James P. Kiernan, P.E.
Project Manager

Chevron Environmental Management Company
6001 Bollinger Canyon Road
Room C2102
San Ramon, CA 94583
Tel (925) 842-3220
jkiernan@chevron.com

July 13, 2016

RECEIVED
By Alameda County Environmental Health 9:30 am, Jul 14, 2016

Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Unocal No. 6129 (351639)
First Semi-Annual 2016 Groundwater Monitoring Report
3420 35th Avenue, Oakland, California
Fuel Leak Case No.: RO0000058
GeoTracker Global ID #T0600101465

I have reviewed the attached report dated July 13, 2016.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by AECOM, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13257(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

James P. Kiernan, P.E.
Project Manager

Attachment: First Semi-Annual 2016 Groundwater Monitoring Report by AECOM

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

(805) 388-3775 tel
(805) 388-3577 fax

July 13, 2016

Mr. Keith Nowell
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
(*via internet upload*)

Subject: **First Semi-Annual 2016 Groundwater Monitoring Report**
Unocal #6129 (351639)
3420 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000058
GeoTracker Global ID T0600101465

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate, Union Oil Company of California ("Union Oil"), AECOM has prepared this first semi-annual 2016 groundwater monitoring report for the above-referenced site.

Future Work

The next semi-annual groundwater monitoring event is scheduled to be conducted during the fourth quarter of 2016.

Remarks/Signatures

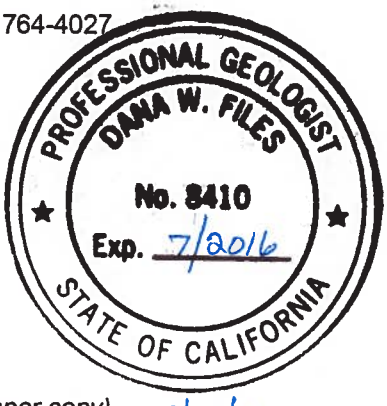
The interpretations in this report represent AECOM's professional opinions and are based, in part, on the information supplied by the groundwater monitoring contractor and laboratory. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this project, please contact Chad Roper at (805) 764-4027.

Sincerely,

Chad Roper, PhD
Project Manager

Dana Files, PG #8410
Project Geologist



7/13/16

ccs: James Kieman, EMC *(via electronic copy)*
Ed Ralston, P66 *(via electronic copy)*
Son Nguyen & Le Pham, Nguyen/Pham Family Trust, property owner *(via paper copy)*

Enclosures:

Attachment A - Groundwater Summary
Attachment B - Figures
Attachment C - Tables
Attachment D - Hydrographs
Attachment E - Field Procedures and Field Logs
Attachment F - Laboratory Analytical Report and Chain-of-Custody Documentation

ATTACHMENT A

GROUNDWATER SUMMARY

GROUNDWATER MONITORING SUMMARY REPORT
Unocal #6129 (351639)
3420 35th Avenue, Oakland, California

CURRENT FIELD ACTIVITIES

Groundwater monitoring frequency:	Semi-annual
Activity date:	6/15/2016
Groundwater monitoring subcontractor:	Gettler-Ryan Inc. (G-R)
Number of groundwater wells total:	3
Number of groundwater wells off-site:	0
Number of wells sampled (this period):	3
Number of wells with LNAPL (this period):	0
Cumulative LNAPL recovered to date (gallons):	0
LNAPL recovered during this period (gallons):	0

SITE HYDROGEOLOGY

Groundwater elevation range (feet above mean sea level) (this period):	159.94 to 161.45 (depth to water range is 28.64 to 29.64 feet below top of casing)
Approximate groundwater flow direction (this period):	Southwest
Approximate hydraulic gradient (feet per foot) (this period):	0.014

GROUNDWATER CONDITIONS

Maximum detected TPHg concentration (this period):	550 µg/L (MW-3)
Historical maximum detected TPHg concentration:	2,600 µg/L (MW-3) on 11/13/2003
Maximum detected benzene concentration (this period):	Not detected
Historical maximum detected benzene concentration:	0.32 µg/L (MW-1) on 2/12/1991
Maximum detected MTBE concentration (this period):	680 µg/L (MW-3)
Historical maximum detected MTBE concentration:	3,700 µg/L (MW-3) on 11/13/2003
Maximum detected TBA concentration (this period):	Not detected
Historical maximum detected TBA concentration:	500 µg/L (MW-3) on 3/28/2007

GROUNDWATER TRENDS AND OBSERVATIONS

- Groundwater flow direction remains to the southwest.
- Groundwater analytical results were generally consistent with previous results and are stable to declining.
- TPHg was detected in groundwater samples collected from two of three wells sampled during this period, 89 µg/L (well MW-1) and 550 µg/L (well MW-3). These concentrations are within the recent historical range for this constituent at these wells.
- Benzene was not detected in groundwater samples collected from the three wells sampled during this period.

ATTACHMENT B

FIGURES

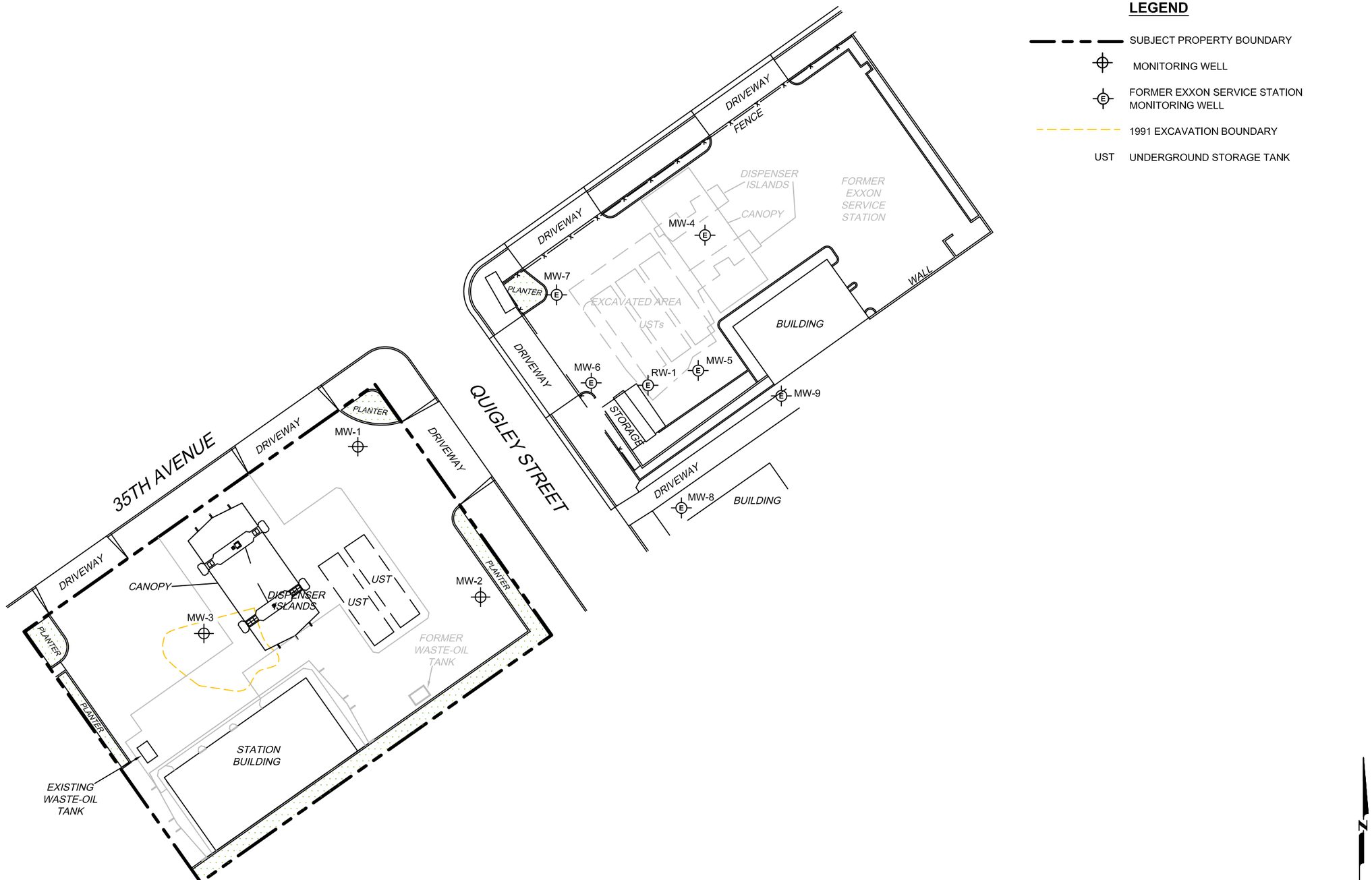
AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: 805.388.3775
FAX: 805.388.3557
WEB: HTTP://WWW.AECOM.COM

