATIONAL BLVD. OAKLAND, CA	Consultant Phone No. (510) 596-9675
	Sampling Company: GR
Union Oil PM: ROYA KAMBIN	Sampled By (PRINT): MIKE LOMBARD
Union Oil PM Phone No. (925) 790-6270	Sampler Signature: [signature]
Charge Code: NWRTB- 0 351638 -0- LAB	BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911

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

ANALYSES REQUIRED

Turnaround Time (TAT): Standard [X] 24 Hours ☐ 48 Hours ☐ 72 Hours ☐

Special Instructions

SAMPLE ID

Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by ~~GC/MS~~ (C6-C12)(8015)	BTEX/MTBE/~~OXYS~~ by EPA 8260B	~~Ethanol by EPA 8260B~~ TOC	~~EPA 8260B Full List with OXYS~~ 8 oxys (8260)	Nitrate/Nitrite/Sulfate/Alkalinity	Dissolved Iron	Sulfide	Ferrous Iron	Total Manganese	Methane	Notes / Comments
QA	W-S-A		130613		2		X	X									
MW-1	W-S-A		↓	0830	13		X	X	X	X	X	X	X	X	X	X	
MW-2	W-S-A		↓	0930	13		X	X	X	X	X	X	X	X	X	X	
MW-3	W-S-A		↓	1120	13		X	X	X	X	X	X	X	X	X	X	
MW-4	W-S-A		↓	1020	13		X	X	X	X	X	X	X	X	X	X	
	W-S-A																
	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:
[signature]	G-R	6-13-13 / 1400	[signature]	GR	6-13-13 1545			
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time:**
[signature]	GR	06-13-13 1400	[signature]	BCLAB	6-13-13 1545			

ARCADIS

Attachment B

Historical Groundwater Results from TRC

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1														
4/8/2002	37.37	14.27	0.00	23.10	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	ND<2.0	
7/28/2002	37.37	15.88	0.00	21.49	-1.61	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
11/3/2002	37.37	16.75	0.00	20.62	-0.87	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/24/2003	37.37	13.94	0.00	23.43	2.81	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
4/2/2003	37.37	14.99	0.00	22.38	-1.05	--	460	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
7/1/2003	37.37	15.48	0.00	21.89	-0.49	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
10/2/2003	37.37	16.68	0.00	20.69	-1.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/9/2004	37.37	13.79	0.00	23.58	2.89	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1	--	ND<2	
4/26/2004	37.37	15.21	0.00	22.16	-1.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/22/2004	37.37	16.43	0.00	20.94	-1.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
10/29/2004	37.37	16.14	0.00	21.23	0.29	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.51	
1/12/2005	37.37	12.83	0.00	24.54	3.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.52	
6/20/2005	37.37	14.38	0.00	22.99	-1.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.53	
9/23/2005	37.37	15.92	0.00	21.45	-1.54	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.54	
12/13/2005	37.37	16.09	0.00	21.28	-0.17	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.55	
3/24/2006	37.37	11.85	0.00	25.52	4.24	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.56	
5/30/2006	37.37	13.30	0.00	24.07	-1.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.57	
8/22/2006	37.37	15.11	0.00	22.26	-1.81	--	ND<50	ND<0.50		ND<0.50	ND<0.50	--	ND<0.58	
10/31/2006	37.37	16.11	0.00	21.26	-1.00	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.59	
1/12/2007	37.37	15.55	0.00	21.82	0.56	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.60	
4/4/2007	37.37	15.31	0.00	22.06	0.24	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.61	
7/5/2007	37.37	16.21	0.00	21.16	-0.90	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.62	
10/1/2007	37.37	17.13	0.00	20.24	-0.92	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.63	
1/11/2008	37.37	14.48	0.00	22.89	2.65	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.64	
4/4/2008	37.37	16.17	0.00	21.20	-1.69	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.65	Gauged on 5-22-08
7/2/2008	37.37	16.70	0.00	20.67	-0.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.66	
10/2/2008	37.37	17.50	0.00	19.87	-0.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.67	
1/14/2009	37.37	17.30	0.00	20.07	0.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.68	
4/16/2009	37.37	15.60	0.00	21.77	1.70	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.69	
7/16/2009	37.37	16.90	0.00	20.47	-1.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.70	
1/6/2010	37.37	16.35	0.00	21.02	0.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.71	
MW-2														
4/8/2002	37.87	15.86	0.00	22.01	--	4400	--	ND<2.5	ND<2.5	6.4	ND<2.5	380	490	
7/28/2002	37.87	17.28	0.00	20.59	-1.42	--	3200	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	170	
11/3/2002	37.87	18.03	0.00	19.84	-0.75	--	3800	ND<5.0	ND<5.0	ND<5.0	ND<10	--	72	
1/24/2003	37.87	15.59	0.00	22.28	2.44	--	410	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	490	
4/2/2003	37.87	16.50	0.00	21.37	-0.91	--	1000	ND<5.0	ND<5.0	ND<5.0	ND<10	--	180	
7/1/2003	37.87	16.94	0.00	20.93	-0.44	--	1900	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	120	
10/2/2003	37.87	17.93	0.00	19.94	-0.99	--	6900	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	32	
1/9/2004	37.87	15.42	0.00	22.45	2.51	--	1000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	300	