SITE LOCATION MAP

Unocal # 6129 (351639)
3420 35th Avenue
Oakland, California

FIGURE NUMBER:
1

DRAWN BY:	DATE:	PROJECT NUMBER:	SHEET NUMBER:
T. Quiroz	06/28/2016	60509231	1 of 1



LEGEND

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST UNDERGROUND STORAGE TANK

REVISIONS	NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
X	M. Scop	X	X

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

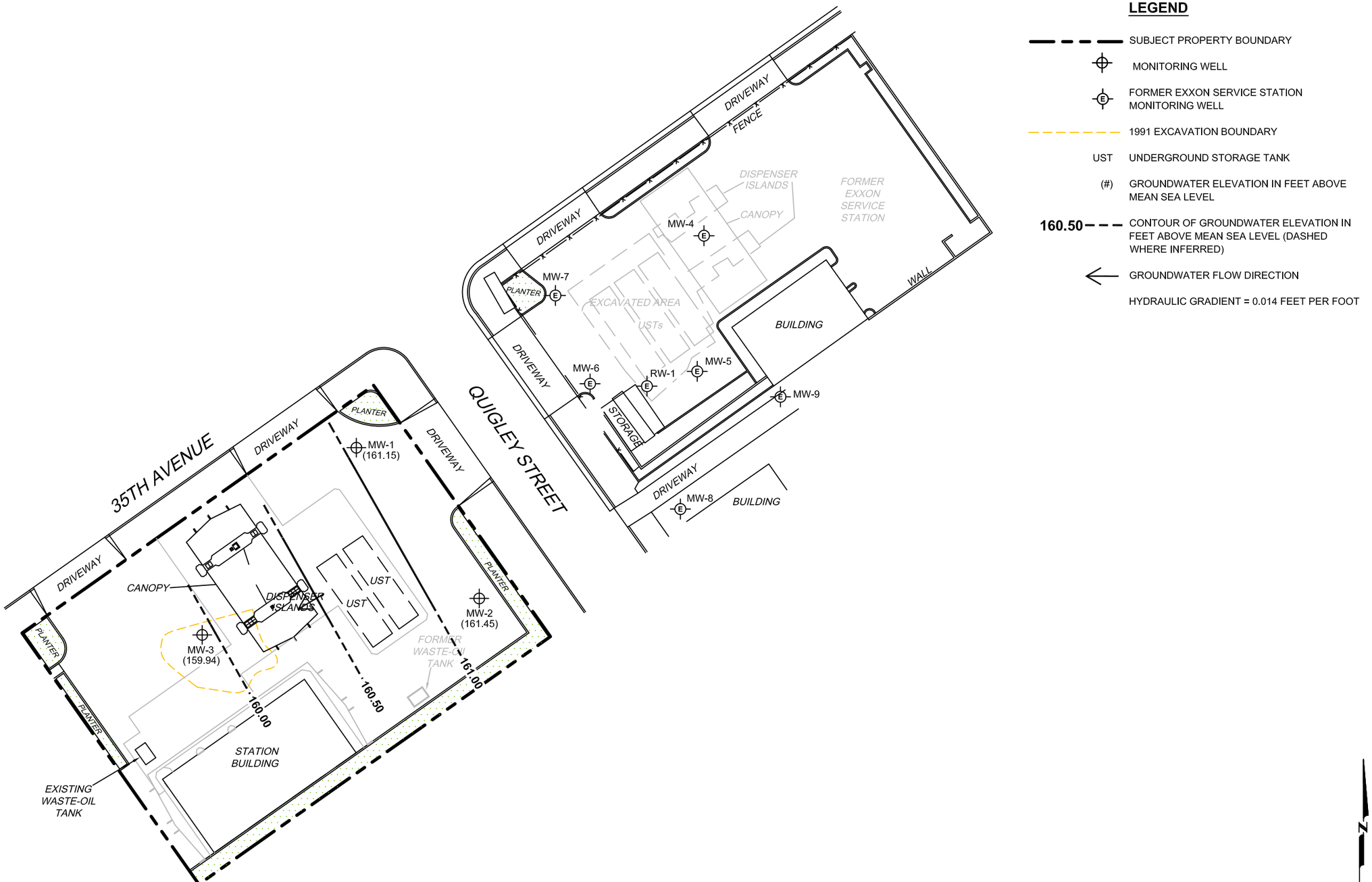
SITE PLAN
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 40'	06/28/2016	60509231

FIGURE NUMBER:
2

SHEET NUMBER:
1 of 1

FILENAME: J:\Client--Projects\76_Products\351639_6129_Oakland_3420_35th_Ave\7.0 Deliverables\7.2 CADD\2016_1SA\351639--1SA--16.dwg



LEGEND

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- (E) FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST UNDERGROUND STORAGE TANK
- (#) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 160.50 CONTOUR OF GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- HYDRAULIC GRADIENT = 0.014 FEET PER FOOT

REVISIONS	NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
X	M. Scop	X	X

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

FIRST SEMI-ANNUAL 2016 GROUNDWATER ELEVATION MAP

Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 40'	06/28/2016	60509231

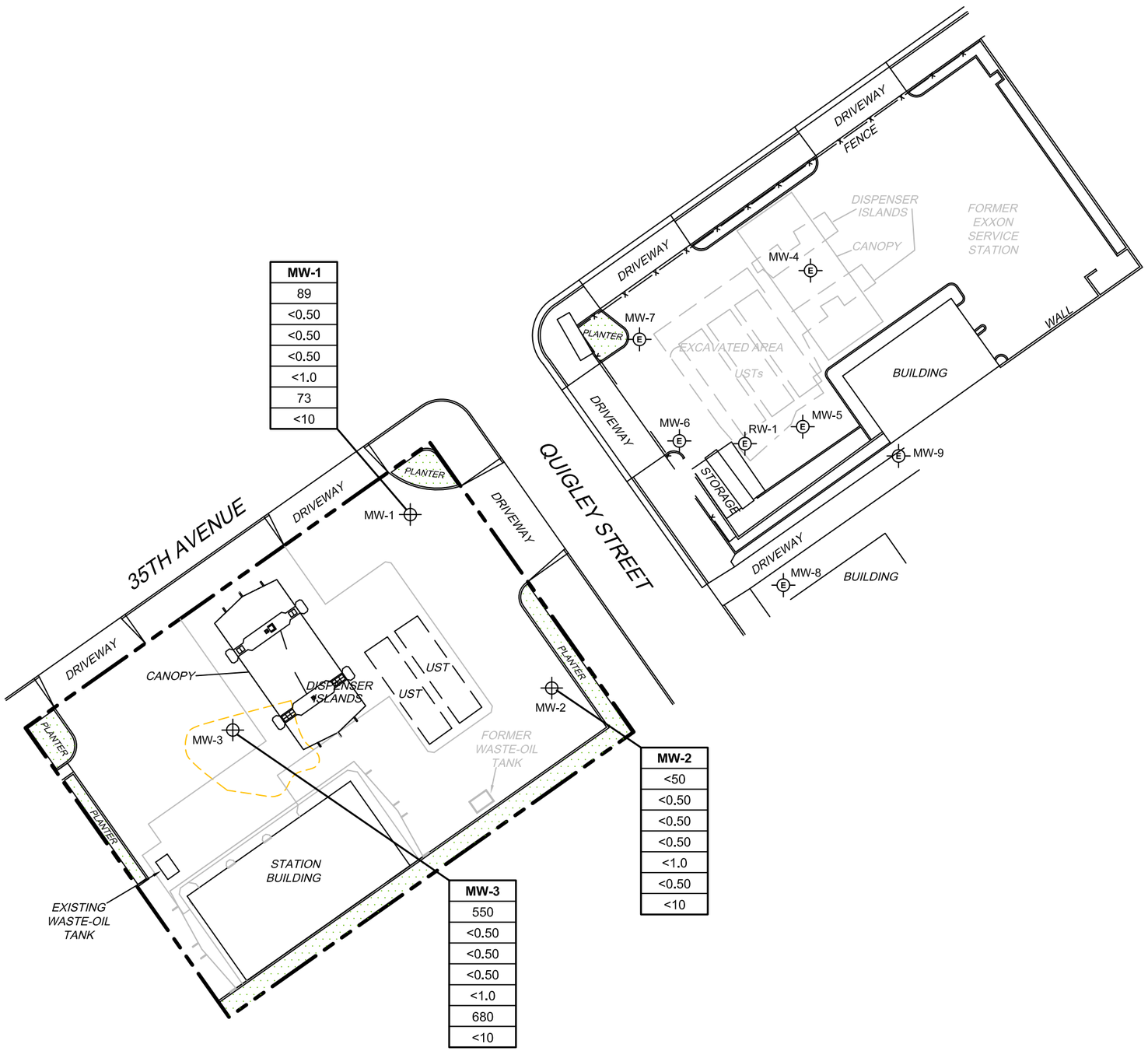
FIGURE NUMBER:

3

SHEET NUMBER:

1 of 1

FILENAME: J:\Client--Projects\76_Products\351639_6129_Oakland_3420_35th_Ave\7.0 Deliverables\7.2 CADD\2016_1SA\351639--1SA--16.dwg



LEGEND

- SUBJECT PROPERTY BOUNDARY
- MONITORING WELL
- FORMER EXXON SERVICE STATION MONITORING WELL
- 1991 EXCAVATION BOUNDARY
- UST — UNDERGROUND STORAGE TANK

Well ID
TPH-g
Benzene
Toluene
Ethylbenzene
Total Xylenes
MTBE
TBA

ID = IDENTIFICATION
TPH-g = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE; REPORTED AS TOTAL PURGEABLE PETROLEUM HYDROCARBONS BY THE LABORATORY
MTBE = METHYL T-BUTYL ETHER
TBA = T-BUTYL ALCOHOL
<# = ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY PRACTICAL QUANTITATION LIMIT

ANALYTE RESULTS EXPRESSED IN MICROGRAMS PER LITER

0 20' 40' 80'
SCALE IN FEET

N

REVISIONS	NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
X	M. Scop	X	X

AECOM
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577

FIRST SEM-IANNUAL 2016 GROUNDWATER ANALYTICAL DATA MAP

Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 40'	06/28/2016	60509231

FIGURE NUMBER:
4

SHEET NUMBER:
1 of 1

FILENAME: J:\Client--Projects\76_Products\351639_6129_Oakland_3420_35th_Ave\7.0 Deliverables\7.2 CADD\2016_1SA\351639--1SA--16.dwg

ATTACHMENT C

TABLES

Table 1
Current Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	190.79	6/15/2016	29.64	161.15	0	89	<0.50	<0.50	<0.50	<1.0	
MW-2	190.80	6/15/2016	29.35	161.45	0	<50	<0.50	<0.50	<0.50	<1.0	
MW-3	188.58	6/15/2016	28.64	159.94	0	550	<0.50	<0.50	<0.50	<1.0	
QA	--	6/15/2016	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	

NOTES:

* TOC and GWE are in feet above mean sea level.

BTEX compounds analyzed by Environmental Protection Agency Method 8260B

TPH-g analyzed by Leaking underground fuel tank-gas chromatography/mass spectrometry (Luft-GC/MS) method

µg/L = Micrograms per liter

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

-- = Not available

B = Benzene

DTW = Depth to water below TOC

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

LNAPL = Light non-aqueous phase liquid

QA = Quality assurance/trip blank

T = Toluene

TOC = Top of casing

TPH-g = Total petroleum hydrocarbons as gasoline; reported as total purgeable petroleum hydrocarbons by the laboratory

X = Total Xylenes

Table 2
Current Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	6/15/2016	73	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	6/15/2016	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	6/15/2016	680	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
QA	6/15/2016	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B

µg/L = Micrograms per liter

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

ID = Identification

DIPE = Diisopropyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ETBE = Ethyl t-butyl ether

MTBE = Methyl t-butyl ether

QA = Quality assurance/trip blank

TAME = T-amyl methyl ether

TBA = T-butyl alcohol

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	190.79	1/5/1990	32.80	157.99	--	<30	<0.30	<0.30	<0.30	<0.30	
screened	190.79	5/11/1990	31.80	158.99	--	<30	<0.30	7.1	<0.30	<0.30	
24 to 44 ft bgs	190.79	8/9/1990	32.37	158.42	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	11/14/1990	33.32	157.47	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	2/12/1991	33.02	157.77	--	<30	0.32	<0.30	<0.30	<0.30	
	190.79	5/9/1991	30.95	159.84	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	11/13/2003	--	--	--	180	<1.0	<1.0	<1.0	<2.0	
	190.79	8/27/2004	30.65	160.14	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2004	29.35	161.44	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	2/9/2005	26.89	163.90	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/17/2005	26.56	164.23	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	7/27/2005	27.33	163.46	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/6/2005	29.59	161.20	0	<50	<0.50	0.93	<0.50	1.80	
	190.79	2/21/2006	28.27	162.52	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/8/2006	26.07	164.72	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/15/2006	28.86	161.93	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2006	29.49	161.30	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	3/28/2007	27.24	163.55	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	6/25/2007	28.30	162.49	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	9/22/2007	30.61	160.18	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2007	30.30	160.49	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/17/2008	27.22	163.57	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/20/2008	30.10	160.69	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/11/2008	31.04	159.75	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/25/2008	30.88	159.91	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/9/2009	27.50	163.29	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/28/2009	28.25	162.54	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/11/2009	30.60	160.19	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/7/2010	26.06	164.73	0	67	<0.50	<0.50	<0.50	<1.0	
	190.79	11/1/2010	30.18	160.61	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/27/2011	26.87	163.92	0	110	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2011	29.14	161.65	0	1,101	<0.50	<0.50	<0.50	<1.0	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
	190.79	5/24/2012	26.58	164.21	0	140	<0.50	<0.50	<0.50	<1.0	
	190.79	10/23/2012	30.51	160.28	0	130	<0.50	<0.50	<0.50	<1.0	
	190.79	5/2/2013	28.30	162.49	0	150	<0.50	<0.50	<0.50	<1.0	
	190.79	11/13/2013	31.65	159.14	0	240	<0.50	<0.50	<0.50	<1.0	
	190.79	5/12/2014	28.95	161.84	0	98	<0.50	<0.50	<0.50	<1.0	
	190.79	11/19/2014	31.50	159.29	0	130	<0.50	<0.50	<0.50	<1.0	
	190.79	6/17/2015	29.27	161.52	0	52	<0.50	<0.50	<0.50	<1.0	
	190.79	12/15/2015	31.76	159.03	0	60	<0.50	<0.50	<0.50	<1.0	
	190.79	**6/15/2016**	**29.64**	**161.15**	**0**	**89**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-2	190.80	1/5/1990	33.02	157.78	--	<30	<0.30	<0.30	<0.30	<0.30	
screened	190.80	5/11/1990	31.98	158.82	--	<30	<0.30	<0.30	<0.30	<0.30	
24 to 44 ft bgs	190.80	8/9/1990	32.45	158.35	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.80	11/14/1990	33.47	157.33	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.80	2/12/1991	33.15	157.65	--	<30	<0.30	0.42	<0.30	0.51	
	190.80	5/9/1991	30.88	159.92	--	<30	<0.30	<>0.30	<0.30	<0.30	
	190.80	11/13/2003	--	--	--	<2,000	<20	<20	<20	<40	
	190.80	8/27/2004	30.28	160.52	0	950	<5.0	<5.0	<5.0	<10	
	190.80	11/23/2004	28.75	162.05	0	53	<0.50	<0.50	<0.50	<1.0	
	190.80	2/9/2005	26.08	164.72	0	<500	<0.50	<0.50	<0.50	<1.0	
	190.80	5/17/2005	24.53	166.27	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.80	7/27/2005	27.51	163.29	0	<500	<5.0	<5.0	<5.0	<10	
	190.80	12/6/2005	29.13	161.67	0	340	<0.50	<0.50	<0.50	<1.0	
	190.80	2/21/2006	29.23	161.57	0	190	<0.50	<0.50	<0.50	<1.0	
	190.80	6/8/2006	25.76	165.04	0	<500	<5.0	<5.0	<5.0	<10	
	190.80	9/15/2006	29.17	161.63	0	<500	<5.0	<5.0	<5.0	<5.0	
	190.80	12/14/2006	29.11	161.69	0	520	<0.50	<0.50	<0.50	<0.50	
	190.80	3/28/2007	26.68	164.12	0	290	<0.50	<0.50	<0.50	<0.50	
	190.80	6/25/2007	25.91	164.89	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.80	9/22/2007	30.18	160.62	0	400	<0.50	<0.50	<0.50	<0.50	
	190.80	12/14/2007	29.96	160.84	0	400	<0.50	<0.50	<0.50	<1.0	
	190.80	3/17/2008	26.74	164.06	0	570	<5.0	<5.0	<5.0	<10	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
	190.80	6/20/2008	29.78	161.02	0	580	<0.50	<0.50	<0.50	<1.0	
	190.80	9/11/2008	30.62	160.18	0	220	<0.50	<0.50	<0.50	<1.0	
	190.80	11/25/2008	30.48	160.32	0	500	<0.50	<0.50	<0.50	<1.0	
	190.80	3/9/2009	25.75	165.05	0	910	<5.0	<5.0	<5.0	<10	
	190.80	5/28/2009	27.71	163.09	0	460	<0.50	<0.50	<0.50	<1.0	
	190.80	12/11/2009	29.80	161.00	0	640	<5.0	<5.0	<5.0	<10	
	190.80	5/7/2010	25.11	165.69	0	600	<1.0	<1.0	<1.0	<2.0	
	190.80	11/1/2010	29.90	160.90	0	140	<0.50	<0.50	<0.50	<1.0	
	190.80	5/27/2011	26.44	164.36	0	560	<0.50	<0.50	<0.50	<1.0	
	190.80	11/23/2011	28.53	162.27	0	830	<0.50	<0.50	<0.50	<1.0	
	190.80	5/24/2012	25.97	164.83	0	1,000	<0.50	<0.50	<0.50	<1.0	
	190.80	10/23/2012	30.14	160.66	0	750	<0.50	<0.50	<0.50	<1.0	
	190.80	5/2/2013	27.14	163.66	0	290	<0.50	<0.50	<0.50	<1.0	
	190.80	11/13/2013	31.37	159.43	0	1,200	<0.50	<0.50	<0.50	<1.0	
	190.80	5/12/2014	28.49	162.31	0	260	<0.50	<0.50	<0.50	<1.0	
	190.80	11/19/2014	31.46	159.34	0	430	<0.50	<0.50	<0.50	<1.0	
	190.80	6/17/2015	29.70	161.10	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.80	12/15/2015	31.71	159.09	0	680	<0.50	<0.50	<0.50	<1.0	
	190.80	**6/15/2016**	**29.35**	**161.45**	**0**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-3	188.58	1/5/1990	31.88	156.70	--	<30	<0.30	<0.30	<0.30	<0.30	
screened	188.58	5/11/1990	31.25	157.33	--	<30	<0.30	<0.30	<0.30	<0.30	
23 to 43 ft bgs	188.58	8/9/1990	31.53	157.05	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	11/14/1990	33.30	155.28	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	2/12/1991	32.05	156.53	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	5/9/1991	30.37	158.21	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	11/13/2003	--	--	--	2,600	<20	<20	<20	<40	
	188.58	8/27/2004	29.61	158.97	0	1,700	<10	<10	<10	<20	
	188.58	11/23/2004	28.48	160.10	0	1,500	<10	<10	<10	<20	
	188.58	2/9/2005	26.45	162.13	0	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	5/17/2005	25.61	162.97	0	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	7/27/2005	27.35	161.23	0	<1,000	<10	<10	<10	<20	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
	188.58	12/6/2005	28.78	159.80	0	430	<0.50	1.6	<0.50	3.6	
	188.58	2/21/2006	28.91	159.67	0	420	<0.50	<0.50	<0.50	<1.0	
	188.58	6/8/2006	25.97	162.61	0	<1,200	<12	<12	<12	<25	
	188.58	9/15/2006	28.73	159.85	0	<1,200	<12	<12	<12	<12	
	188.58	12/14/2006	28.62	159.96	0	<1,000	<10	<10	<10	<10	
	188.58	3/28/2007	26.69	161.89	0	500	<1.0	<1.0	<1.0	<1.0	
	188.58	6/25/2007	26.74	161.84	0	270	<0.50	<0.50	<0.50	<0.50	
	188.58	9/22/2007	29.57	159.01	0	500	<0.50	<0.50	<0.50	<0.50	
	188.58	12/14/2007	29.30	159.28	0	270	<0.50	<0.50	<0.50	<1.0	
	188.58	3/17/2008	26.82	161.76	0	220	<0.50	<0.50	<0.50	<1.0	
	188.58	6/20/2008	29.10	159.48	0	490	<0.50	<0.50	<0.50	<1.0	
	188.58	9/11/2008	29.89	158.69	0	630	<5.0	<5.0	<5.0	<10	
	188.58	11/25/2008	29.74	158.84	0	380	<0.50	<0.50	<0.50	<1.0	
	188.58	3/9/2009	25.56	163.02	0	310	<0.50	<0.50	<0.50	<1.0	
	188.58	5/28/2009	27.55	161.03	0	410	<0.50	<0.50	<0.50	<1.0	
	188.58	12/11/2009	29.10	159.48	0	220	<0.50	<0.50	<0.50	<1.0	
	188.58	5/7/2010	25.72	162.86	0	360	<0.50	<0.50	<0.50	<1.0	
	188.58	11/1/2010	29.29	159.29	0	120	<0.50	<0.50	<0.50	<1.0	
	188.58	5/27/2011	26.53	162.05	0	340	<0.50	<0.50	<0.50	<1.0	
	188.58	5/24/2012	25.95	162.63	0	660	<0.50	<0.50	<0.50	<1.0	
	188.58	10/23/2012	29.39	159.19	0	480	<0.50	<0.50	<0.50	<1.0	
	188.58	5/2/2013	26.98	161.60	0	130	<0.50	<0.50	<0.50	<1.0	
	188.58	11/13/2013	30.28	158.30	0	110	<0.50	<0.50	<0.50	<1.0	
	188.58	5/12/2014	27.93	160.65	0	98	<0.50	<0.50	<0.50	<1.0	
	188.58	11/19/2014	30.22	158.36	0	180	<0.50	<0.50	<0.50	<1.0	
	188.58	6/17/2015	28.75	159.83	0	220	<0.50	<0.50	<0.50	<1.0	
	188.58	12/15/2015	30.45	159.83	0	220	<0.50	<0.50	<0.50	<1.0	
	188.58	**6/15/2016**	**28.64**	**159.94**	**0**	**550**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
QA	--	12/15/2015	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	
	--	**6/15/2016**	**--**	**--**	**--**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS

NOTES:
* TOC and GWE are in feet above mean sea level.
µg/L = Micrograms per liter
<# = Analyte not detected at or above indicated laboratory practical quantitation limit
-- = Not available
B = Benzene
bgs = Below ground surface
DTW = Depth to water below TOC
E = Ethylbenzene
ft = Feet
GWE = Groundwater elevation
ID = Identification
LNAPL = Light Non-Aqueous Phase Liquid
QA = Quality assurance/trip blank
T = Toluene
TOC = Top of casing
TPH-g = Total petroleum hydrocarbons as gasoline; reported as total purgeable petroleum hydrocarbons by the laboratory
X = Total Xylenes

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	240	<200	<1,000	<4.0	<4.0	<4.0	<4.0	<4.0
	8/27/2004	<0.50	<5.0	<50	<0.50	<1.0	<0.50	<0.50	<0.50
	11/23/2004	<0.50	<5.0	<50	<0.50	<1.0	<0.50	<0.50	<0.50
	2/9/2005	9.3	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	5/17/2005	1.9	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	7/27/2005	<0.50	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	12/6/2005	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	2/21/2006	2.6	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/8/2006	11	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/15/2006	1.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2006	3.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/28/2007	0.64	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/25/2007	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/22/2007	4.10	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2007	0.65	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/17/2008	14	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/20/2008	11	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/11/2008	1.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/25/2008	5.8	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/9/2009	25	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/28/2009	17	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/11/2009	18	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/7/2010	64	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/1/2010	92	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/27/2011	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	11/23/2011	150	41	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	190	66	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	140	47	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	270	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/13/2013	270	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/12/2014	170	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/19/2014	180	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	100	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	48	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/15/2016	**73**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-2	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	2,100	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	1,400	<5.0	<500	<5.0	24	<5.0	<5.0	<5.0
	11/23/2004	4.2	<5.0	<50	<0.50	18	<0.50	<0.50	<0.50
	2/9/2005	400	<5.0	<500	<5.0	19	<5.0	<5.0	<5.0
	5/17/2005	330	<5.0	<50	<0.50	12	<0.50	<0.50	<0.50
	7/27/2005	580	140	<500	<5.0	16	<5.0	<5.0	<5.0
	12/6/2005	780	61	<250	<0.50	15	<0.50	<0.50	<0.50
	2/21/2006	340	<10	<250	<0.50	18	<0.50	<0.50	<0.50
	6/8/2006	440	<100	<2,500	<5.0	14	<5.0	<5.0	<5.0
	9/15/2006	570	<100	<2,500	<5.0	17	<5.0	<5.0	<5.0
	12/14/2006	770	27	<250	<0.50	20	<0.50	<0.50	<0.50
	3/28/2007	460	260	<250	<0.50	23	<0.50	<0.50	<0.50
	6/25/2007	1.2	<10	<250	<0.50	23	<0.50	<0.50	<0.50
	9/22/2007	530	<10	<250	<0.50	35	<0.50	<0.50	<0.50