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
4/26/2004	37.87	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
7/22/2004	37.87	--	--	--	--	--	--	--	--	--	--	--	--	Covered with asphalt
10/29/2004	37.87	--	0.00	--	--	--	--	--	--	--	--	--	--	Well is paved over.
1/12/2005	37.87	--	--	--	--	--	--	--	--	--	--	--	--	Well was paved over.
6/20/2005	37.87	15.94	0.00	21.93	--	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	46	
9/23/2005	37.87	17.29	0.00	20.58	-1.35	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	10	
12/13/2005	37.87	17.41	0.00	20.46	-0.12	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	11	
3/24/2006	37.87	13.77	0.00	24.10	3.64	--	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	15	
5/30/2006	37.87	15.16	0.00	22.71	-1.39	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.6	
8/22/2006	37.87	16.49	0.00	21.38	-1.33	--	81	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	3.0	
10/31/2006	37.87	17.15	0.00	20.72	-0.66	--	93	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	2.0	
1/12/2007	37.87	17.07	0.00	20.80	0.08	--	230	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	4.3	
4/4/2007	37.87	17.84	0.00	20.03	-0.77	--	110	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	2.5	
7/5/2007	37.87	17.51	0.00	20.36	0.33	--	150	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	2.6	
10/1/2007	37.87	18.25	0.00	19.62	-0.74	--	160	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	2.0	
1/11/2008	37.87	16.80	0.00	21.07	1.45	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	7.7	
5/22/2008	37.87	17.46	0.00	20.41	-0.66	--	140	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.2	Gauged and sampled on 5-22-08
7/2/2008	37.87	17.94	0.00	19.93	-0.48	--	75	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	
10/2/2008	37.87	18.65	0.00	19.22	-0.71	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.1	
1/14/2009	37.87	18.40	0.00	19.47	0.25	--	66	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.5	
4/16/2009	37.87	16.94	0.00	20.93	1.46	--	93	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.2	
7/16/2009	37.87	18.15	0.00	19.72	-1.21	--	92	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.6	
1/6/2010	37.87	17.68	0.00	20.19	0.47	--	150	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.0	
MW-3														
4/8/2002	37.72	15.86	0.00	21.86	--	8700	--	65	ND<25	400	ND<25	6500	8300	
7/28/2002	37.72	17.22	0.00	20.50	-1.36	--	4500	ND<25	ND<25	ND<25	ND<50	--	1100	
11/3/2002	37.72	17.90	0.00	19.82	-0.68	--	25000	ND<5.0	ND<5.0	25	ND<10	--	470	
1/24/2003	37.72	15.57	0.00	22.15	2.33	--	6000	ND<25	ND<25	94	ND<50	--	10000	
4/2/2003	37.72	16.45	0.00	21.27	-0.88	--	130000	ND<100	ND<100	ND<100	ND<200	--	4400	
7/1/2003	37.72	16.88	0.00	20.84	-0.43	--	9400	ND<10	ND<10	ND<10	ND<20	--	2200	
10/2/2003	37.72	17.85	0.00	19.87	-0.97	--	73000	ND<50	ND<50	ND<50	ND<100	--	460	
1/9/2004	37.72	15.31	0.00	22.41	2.54	--	8700	ND<25	ND<25	98	ND<50	--	3800	
4/26/2004	37.72	16.62	0.00	21.10	-1.31	--	6700	ND<25	ND<25	ND<25	ND<50	--	3900	
7/22/2004	37.72	17.62	0.00	20.10	-1.00	--	13000	ND<25	ND<25	ND<25	ND<50	--	980	
10/29/2004	37.72	17.29	0.00	20.43	0.33	--	4600	ND<5.0	ND<5.0	13	ND<10	--	640	
1/12/2005	37.72	14.64	0.00	23.08	2.65	--	6100	0.88	0.99	30	2.2	--	6900	
6/20/2005	37.72	15.91	0.00	21.81	-1.27	--	1900	ND<0.50	0.21J	0.52	0.46J	--	960	
9/23/2005	37.72	17.20	0.00	20.52	-1.29	--	2400	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	160	
12/13/2005	37.72	17.32	0.00	20.40	-0.12	--	2100	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	340	
3/24/2006	37.72	13.86	0.00	23.86	3.46	--	2200	ND<5.0	ND<5.0	ND<5.0	ND<10	--	970	
5/30/2006	37.72	15.69	0.00	22.03	-1.83	--	1500	ND<12	ND<12	ND<12	ND<25	--	760	

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
8/22/2006	37.72	16.51	0.00	21.21	-0.82	--	1900	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	160	
10/31/2006	37.72	17.36	0.00	20.36	-0.85	--	2200	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	58	
1/12/2007	37.72	16.85	0.00	20.87	0.51	--	2600	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	680	
4/4/2007	37.72	16.62	0.00	21.10	0.23	--	1700	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	650	
7/5/2007	37.72	17.42	0.00	20.30	-0.80	--	2400	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	160	
10/1/2007	37.72	18.16	0.00	19.56	-0.74	--	1700	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	87	
1/11/2008	37.72	15.84	0.00	21.88	2.32	--	2200	ND<0.50	ND<0.50	1.6	ND<1.0	--	1300	
4/4/2008	37.72	17.30	0.00	20.42	-1.46	--	1600	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	470	Gauged on 5-22-08
7/2/2008	37.72	17.84	0.00	19.88	-0.54	--	1200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	91	
10/2/2008	37.72	18.50	0.00	19.22	-0.66	--	2100	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	84	
1/14/2009	37.72	18.33	0.00	19.39	0.17	--	2000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	320	
4/16/2009	37.72	16.92	0.00	20.80	1.41	--	1800	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	560	
7/16/2009	37.72	18.05	0.00	19.67	-1.13	--	1900	ND<5.0	ND<5.0	ND<5.0	ND<10	--	100	
1/6/2010	37.72	17.65	0.00	20.07	0.40	--	2200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1300	
MW-4														
4/8/2002	38.36	16.59	0.00	21.77	--	13000	--	ND<5.0	ND<5.0	28	ND<5.0	790	980	
7/28/2002	38.36	17.93	0.00	20.43	-1.34	--	18000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	170	
11/3/2002	38.36	18.66	0.00	19.70	-0.73	--	220	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.7	
1/24/2003	38.36	16.27	0.00	22.09	2.39	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1000	
4/2/2003	38.36	17.19	0.00	21.17	-0.92	--	130000	ND<100	ND<100	ND<100	ND<200	--	ND<400	
7/1/2003	38.36	17.61	0.00	20.75	-0.42	--	15000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	170	
10/2/2003	38.36	18.58	0.00	19.78	-0.97	--	7100	ND<10	ND<10	ND<10	ND<20	--	70	
1/9/2004	38.36	16.15	0.00	22.21	2.43	--	18000	ND<10	ND<10	ND<10	ND<20	--	530	
4/26/2004	38.36	17.20	0.00	21.16	-1.05	--	6500	ND<10	ND<10	ND<10	ND<20	--	240	
7/22/2004	38.36	18.34	0.00	20.02	-1.14	--	18000	ND<10	ND<10	ND<10	ND<20	--	48	
10/29/2004	38.36	18.13	0.00	20.23	0.21	--	2700	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	76	
1/12/2005	38.36	15.22	0.00	23.14	2.91	--	1300	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	620	
6/20/2005	38.36	16.63	0.00	21.73	-1.41	--	980	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	110	
9/23/2005	38.36	17.93	0.00	20.43	-1.30	--	1500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	34	
12/13/2005	38.36	18.04	0.00	20.32	-0.11	--	3900	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	36	
3/24/2006	38.36	14.48	0.00	23.88	3.56	--	1500	ND<12	ND<12	ND<12	ND<25	--	200	
5/30/2006	38.36	15.79	0.00	22.57	-1.31	--	1200	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	130	
8/22/2006	38.36	17.26	0.00	21.10	-1.47	--	980	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	33	
10/31/2006	38.36	18.08	0.00	20.28	-0.82	--	1300	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	10	
1/12/2007	38.36	17.57	0.00	20.79	0.51	--	820	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	28	
4/4/2007	38.36	17.40	0.00	20.96	0.17	--	460	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	41	
7/5/2007	38.36	18.02	0.00	20.34	-0.62	--	920	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	7.0	
10/1/2007	38.36	18.89	0.00	19.47	-0.87	--	560	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	3.0	
1/11/2008	38.36	16.56	0.00	21.80	2.33	--	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
5/22/2008	38.36	18.10	0.00	20.26	-1.54	--	520	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	Gauged and sampled on 5-22-08
7/2/2008	38.36	18.55	0.00	19.81	-0.45	--	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.3	

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
10/2/2008	38.36	19.25	0.00	19.11	-0.70	--	790	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	
1/14/2009	38.36	19.10	0.00	19.26	0.15	--	430	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	
4/16/2009	38.36	17.61	0.00	20.75	1.49	--	390	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	16	
7/16/2009	38.36	18.70	0.00	19.66	-1.09	--	310	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.2	
1/6/2010	38.36	18.28	0.00	20.08	0.42	--	380	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	

Table 2a
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TBA (µg/l)	Ethanol (8015B) (mg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Comments
MW-1									
7/28/2002	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
11/3/2002	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
1/24/2003	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
4/2/2003	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
7/1/2003	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
10/2/2003	ND<100	--	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
1/9/2004	ND<100	--	ND<500	ND<2	ND<2.0	ND<2	ND<2	ND<2	
4/26/2004	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	
7/22/2004	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	
10/29/2004	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	
1/12/2005	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	
6/20/2005	ND<10	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/23/2005	ND<10	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
12/13/2005	ND<10	--	ND<250	21.449999	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/24/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
5/30/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
8/22/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/31/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/12/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/5/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/1/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/11/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/14/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/16/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/16/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/6/2010	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
MW-2									
4/8/2002	ND<2000	ND<10000	--	ND<40	ND<40	ND<40	ND<40	ND<40	
7/28/2002	ND<500	ND<2500	--	ND<10	ND<10	ND<10	ND<10	ND<10	
11/3/2002	ND<1000	ND<5000	--	ND<20	ND<20	ND<20	ND<20	ND<20	

Table 2a
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TBA (µg/l)	Ethanol (8015B) (mg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Comments
1/24/2003	ND<500	ND<2500	--	ND<10	ND<10	ND<10	ND<10	ND<10	
4/2/2003	ND<1000	ND<5000	--	ND<20	ND<20	ND<20	ND<20	ND<20	
7/1/2003	ND<500	ND<2500	--	ND<10	ND<10	ND<10	ND<10	ND<10	
10/2/2003	ND<100	--	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
1/9/2004	ND<500	--	ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10	
6/20/2005	25	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/23/2005	ND<10	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
12/13/2005	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/24/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
5/30/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
8/22/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/31/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/12/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/5/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/1/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/11/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
5/22/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/14/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/16/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/16/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/6/2010	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
MW-3									
10/2/2003	ND<10000	--	ND<50000	ND<200	ND<200	ND<200	ND<200	ND<200	
1/9/2004	ND<5000	--	ND<25000	ND<100	ND<100	ND<100	ND<100	ND<100	
4/26/2004	ND<250	--	ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25	
7/22/2004	ND<250	--	ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25	
10/29/2004	ND<50	--	ND<500	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0	
1/12/2005	1300	--	ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25	
6/20/2005	39	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.31J	
9/23/2005	ND<10	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
12/13/2005	ND<50	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	
3/24/2006	ND<100	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	