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	12/14/2007	930	48	<250	<0.50	24	<0.50	<0.50	<0.50
	3/17/2008	630	<100	<2,500	<5.0	18	<5.0	<5.0	<5.0
	6/20/2008	1,200	<10	<250	<0.50	16	<0.50	<0.50	<0.50
	9/11/2008	29	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/25/2008	1,500	<10	<250	<0.50	19	<0.50	<0.50	<0.50
	3/9/2009	1,400	<100	<2,500	<5.0	15	<5.0	<5.0	<5.0
	5/28/2009	740	<10	<250	<0.50	20	<0.50	<0.50	<0.50
	12/11/2009	1,300	<100	<2,500	<5.0	19	<5.0	<5.0	<5.0
	5/7/2010	940	<20	<500	<1.0	14	<1.0	<1.0	<1.0
	11/1/2010	730	<10	<250	<0.50	28	<0.50	<0.50	<0.50
	5/27/2011	1,100	210	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/23/2011	1,500	400	<250	<0.50	9.00	<0.50	<0.50	<0.50
	5/24/2012	1,200	430	<250	<0.50	8.8	<0.50	<0.50	<0.50
	10/23/2012	1,300	420	<250	<0.50	14	<0.50	<0.50	<0.50
	5/2/2013	460	<10	<250	6.2	<0.50	<0.50	<0.50	<0.50
	11/13/2013	1,300	<10	<250	17	<0.50	<0.50	<0.50	<0.50
	5/12/2014	510	44	<250	12	<0.50	<0.50	<0.50	<0.50
	11/19/2014	980	<10	<250	31	<0.50	<0.50	<0.50	<0.50
	6/17/2015	25	<10	<250	3.1	<0.50	<0.50	<0.50	<0.50
	12/15/2015	1,300	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/15/2016	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-3	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	3,700	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	2,600	<100	<1,000	<10	<20	<10	<10	<10
	11/23/2004	1,800	<100	<1,000	<10	<20	<10	<10	<10

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	2/9/2005	2,100	130	<1,000	<10	<10	<10	<10	<10
	5/17/2005	1,200	<100	<1,000	<10	<10	<10	<10	<10
	7/27/2005	1,400	360	<1,000	<10	<10	<10	<10	<10
	12/6/2005	1,800	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	2/21/2006	1,100	88	<250	<0.50	<0.50	0.58	<0.50	<0.50
	6/8/2006	1,000	<250	<6,200	<12	<12	<12	<12	<12
	9/15/2006	1,200	<250	<6,200	<12	<12	<12	<12	<12
	12/14/2006	1,300	<200	<5,000	<10	<10	<10	<10	<10
	3/28/2007	860	500	<500	<1.0	<1.0	<1.0	<1.0	<1.0
	6/25/2007	570	11	<250	<0.50	<0.50	<0.50	<0.50	0.65
	9/22/2007	980	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2007	570	26	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/17/2008	520	<10	<250	<0.50	<0.50	<0.50	<0.50	0.65
	6/20/2008	1,300	49	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/11/2008	1,200	<100	<2,500	<5.0	<5.0	<5.0	<5.0	<5.0
	11/25/2008	870	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/9/2009	720	15	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/28/2009	750	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/11/2009	620	63	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/7/2010	660	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/1/2010	490	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/27/2011	890	73	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	1,100	300	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	500	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/13/2013	100	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/12/2014	160	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/19/2014	250	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	570	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	240	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/15/2016	**680**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal #6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
QA	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/15/2016	**<0.50**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**

NOTES:

µg/L = Micrograms per liter

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

-- = Not available/not sampled

DIPE = Diisopropyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ETBE = Ethyl t-butyl ether