Table 2a
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TBA (µg/l)	Ethanol (8015B) (mg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Comments
5/30/2006	ND<250	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	
8/22/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/31/2006	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/12/2007	43	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2007	130	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/5/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/1/2007	ND<20	--	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	
1/11/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2008	ND<20	--	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	
7/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/14/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/16/2009	ND<50	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	
7/16/2009	ND<100	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	
1/6/2010	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
MW-4									
4/8/2002	ND<5000	ND<25000	--	ND<100	ND<100	ND<100	ND<100	ND<100	
7/28/2002	ND<500	ND<2500	--	ND<10	ND<10	ND<10	ND<10	ND<10	
11/3/2002	ND<100	ND<500	--	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	
1/24/2003	ND<2000	ND<10000	--	ND<40	ND<40	ND<40	ND<40	ND<40	
4/2/2003	ND<20000	ND<100000	--	ND<400	ND<400	ND<400	ND<400	ND<400	
7/1/2003	ND<500	ND<2500	--	ND<10	ND<10	ND<10	ND<10	ND<10	
10/2/2003	ND<2000	--	ND<10000	ND<40	ND<40	ND<40	ND<40	ND<40	
1/9/2004	ND<2000	--	ND<10000	ND<40	ND<40	ND<40	ND<40	ND<40	
4/26/2004	430	--	ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10	
7/22/2004	ND<100	--	ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10	
10/29/2004	63	--	ND<250	ND<2.5	ND<2.5	ND<5.0	ND<2.5	ND<2.5	
1/12/2005	1300	--	ND<250	ND<10	ND<2.5	ND<5.0	ND<2.5	ND<2.5	
6/20/2005	580	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/23/2005	92	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
12/13/2005	50	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
3/24/2006	1900	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	
5/30/2006	ND<50	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	
8/22/2006	150	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/31/2006	43	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	

Table 2a
ADDITIONAL HISTORIC ANALYTICAL RESULTS

76 Station 7124

Date Sampled	TBA (µg/l)	Ethanol (8015B) (mg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Comments
1/12/2007	72	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/4/2007	260	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/5/2007	18	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/1/2007	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/11/2008	140	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
5/22/2008	52	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/2/2008	15	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
10/2/2008	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/14/2009	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
4/16/2009	170	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
7/16/2009	20	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
1/6/2010	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	

ARCADIS

Attachment C

Laboratory Report and Chain-of-Custody Documentation

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 06/28/2013

Kathy Brandt

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Project:	7124
BC Work Order:	1312455
Invoice ID:	B149457

Enclosed are the results of analyses for samples received by the laboratory on 6/13/2013. 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

13-12455

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: 7124	Union Oil Consultant: ARCADIS
Site Global ID: T0600173591	Consultant Contact: KATHERINE BRANDT
Site Address: 10151 INTERNATIONAL BLVD. OAKLAND, CA	Consultant Phone No.(510) 596-9675
Union Oil PM: ROYA KAMBIN	Sampling Company: GR
Union Oil PM Phone No.(925) 790-6270	Sampled By (PRINT): MIKE LOMBARD
Charge Code: NWRTB-0 351638 -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

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

Special Instructions

SAMPLE ID: Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by (C6-C12)(8015)	BTEX/MTBE/ by EPA 8260B	TOC	8 oxys (8260)	Nitrate/Nitrite/Sulfate/Alkalinity	Dissolved Iron	Sulfide	Ferrous Iron	Total Manganese	Methane	Notes / Comments
QA	W S-A	-1	130613		2		X	X									
MW-1	W-S-A	-2		0830	13		X	X	X	X	X	X	X	X	X	X	
MW-2	W-S-A	-3		0930	13		X	X	X	X	X	X	X	X	X	X	
MW-3	W-S-A	-4		1120	13		X	X	X	X	X	X	X	X	X	X	
MW-4	W-S-A	-5		1020	13		X	X	X	X	X	X	X	X	X	X	
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

CHK BY: SAS

DISTRIBUTION: WHITE PINK YELLOW GOLDENROD

SUB-OUT ☐

Relinquished By	Company	Date / Time:	Received By	Company	Date / Time:
	G-R	6-13-13 1400		GR	06-13-13 1400
	GR	06-13-13 1545	Mary Bogan	BCLAB	6-13-13-1545
				BCLAB	6-13-13 18:30

REL. [illegible] 6-13-13 22:35

Rec- KO 6-13-13 2235

Chain of Custody and Cooler Receipt Form for 1312455 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Rev. No. 13 08/17/12 Page 1 Of 1

Submission #: 13-12455

SHIPPING INFORMATION
Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☑ None ☐
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: Pt PE Thermometer ID: 207 Date/Time 6-13-13 2235

Temperature: (A) 3.7 °C / (C) 3.6 °C Analyst Init SAS

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL		C	C	C	C					
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS		D	D	D	D					
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE		E	E	E	E					
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON		F	F	F	F					
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A(2)									
40ml VOA VIAL		A(6)	A(6)	A(6)	A(6)					
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- ~~504~~ RSK 175		B(2)	B(2)	B(2)	B(2)					
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										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON		G	G	G	G					
ENCORE										
SMART KIT										

Comments:

Sample Numbering Completed By: KLQ Date/Time: 6/13/13 @ 2335

A = Actual / C = Corrected

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1312455-01	**COC Number:**	---	**Receive Date:** 06/13/2013 22:35
	Project Number:	7124	**Sampling Date:** 06/13/2013 00:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	QA-W-130613	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): QA
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1312455-02	**COC Number:**	---	**Receive Date:** 06/13/2013 22:35
	Project Number:	7124	**Sampling Date:** 06/13/2013 08:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-1-W-130613	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
			Metal Analysis: 2-Lab Filtered and Acidified
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): MW-1
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1312455-03	**COC Number:**	---	**Receive Date:** 06/13/2013 22:35
	Project Number:	7124	**Sampling Date:** 06/13/2013 09:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-2-W-130613	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
			Metal Analysis: 2-Lab Filtered and Acidified
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): MW-2
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information

1312455-04

COC Number: ---
Project Number: 7124
Sampling Location: ---
Sampling Point: MW-3-W-130613
Sampled By: GRD

Receive Date: 06/13/2013 22:35
Sampling Date: 06/13/2013 11:20
Sample Depth: ---
Lab Matrix: Water
Sample Type: Water
Metal Analysis: 2-Lab Filtered and Acidified
Delivery Work Order:
Global ID: T0600173591
Location ID (FieldPoint): MW-3
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

1312455-05

COC Number: ---
Project Number: 7124
Sampling Location: ---
Sampling Point: MW-4-W-130613
Sampled By: GRD

Receive Date: 06/13/2013 22:35
Sampling Date: 06/13/2013 10:20
Sample Depth: ---
Lab Matrix: Water
Sample Type: Water
Metal Analysis: 2-Lab Filtered and Acidified
Delivery Work Order:
Global ID: T0600173591
Location ID (FieldPoint): MW-4
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1312455-01 | **Client Sample Name:** 7124, QA-W-130613, 6/13/2013 12:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	97.7	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	93.3	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/19/13	06/20/13 07:33	MGC	MS-V5	1	BWF1337

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1312455-01 | **Client Sample Name:** 7124, QA-W-130613, 6/13/2013 12:00:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	87.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/25/13	06/26/13 16:03	jjh	GC-V9	1	BWF1913

Arcadis
1900 Powell Street 12th Floor
Emeryville, CA 94608

Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1312455-02 | **Client Sample Name:** 7124, MW-1-W-130613, 6/13/2013 8:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.1	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.1	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	89.9	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/19/13	06/21/13 09:43	MGC	MS-V5	1	BWF1337

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1312455-02 | **Client Sample Name:** 7124, MW-1-W-130613, 6/13/2013 8:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	72.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/25/13	06/26/13 16:24	jjh	GC-V9	1	BWF1913

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Gas Testing in Water

BCL Sample ID: 1312455-02 | **Client Sample Name:** 7124, MW-1-W-130613, 6/13/2013 8:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane	ND	mg/L	0.0010	RSK-175M	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/21/13	06/21/13 08:39	EAR	GC-V1	1	BWF1548

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Water Analysis (General Chemistry)

BCL Sample ID: 1312455-02 | **Client Sample Name:** 7124, MW-1-W-130613, 6/13/2013 8:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**140**	**mg/L**	**4.1**	**EPA-310.1**	ND		1
Nitrate as NO3	**24**	**mg/L**	**0.44**	**EPA-300.0**	ND		2
Sulfate	**23**	**mg/L**	**1.0**	**EPA-300.0**	ND		2
Iron (II) Species	ND	ug/L	100	SM-3500-FeD	ND		3
Nitrite as NO2	ND	mg/L	0.17	EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.50	SM-4500SD	ND	A10	5
Non-Volatile Organic Carbon	**1.1**	**mg/L**	**0.30**	**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/17/13	06/17/13 13:18	RML	MET-1	1	BWF1112
2	EPA-300.0	06/14/13	06/14/13 14:56	LD1	IC1	1	BWF1055
3	SM-3500-FeD	06/14/13	06/14/13 10:02	TDC	KONE-1	1	BWF1152
4	EPA-353.2	06/14/13	06/14/13 09:43	TDC	KONE-1	1	BWF1145
5	SM-4500SD	06/17/13	06/17/13 13:00	DIW	SPEC05	5	BWF1226
6	EPA-415.1	06/18/13	06/18/13 15:06	CDR	TOC2	1	BWF1259

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Metals Analysis

BCL Sample ID: 1312455-02 | **Client Sample Name:** 7124, MW-1-W-130613, 6/13/2013 8:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50	EPA-6010B	ND		1
Total Manganese	**31000**	**ug/L**	**10**	**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/17/13	06/18/13 11:06	ARD	PE-OP1	1	BWF1172
2	EPA-6010B	06/18/13	06/19/13 15:00	ARD	PE-OP1	1	BWF1249

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1312455-03 | **Client Sample Name:** 7124, MW-2-W-130613, 6/13/2013 9:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	89.0	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	90.8	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/19/13	06/20/13 18:13	MGC	MS-V5	1	BWF1337

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1312455-03 | **Client Sample Name:** 7124, MW-2-W-130613, 6/13/2013 9:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	81.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/25/13	06/26/13 16:44	jjh	GC-V9	1	BWF1913

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Gas Testing in Water

BCL Sample ID: 1312455-03 | **Client Sample Name:** 7124, MW-2-W-130613, 6/13/2013 9:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane	ND	mg/L	0.0010	RSK-175M	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/21/13	06/21/13 08:43	EAR	GC-V1	1	BWF1548

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Water Analysis (General Chemistry)

BCL Sample ID: 1312455-03 | **Client Sample Name:** 7124, MW-2-W-130613, 6/13/2013 9:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**180**	**mg/L**	**4.1**	**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44	EPA-300.0	ND		2
Sulfate	**20**	**mg/L**	**1.0**	**EPA-300.0**	ND		2
Iron (II) Species	**250**	**ug/L**	**100**	**SM-3500-FeD**	ND		3
Nitrite as NO2	ND	mg/L	0.17	EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10	SM-4500SD	ND		5
Non-Volatile Organic Carbon	**1.0**	**mg/L**	**0.30**	**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/17/13	06/17/13 13:24	RML	MET-1	1	BWF1112
2	EPA-300.0	06/14/13	06/14/13 15:11	LD1	IC1	1	BWF1055
3	SM-3500-FeD	06/14/13	06/14/13 10:02	TDC	KONE-1	1	BWF1152
4	EPA-353.2	06/14/13	06/14/13 09:43	TDC	KONE-1	1	BWF1145
5	SM-4500SD	06/17/13	06/17/13 13:00	DIW	SPEC05	1	BWF1226
6	EPA-415.1	06/18/13	06/18/13 15:19	CDR	TOC2	1	BWF1259

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Metals Analysis

BCL Sample ID: 1312455-03 | **Client Sample Name:** 7124, MW-2-W-130613, 6/13/2013 9:30:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	**120**	**ug/L**	**50**	**EPA-6010B**	ND		1
Total Manganese	**9700**	**ug/L**	**10**	**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/17/13	06/18/13 11:07	ARD	PE-OP1	1	BWF1172
2	EPA-6010B	06/18/13	06/19/13 15:02	ARD	PE-OP1	1	BWF1249

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1312455-04 | **Client Sample Name:** 7124, MW-3-W-130613, 6/13/2013 11:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	**6.5**	**ug/L**	**0.50**	**EPA-8260B**	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	89.8	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	119	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/19/13	06/20/13 18:58	MGC	MS-V5	1	BWF1337

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1312455-04 | **Client Sample Name:** 7124, MW-3-W-130613, 6/13/2013 11:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	75.6	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/25/13	06/26/13 17:05	jjh	GC-V9	1	BWF1913

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Gas Testing in Water

BCL Sample ID: 1312455-04 | **Client Sample Name:** 7124, MW-3-W-130613, 6/13/2013 11:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane	**0.075**	**mg/L**	**0.0010**	**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/21/13	06/21/13 08:47	EAR	GC-V1	1	BWF1548

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Water Analysis (General Chemistry)

BCL Sample ID: 1312455-04 | **Client Sample Name:** 7124, MW-3-W-130613, 6/13/2013 11:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**260**	**mg/L**	**4.1**	**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44	EPA-300.0	ND		2
Sulfate	ND	mg/L	1.0	EPA-300.0	ND		2
Iron (II) Species	**3200**	**ug/L**	**100**	**SM-3500-FeD**	ND		3
Nitrite as NO2	ND	mg/L	0.17	EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.10	SM-4500SD	ND		5
Non-Volatile Organic Carbon	**1.4**	**mg/L**	**0.30**	**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/17/13	06/17/13 13:45	RML	MET-1	1	BWF1113
2	EPA-300.0	06/14/13	06/14/13 15:26	LS1	IC1	1	BWF1055
3	SM-3500-FeD	06/14/13	06/14/13 10:02	TDC	KONE-1	1	BWF1152
4	EPA-353.2	06/14/13	06/14/13 09:44	TDC	KONE-1	1	BWF1145
5	SM-4500SD	06/17/13	06/17/13 13:00	DIW	SPEC05	1	BWF1226
6	EPA-415.1	06/18/13	06/18/13 15:33	CDR	TOC2	1	BWF1259

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Metals Analysis

BCL Sample ID: 1312455-04 | **Client Sample Name:** 7124, MW-3-W-130613, 6/13/2013 11:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	**160**	**ug/L**	**50**	**EPA-6010B**	ND		1
Total Manganese	**5700**	**ug/L**	**10**	**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/17/13	06/18/13 11:09	ARD	PE-OP1	1	BWF1172
2	EPA-6010B	06/18/13	06/19/13 15:03	ARD	PE-OP1	1	BWF1249

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1312455-05 | **Client Sample Name:** 7124, MW-4-W-130613, 6/13/2013 10:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260B	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260B	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Toluene	ND	ug/L	0.50	EPA-8260B	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260B	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260B	ND		1
Diisopropyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
Ethanol	ND	ug/L	250	EPA-8260B	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	EPA-8260B	ND		1
1,2-Dichloroethane-d4 (Surrogate)	89.9	%	75 - 125 (LCL - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	98.4	%	80 - 120 (LCL - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)	EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/19/13	06/20/13 18:35	MGC	MS-V5	1	BWF1337

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1312455-05 | **Client Sample Name:** 7124, MW-4-W-130613, 6/13/2013 10:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	71.4	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/25/13	06/26/13 17:26	jjh	GC-V9	1	BWF1913

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Gas Testing in Water

BCL Sample ID: 1312455-05 | **Client Sample Name:** 7124, MW-4-W-130613, 6/13/2013 10:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane	ND	mg/L	0.0010	RSK-175M	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/21/13	06/21/13 09:01	EAR	GC-V1	1	BWF1548

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Water Analysis (General Chemistry)