MTBE = Methyl t-butyl ether

QA = Quality assurance/trip blank

TAME = T-amyl methyl ether

TBA = T-butyl alcohol

ATTACHMENT D

HYDROGRAPHS

Chart 1 - Hydrograph for Well MW-1

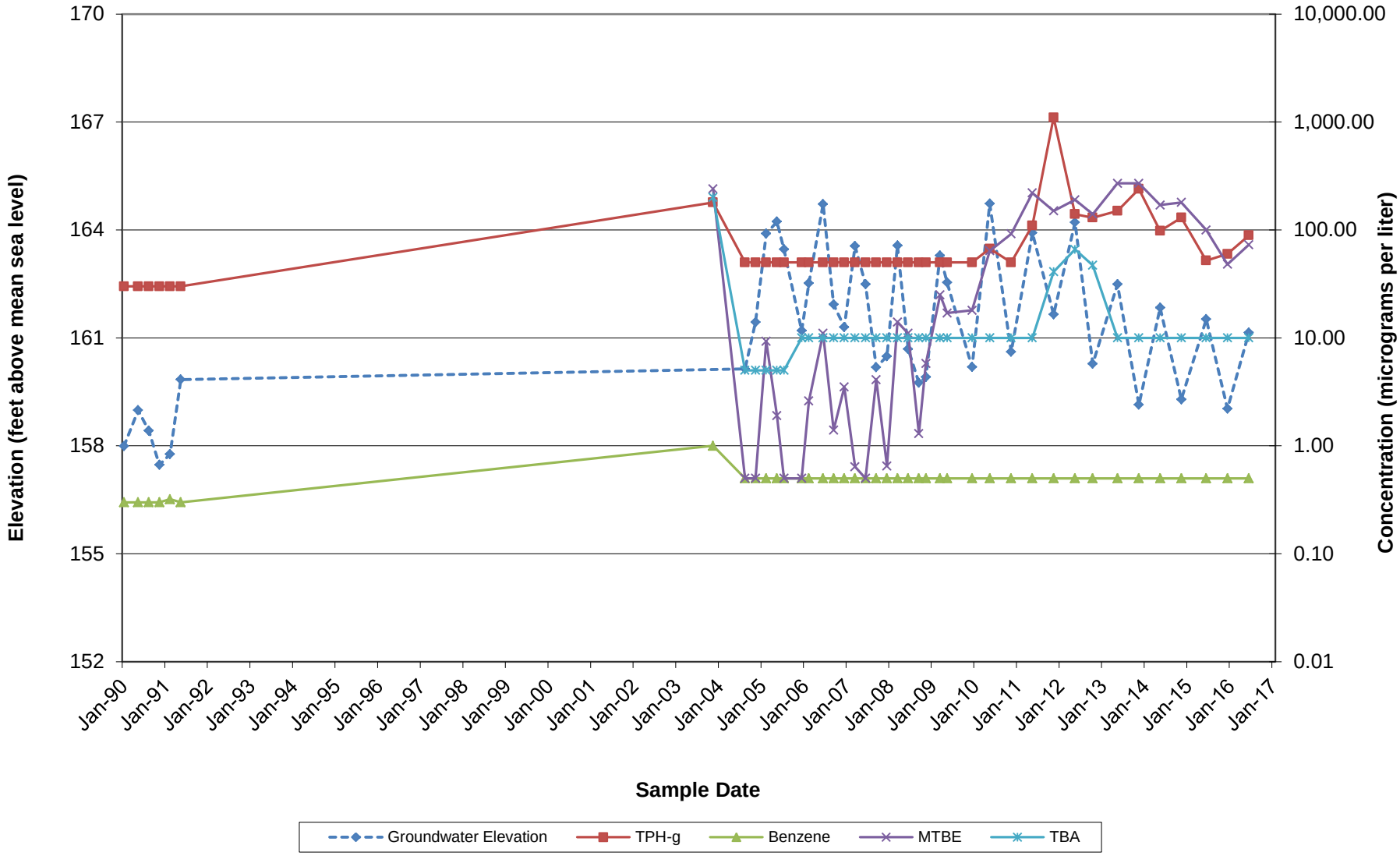


Chart 2 - Hydrograph for Well MW-2

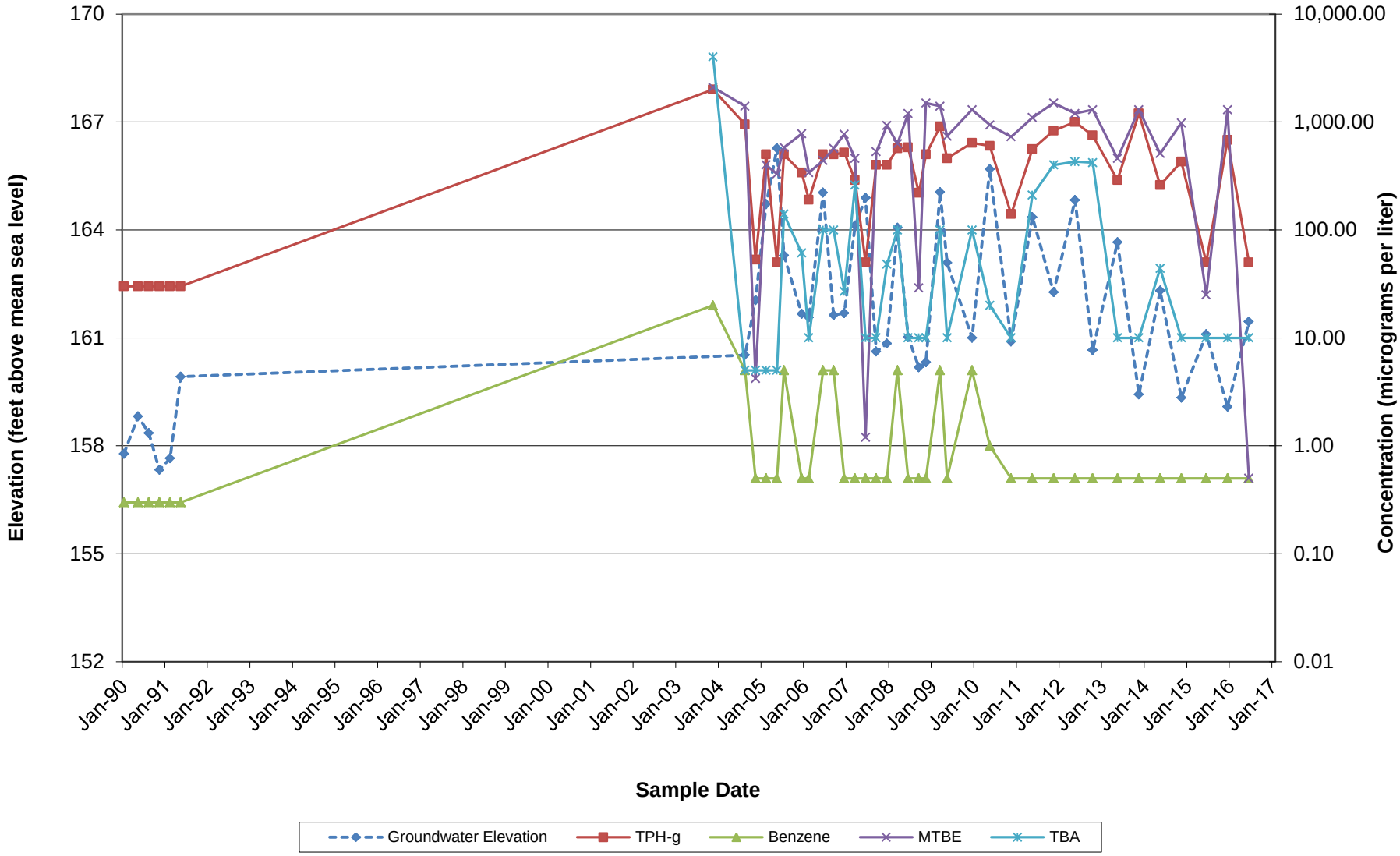
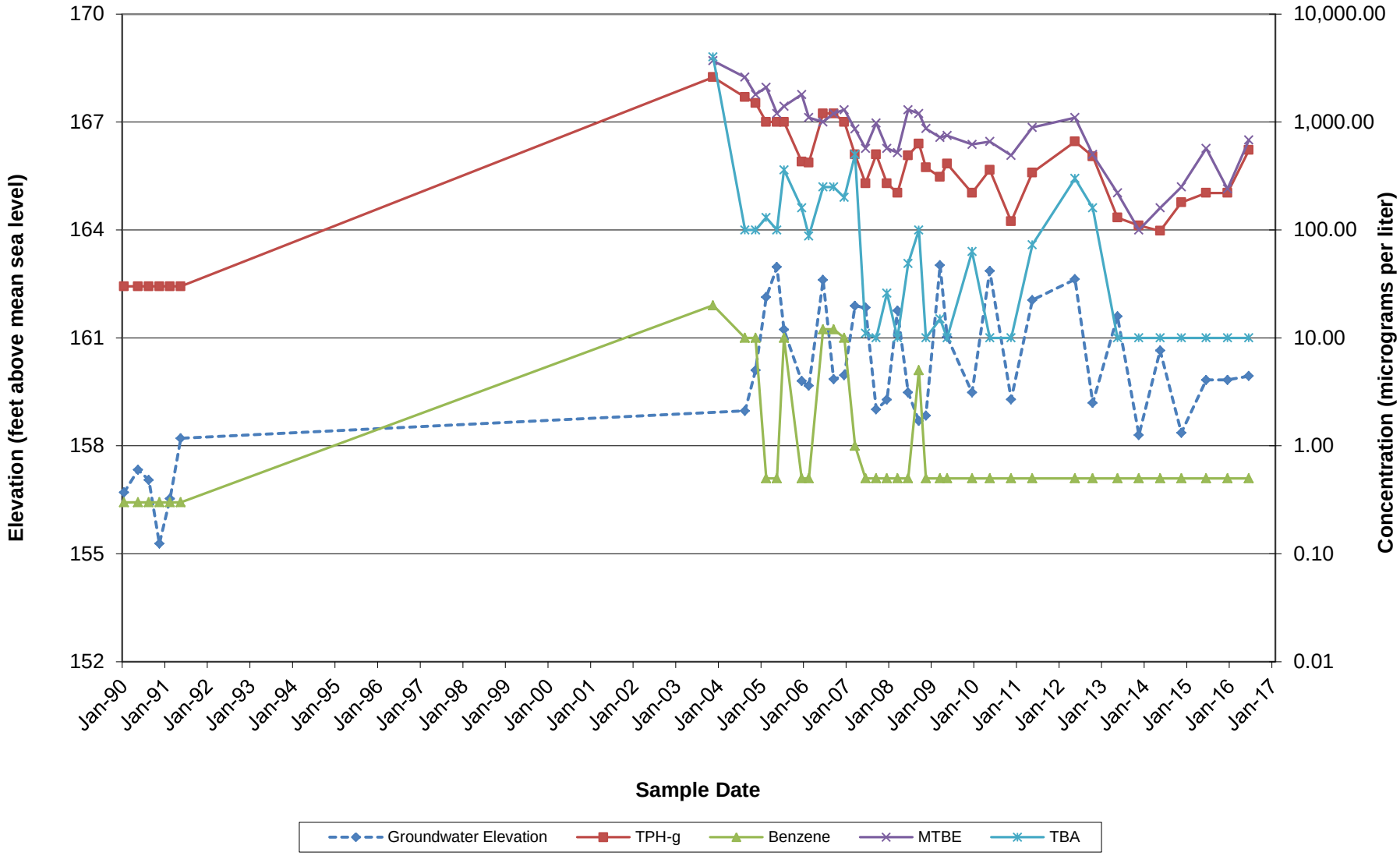


Chart 3 - Hydrograph for Well MW-3



ATTACHMENT E

FIELD PROCEDURES AND FIELD LOGS

GETTLER-RYAN INC.

TRANSMITTAL

June 24, 2016
G-R #385640

TO: Ms. Tamera Rogers
Arcadis
6296 San Ignacio Ave., Suite C & D
San Jose, California 95119

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6805 Sierra Court, Suite G
Dublin, California 94568

RE: Chevron Facility
#351639/6129
3420 35th Avenue
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **First Semi-Annual Event of June 15, 2016**

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/351639 6129

WELL CONDITION STATUS SHEET

Client/
Facility #: **Chevron #351639 / 6129**

Site Address: **3420 35Th Avenue**

City: **Oakland, CA**

Job #: **385640**

Event Date: 6/15/16

Sampler: JH

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	—	—	—	—	—	→	N	N	12" emco	N
MW-2	ok	—	—	—	—	—	→	↓	↓	↓	↓
MW-3	ok	—	—	—	—	—	→	↓	↓	↓	↓

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 #351639 / 6129 Job Number: 385640
Site Address: 3420 35Th Avenue Event Date: 6/15/16 (inclusive)
City: Oakland, CA Sampler: JH

Well ID MW-1 Date Monitored: 6/15/16
Well Diameter 2 in.
Total Depth 43.27 ft.
Depth to Water 29.64 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.

13.63 xVF .17 = 2.31 x3 case volume = Estimated Purge Volume: 6.95 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 32.36

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		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: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1035 Weather Conditions: clear
Sample Time/Date: 1105 / 6/15/16 Water Color: clear Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: none
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 30.90

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C/ F)	D.O. (mg/L)	ORP (mV)
1040	2	6.67	609	19.8	PRE: 1.5	PRE: 121
1045	4	6.65	617	19.9	1.6	130
1051	7	6.59	628	20.1	1.6	137
					1.7	152

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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 #351639 / 6129 | Job Number: 385640
Site Address: 3420 35Th Avenue | Event Date: 6/15/16 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-2 | Date Monitored: 6/15/16
Well Diameter: 2 in.
Total Depth: 43.56 ft.
Depth to Water: 29.35 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.

14.21 xVF .17 = 2.41 x3 case volume = Estimated Purge Volume: 7.24 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 32.19

Purge Equipment:

Disposable Bailer	X
Stainless Steel Bailer	
Stack Pump	
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: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0915 | Weather Conditions: Clear
Sample Time/Date: 0945 / 6/15/16 | Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: None
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 30.17

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0922	2.5	7.24	560	19.6	PRE: 1.5	PRE: 138
0929	5.0	7.40	571	19.8	1.6	145
0936	7.5	7.53	593	19.9	1.6	151
					1.7	163

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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 #351639 / 6129 | Job Number: 385640
Site Address: 3420 35Th Avenue | Event Date: 6/15/16 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-3 | Date Monitored: 6/15/16
Well Diameter: 2 in.
Total Depth: 39.44 ft.
Depth to Water: 28.64 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.

10.80 xVF .17 = 1.83 x3 case volume = Estimated Purge Volume: 5.50 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 30.80

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		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: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0955 | Weather Conditions: Clear
Sample Time/Date: 1025 / 6/15/16 | Water Color: Clear Odor: Y / (N) | None
Approx. Flow Rate: — gpm. | Sediment Description: None
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 30.07

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1000	2	7.52	816	19.7	PRE: 1.7	PRE: 107
1005	4	7.65	825	19.8	1.9	125
1010	5.5	7.78	831	19.9	1.9	136
					2.0	158

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	3 x voa vial	YES	HCL	BC LABS	TPH-GRO(8015)/BTEX+MTBE(8260)/8 OXYS(8260)

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: 6129	Union Oil Consultant: Arcadis
Site Global ID: T0600101465	Consultant Contact: J. Rogers
Site Address: 2120 25th Ave Oakland CA	Consultant Phone No.: 408-797-2613
	Sampling Company: Gettler Ryan
Union Oil PM: N. Arceneaux	Sampled By (PRINT): J. Herzer
Union Oil PM Phone No.: 925 790 6972	Sampler Signature: [signature]
Charge Code: NWRTB- 0 351639 -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 ☒ 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	BTEX/MTBE/OXYS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS						Notes / Comments
QA	W-S-A		160615	—	2		X	X								
MW-1	W-S-A		↓	1105	3		↓	↓								
MW-2	W-S-A		↓	0945	↓		↓	↓								
MW-3	W-S-A		↓	1025	↓		↓	↓								
	W-S-A															
	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]	Gettler Ryan	6/15/16 1345						
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
[signature]	BC Lab	6-15-16 1345						

ATTACHMENT F

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Date of Report: 06/28/2016

Tamera Rogers

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Client Project:	351638
BCL Project:	7124
BCL Work Order:	1616578
Invoice ID:	B239124

Enclosed are the results of analyses for samples received by the laboratory on 6/15/2016. 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

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: T. Rogers
Site Address: 10151 International Blvd Oakland CA	Consultant Phone No.: 408-797-2013
Union Oil PM: N. ARCENEAUX	Sampling Company: Gettler Ryan Inc
Union Oil PM Phone No.: 925-790-6912	Sampled By (PRINT): J. Hazelton
Charge Code: NWRTB-0 351638 -0- LAB 16.16578	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

ANALYSES REQUIRED

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

Special Instructions

SAMPLE ID																	Notes / Comments
Field Point Name	Matrix	Depth	Date (yymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA 8015	TPH - G by GC/MS (C6 - C12)	BTEX/MTBE/OXYS by EPA 8260B	Alkalinity	TOC	Nitrate/Nitrite/Sulfate/Dissolved Iron	Sulfide (376.2)	Ferrous Iron	Total Manganese	Methane		
1 QA	W-S-A		160615	—	2		X	X									
2 MW-1	W-S-A			0550	13				X	X	X	X	X	X	X		
3 MW-2	W-S-A			0630													
4 MW-3	W-S-A			0715													
5 MW-4	W-S-A			0800													
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																
	W-S-A																

SHORT HOLDING TIME

Cr^{+6}	NO_2	NO_3	OP	SS
DO	Cl_2	BOD	MBAS	COT

CHK BY DISTRIBUTION WHITE YELLOW PINK SUB-OUT ☐

Relinquished By	Company	Date / Time:	Relinquished By	Company	Date / Time :	Relinquished By	Company	Date / Time:
	GR Inc	6/15/16 1345	Hans Borgen	BCLAB	6-15-16		BC	6/15/16 2210
Received By	**Company**	**Date / Time:**	**Received By**	**Company**	**Date / Time :**	**Received By**	**Company**	**Date / Time:**
Hans Borgen	BCLAB	6-15-16 1345		BC	6/15/16 1835		BCLABS	6.15.16 2210

Chain of Custody and Cooler Receipt Form for 1616578 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 16.16578

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☐
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☐
W / S

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: 0.97 Container: PE Thermometer ID: 208 Date/Time 6-15 2250

Temperature: (A) 0.0 °C / (C) 0.1 °C Analyst Init ARL

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		I	F	J	F					
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		J	J	J	J					
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE		K	K	K	K					
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON		M	M	M	M					
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	AB									
40ml VOA VIAL		ABC-F	ABC-F	ABC-F	ABC-F					
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504 DBCL		GH	GH	GH	GH					
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON		L	L	L	L					
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:
Sample Numbering Completed By: Date/Time: 6-15-16 2325
A = Actual / C = Corrected

Rev 21 05/23/2016
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
1616578-01	**COC Number:**	---	**Receive Date:** 06/15/2016 22:10
	Project Number:	7124	**Sampling Date:** 06/15/2016 00:00
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	QA-W-160615	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Blank Water
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): QA
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1616578-02	**COC Number:**	---	**Receive Date:** 06/15/2016 22:10
	Project Number:	7124	**Sampling Date:** 06/15/2016 05:50
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-1-W-160615	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
			Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): MW-1
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
1616578-03	**COC Number:**	---	**Receive Date:** 06/15/2016 22:10
	Project Number:	7124	**Sampling Date:** 06/15/2016 06:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-2-W-160615	**Lab Matrix:** Water
	Sampled By:	GRD	**Sample Type:** Water
			Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time
			Delivery Work Order:
			Global ID: T0600173591
			Location ID (FieldPoint): MW-2
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1616578-04	**COC Number:**	---	**Receive Date:**	06/15/2016 22:10
	Project Number:	7124	**Sampling Date:**	06/15/2016 07:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-W-160615	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:			
1616578-05	**COC Number:**	---	**Receive Date:**	06/15/2016 22:10
	Project Number:	7124	**Sampling Date:**	06/15/2016 08:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-W-160615	**Lab Matrix:**	Water
	Sampled By:	GRD	**Sample Type:**	Water
	Metal Analysis: 2-Lab Filtered and Acidified past 15 minute holding time Delivery Work Order: Global ID: T0600173591 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:			

Arcadis
6296 San Ignacio Ave, Suite C&D
San Jose, CA 95119

Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1616578-01 | **Client Sample Name:** 7124, QA-W-160615, 6/15/2016 12:00:00AM

Constituent	Result	Units	PQL	MDL	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)	101	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	90.7	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/16/16	06/16/16 16:14	IO1	MS-V12	1	BZF1102

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1616578-01 | **Client Sample Name:** 7124, QA-W-160615, 6/15/2016 12:00:00AM

Constituent	Result	Units	PQL	MDL	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)	102	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/20/16	06/20/16 18:10	AKM	GC-V9	1	BZF1288

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1616578-02 | **Client Sample Name:** 7124, MW-1-W-160615, 6/15/2016 5:50:00AM

Constituent	Result	Units	PQL	MDL	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)	98.7	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	91.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/16/16	06/16/16 19:12	IO1	MS-V12	1	BZF1102

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Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1616578-02 | **Client Sample Name:** 7124, MW-1-W-160615, 6/15/2016 5:50:00AM

Constituent	Result	Units	PQL	MDL	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)	96.4	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/20/16	06/20/16 18:31	AKM	GC-V9	1	BZF1288

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Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Gas Testing in Water

BCL Sample ID: 1616578-02 | **Client Sample Name:** 7124, MW-1-W-160615, 6/15/2016 5:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.0016**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/28/16	06/28/16 10:25	JH2	GC-V1	1	BZF2287

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Water Analysis (General Chemistry)

BCL Sample ID: 1616578-02 | **Client Sample Name:** 7124, MW-1-W-160615, 6/15/2016 5:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**170**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	**40**	**mg/L**	**0.44**		**EPA-300.0**	ND		2
Sulfate	**29**	**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	0.10		SM-4500SD	ND		5
Non-Volatile Organic Carbon	ND	mg/L	1.0		EPA-415.1	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/20/16	06/20/16 09:36	RML	MET-1	1	BZF1602
2	EPA-300.0	06/16/16	06/16/16 13:41	EMW	IC1	1	BZF1398
3	SM-3500-FeD	06/16/16	06/16/16 17:13	RCC	KONE-1	1	BZF1629
4	EPA-353.2	06/16/16	06/16/16 10:19	RCC	KONE-1	1	BZF1438
5	SM-4500SD	06/20/16	06/20/16 09:00	DIW	SPEC06	1	BZF1671
6	EPA-415.1	06/16/16	06/17/16 08:40	ALW	TOC2	1	BZF1405