BCL Sample ID: 1312455-05 | **Client Sample Name:** 7124, MW-4-W-130613, 6/13/2013 10:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**210**	**mg/L**	**4.1**	**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44	EPA-300.0	ND		2
Sulfate	**15**	**mg/L**	**1.0**	**EPA-300.0**	ND		2
Iron (II) Species	**5200**	**ug/L**	**1000**	**SM-3500-FeD**	ND	**A01**	3
Nitrite as NO2	ND	mg/L	0.17	EPA-353.2	ND		4
Total Sulfide	ND	mg/L	0.50	SM-4500SD	ND	A10	5
Non-Volatile Organic Carbon	**4.7**	**mg/L**	**0.30**	**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/17/13	06/17/13 13:56	RML	MET-1	1	BWF1113
2	EPA-300.0	06/14/13	06/14/13 15:41	LS1	IC1	1	BWF1055
3	SM-3500-FeD	06/14/13	06/14/13 10:12	TDC	KONE-1	10	BWF1152
4	EPA-353.2	06/14/13	06/14/13 09:44	TDC	KONE-1	1	BWF1145
5	SM-4500SD	06/17/13	06/17/13 13:00	DIW	SPEC05	5	BWF1226
6	EPA-415.1	06/18/13	06/18/13 16:13	CDR	TOC2	1	BWF1259

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Reported: 06/28/2013 13:15
Project: 7124
Project Number: 351638
Project Manager: Kathy Brandt

Metals Analysis

BCL Sample ID: 1312455-05 | **Client Sample Name:** 7124, MW-4-W-130613, 6/13/2013 10:20:00AM

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50	EPA-6010B	ND		1
Total Manganese	**7900**	**ug/L**	**10**	**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/17/13	06/18/13 11:11	ARD	PE-OP1	1	BWF1172
2	EPA-6010B	06/18/13	06/19/13 15:08	ARD	PE-OP1	1	BWF1249

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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: BWF1337						
Benzene	BWF1337-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BWF1337-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BWF1337-BLK1	ND	ug/L	0.50		
Ethylbenzene	BWF1337-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BWF1337-BLK1	ND	ug/L	0.50		
Toluene	BWF1337-BLK1	ND	ug/L	0.50		
Total Xylenes	BWF1337-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BWF1337-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BWF1337-BLK1	ND	ug/L	10		
Diisopropyl ether	BWF1337-BLK1	ND	ug/L	0.50		
Ethanol	BWF1337-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BWF1337-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BWF1337-BLK1	105	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BWF1337-BLK1	98.1	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BWF1337-BLK1	91.2	%	80 - 120 (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: BWF1337										
Benzene	BWF1337-BS1	LCS	24.730	25.000	ug/L	98.9		70 - 130		
Toluene	BWF1337-BS1	LCS	22.540	25.000	ug/L	90.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BWF1337-BS1	LCS	10.300	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	BWF1337-BS1	LCS	9.6300	10.000	ug/L	96.3		80 - 120		
4-Bromofluorobenzene (Surrogate)	BWF1337-BS1	LCS	10.140	10.000	ug/L	101		80 - 120		

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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: BWF1337	Used client sample: N										
Benzene	MS	1312443-01	ND	24.300	25.000	ug/L		97.2		70 - 130	
	MSD	1312443-01	ND	23.960	25.000	ug/L	1.4	95.8	20	70 - 130	
Toluene	MS	1312443-01	ND	22.600	25.000	ug/L		90.4		70 - 130	
	MSD	1312443-01	ND	22.260	25.000	ug/L	1.5	89.0	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1312443-01	ND	9.9700	10.000	ug/L		99.7		75 - 125	
	MSD	1312443-01	ND	9.8300	10.000	ug/L	1.4	98.3		75 - 125	
Toluene-d8 (Surrogate)	MS	1312443-01	ND	9.8000	10.000	ug/L		98.0		80 - 120	
	MSD	1312443-01	ND	9.7400	10.000	ug/L	0.6	97.4		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1312443-01	ND	10.560	10.000	ug/L		106		80 - 120	
	MSD	1312443-01	ND	10.310	10.000	ug/L	2.4	103		80 - 120	

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Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWF1913						
Gasoline Range Organics (C6 - C12)	BWF1913-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BWF1913-BLK1	86.5	%	70 - 130 (LCL - UCL)		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWF1913										
Gasoline Range Organics (C6 - C12)	BWF1913-BS1	LCS	895.13	1000.0	ug/L	89.5		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BWF1913-BS1	LCS	35.929	40.000	ug/L	89.8		70 - 130		

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Purgeable Aromatics and Total Petroleum Hydrocarbons

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: BWF1913	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1313237-01	ND	888.62	1000.0	ug/L		88.9		70 - 130	
	MSD	1313237-01	ND	863.10	1000.0	ug/L	2.9	86.3	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1313237-01	ND	36.398	40.000	ug/L		91.0		70 - 130	
	MSD	1313237-01	ND	36.127	40.000	ug/L	0.7	90.3		70 - 130	

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Gas Testing in Water

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWF1548						
Methane	BWF1548-BLK1	ND	mg/L	0.0010		

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Gas Testing in Water

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: BWF1548										
Methane	BWF1548-BS1	LCS	0.010821	0.010843	mg/L	99.8		80 - 120		
	BWF1548-BSD1	LCSD	0.010264	0.010843	mg/L	94.7	5.3	80 - 120	20	

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Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWF1055						
Nitrate as NO3	BWF1055-BLK1	ND	mg/L	0.44		
Sulfate	BWF1055-BLK1	ND	mg/L	1.0		
QC Batch ID: BWF1112						
Total Alkalinity as CaCO3	BWF1112-BLK1	ND	mg/L	4.1		
QC Batch ID: BWF1113						
Total Alkalinity as CaCO3	BWF1113-BLK1	ND	mg/L	4.1		
QC Batch ID: BWF1145						
Nitrite as NO2	BWF1145-BLK1	ND	mg/L	0.17		
QC Batch ID: BWF1152						
Iron (II) Species	BWF1152-BLK1	ND	ug/L	100		
QC Batch ID: BWF1226						
Total Sulfide	BWF1226-BLK1	ND	mg/L	0.10		
QC Batch ID: BWF1259						
Non-Volatile Organic Carbon	BWF1259-BLK1	ND	mg/L	0.30		

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Water Analysis (General Chemistry)

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: BWF1055										
Nitrate as NO3	BWF1055-BS1	LCS	22.439	22.134	mg/L	101		90 - 110		
Sulfate	BWF1055-BS1	LCS	99.749	100.00	mg/L	99.7		90 - 110		
QC Batch ID: BWF1112										
Total Alkalinity as CaCO3	BWF1112-BS3	LCS	95.230	100.00	mg/L	95.2		90 - 110		
QC Batch ID: BWF1113										
Total Alkalinity as CaCO3	BWF1113-BS3	LCS	95.690	100.00	mg/L	95.7		90 - 110		
QC Batch ID: BWF1145										
Nitrite as NO2	BWF1145-BS1	LCS	1.8037	1.6425	mg/L	110		90 - 110		
QC Batch ID: BWF1152										
Iron (II) Species	BWF1152-BS1	LCS	2596.9	2500.0	ug/L	104		90 - 110		
QC Batch ID: BWF1226										
Total Sulfide	BWF1226-BS1	LCS	0.52024	0.50000	mg/L	104		90 - 110		
QC Batch ID: BWF1259										
Non-Volatile Organic Carbon	BWF1259-BS1	LCS	5.0240	5.0000	mg/L	100		85 - 115		

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Water Analysis (General Chemistry)

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: BWF1055	Used client sample: N										
Nitrate as NO3	DUP	312453-04RE1	ND	ND		mg/L			10		
	MS	312453-04RE1	ND	112.86	111.79	mg/L		101		80 - 120	
	MSD	312453-04RE1	ND	113.33	111.79	mg/L	0.4	101	10	80 - 120	
Sulfate	DUP	312453-04RE1	249.47	249.56		mg/L	0.0		10		
	MS	312453-04RE1	249.47	786.00	505.05	mg/L		106		80 - 120	
	MSD	312453-04RE1	249.47	787.37	505.05	mg/L	0.2	107	10	80 - 120	
QC Batch ID: BWF1112	Used client sample: N										
Total Alkalinity as CaCO3	DUP	1312402-01	150.61	151.07		mg/L	0.3		10		
QC Batch ID: BWF1113	Used client sample: Y - Description: MW-3-W-130613, 06/13/2013 11:20										
Total Alkalinity as CaCO3	DUP	1312455-04	260.45	260.45		mg/L	0		10		
QC Batch ID: BWF1145	Used client sample: Y - Description: MW-1-W-130613, 06/13/2013 08:30										
Nitrite as NO2	DUP	1312455-02	0.035699	ND		mg/L			10		
	MS	1312455-02	0.035699	1.7280	1.7289	mg/L		97.9		90 - 110	
	MSD	1312455-02	0.035699	1.7429	1.7289	mg/L	0.9	98.7	10	90 - 110	
QC Batch ID: BWF1152	Used client sample: Y - Description: MW-1-W-130613, 06/13/2013 08:30										
Iron (II) Species	DUP	1312455-02	ND	ND		ug/L			10		
QC Batch ID: BWF1226	Used client sample: N										
Total Sulfide	DUP	1312351-01	ND	ND		mg/L			10		
	MS	1312351-01	ND	0.51058	0.50000	mg/L		102		80 - 120	
	MSD	1312351-01	ND	0.51541	0.50000	mg/L	0.9	103	10	80 - 120	
QC Batch ID: BWF1259	Used client sample: N										
Non-Volatile Organic Carbon	DUP	1312591-01	0.18500	ND		mg/L			10		
	MS	1312591-01	0.18500	5.4693	5.0251	mg/L		105		80 - 120	
	MSD	1312591-01	0.18500	5.3166	5.0251	mg/L	2.8	102	10	80 - 120	

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Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BWF1172						
Dissolved Iron	BWF1172-BLK1	ND	ug/L	50		
QC Batch ID: BWF1249						
Total Manganese	BWF1249-BLK1	ND	ug/L	10		

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Metals Analysis

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: BWF1172										
Dissolved Iron	BWF1172-BS1	LCS	1057.4	1000.0	ug/L	106		85 - 115		
QC Batch ID: BWF1249										
Total Manganese	BWF1249-BS1	LCS	502.34	500.00	ug/L	100		85 - 115		

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Metals Analysis

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: BWF1172	Used client sample: N										
Dissolved Iron	DUP	1312513-01	ND	ND		ug/L			20		
	MS	1312513-01	ND	1123.8	1020.4	ug/L		110		75 - 125	
	MSD	1312513-01	ND	1168.7	1020.4	ug/L	3.9	115	20	75 - 125	
QC Batch ID: BWF1249	Used client sample: N										
Total Manganese	DUP	1312632-01	190.93	193.46		ug/L	1.3		20		
	MS	1312632-01	190.93	683.97	500.00	ug/L		98.6		75 - 125	
	MSD	1312632-01	190.93	707.62	500.00	ug/L	3.4	103	20	75 - 125	

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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.
A10	PQL's and MDL's were raised due to matrix interference.