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Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Metals Analysis

BCL Sample ID: 1616578-02 | **Client Sample Name:** 7124, MW-1-W-160615, 6/15/2016 5:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**2600**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/16/16	06/27/16 13:59	JCC	PE-OP3	1	BZF1452
2	EPA-6010B	06/20/16	06/21/16 18:49	JRG	PE-OP2	1	BZF1655

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Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1616578-03 | **Client Sample Name:** 7124, MW-2-W-160615, 6/15/2016 6:30:00AM

Constituent	Result	Units	PQL	MDL	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)	106	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	94.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/16/16	06/16/16 19:30	IO1	MS-V12	1	BZF1102

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Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1616578-03 | **Client Sample Name:** 7124, MW-2-W-160615, 6/15/2016 6:30:00AM

Constituent	Result	Units	PQL	MDL	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)	102	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/20/16	06/20/16 18:52	AKM	GC-V9	1	BZF1288

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Gas Testing in Water

BCL Sample ID: 1616578-03 | **Client Sample Name:** 7124, MW-2-W-160615, 6/15/2016 6:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.0020**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/28/16	06/28/16 10:30	JH2	GC-V1	1	BZF2287

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Water Analysis (General Chemistry)

BCL Sample ID: 1616578-03 | **Client Sample Name:** 7124, MW-2-W-160615, 6/15/2016 6:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**200**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44		EPA-300.0	ND		2
Sulfate	**36**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	**1000**	**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	ND	mg/L	1.0		EPA-415.1	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/20/16	06/20/16 09:49	RML	MET-1	1	BZF1602
2	EPA-300.0	06/16/16	06/16/16 13:58	EMW	IC1	1	BZF1398
3	SM-3500-FeD	06/16/16	06/16/16 17:13	RCC	KONE-1	1	BZF1629
4	EPA-353.2	06/16/16	06/16/16 10:23	RCC	KONE-1	1	BZF1438
5	SM-4500SD	06/20/16	06/20/16 09:00	DIW	SPEC06	1	BZF1671
6	EPA-415.1	06/16/16	06/17/16 08:55	ALW	TOC2	1	BZF1405

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Metals Analysis

BCL Sample ID: 1616578-03 | **Client Sample Name:** 7124, MW-2-W-160615, 6/15/2016 6:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**6700**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/16/16	06/27/16 14:01	JCC	PE-OP3	1	BZF1452
2	EPA-6010B	06/20/16	06/21/16 18:52	JRG	PE-OP2	1	BZF1655

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1616578-04 | **Client Sample Name:** 7124, MW-3-W-160615, 6/15/2016 7:15:00AM

Constituent	Result	Units	PQL	MDL	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	**0.96**	**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)	100	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	92.4	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/16/16	06/16/16 19:47	IO1	MS-V12	1	BZF1102

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1616578-04 | **Client Sample Name:** 7124, MW-3-W-160615, 6/15/2016 7:15:00AM

Constituent	Result	Units	PQL	MDL	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)	96.1	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/20/16	06/20/16 19:33	AKM	GC-V9	1	BZF1288

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Gas Testing in Water

BCL Sample ID: 1616578-04 | **Client Sample Name:** 7124, MW-3-W-160615, 6/15/2016 7:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.035**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/28/16	06/28/16 10:34	JH2	GC-V1	1	BZF2287

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Water Analysis (General Chemistry)

BCL Sample ID: 1616578-04 | **Client Sample Name:** 7124, MW-3-W-160615, 6/15/2016 7:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**280**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44		EPA-300.0	ND		2
Sulfate	**7.4**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	**1400**	**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	**1.8**	**mg/L**	**1.0**		**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/20/16	06/20/16 09:55	RML	MET-1	1	BZF1602
2	EPA-300.0	06/16/16	06/16/16 14:15	EMW	IC1	1	BZF1398
3	SM-3500-FeD	06/16/16	06/16/16 17:13	RCC	KONE-1	1	BZF1629
4	EPA-353.2	06/16/16	06/16/16 10:23	RCC	KONE-1	1	BZF1438
5	SM-4500SD	06/20/16	06/20/16 09:00	DIW	SPEC06	1	BZF1671
6	EPA-415.1	06/16/16	06/17/16 09:10	ALW	TOC2	1	BZF1405

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Metals Analysis

BCL Sample ID: 1616578-04 | **Client Sample Name:** 7124, MW-3-W-160615, 6/15/2016 7:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**6000**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/16/16	06/27/16 14:02	JCC	PE-OP3	1	BZF1452
2	EPA-6010B	06/20/16	06/21/16 18:54	JRG	PE-OP2	1	BZF1655

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1616578-05 | **Client Sample Name:** 7124, MW-4-W-160615, 6/15/2016 8:00:00AM

Constituent	Result	Units	PQL	MDL	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)	103	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	96.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	91.3	%	80 - 120 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/16/16	06/17/16 12:45	IO1	MS-V12	1	BZF1102

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Reported: 06/28/2016 18:31
Project: 7124
Project Number: 351638
Project Manager: Tamera Rogers

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 1616578-05 | **Client Sample Name:** 7124, MW-4-W-160615, 6/15/2016 8:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	**92**	**ug/L**	**50**		**EPA-8015B**	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	96.9	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	06/20/16	06/20/16 19:12	AKM	GC-V9	1	BZF1288

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Gas Testing in Water

BCL Sample ID: 1616578-05 | **Client Sample Name:** 7124, MW-4-W-160615, 6/15/2016 8:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Methane	**0.0016**	**mg/L**	**0.0010**		**RSK-175M**	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	RSK-175M	06/28/16	06/28/16 10:38	JH2	GC-V1	1	BZF2287

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Water Analysis (General Chemistry)

BCL Sample ID: 1616578-05 | **Client Sample Name:** 7124, MW-4-W-160615, 6/15/2016 8:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Alkalinity as CaCO3	**250**	**mg/L**	**4.1**		**EPA-310.1**	ND		1
Nitrate as NO3	ND	mg/L	0.44		EPA-300.0	ND		2
Sulfate	**26**	**mg/L**	**1.0**		**EPA-300.0**	ND		2
Iron (II) Species	**1200**	**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	A07	5
Non-Volatile Organic Carbon	**4.8**	**mg/L**	**1.0**		**EPA-415.1**	ND		6

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-310.1	06/20/16	06/20/16 10:01	RML	MET-1	1	BZF1602
2	EPA-300.0	06/16/16	06/16/16 14:32	EMW	IC1	1	BZF1398
3	SM-3500-FeD	06/16/16	06/16/16 17:13	RCC	KONE-1	1	BZF1629
4	EPA-353.2	06/16/16	06/16/16 10:23	RCC	KONE-1	1	BZF1438
5	SM-4500SD	06/20/16	06/20/16 09:00	DIW	SPEC06	5	BZF1671
6	EPA-415.1	06/16/16	06/17/16 09:24	ALW	TOC2	1	BZF1405

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Metals Analysis

BCL Sample ID: 1616578-05 | **Client Sample Name:** 7124, MW-4-W-160615, 6/15/2016 8:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Dissolved Iron	ND	ug/L	50		EPA-6010B	ND		1
Total Manganese	**1800**	**ug/L**	**10**		**EPA-6010B**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	06/16/16	06/27/16 14:04	JCC	PE-OP3	1	BZF1452
2	EPA-6010B	06/20/16	06/21/16 18:57	JRG	PE-OP2	1	BZF1655

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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BZF1102						
Benzene	BZF1102-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BZF1102-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BZF1102-BLK1	ND	ug/L	0.50		
Ethylbenzene	BZF1102-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BZF1102-BLK1	ND	ug/L	0.50		
Toluene	BZF1102-BLK1	ND	ug/L	0.50		
Total Xylenes	BZF1102-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BZF1102-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BZF1102-BLK1	ND	ug/L	10		
Diisopropyl ether	BZF1102-BLK1	ND	ug/L	0.50		
Ethanol	BZF1102-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BZF1102-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	**BZF1102-BLK1**	**105**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BZF1102-BLK1**	**94.7**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BZF1102-BLK1**	**98.0**	%	**80 - 120 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 8260B)

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: BZF1102										
Benzene	BZF1102-BS1	LCS	19.530	25.000	ug/L	78.1		70 - 130		
Toluene	BZF1102-BS1	LCS	21.790	25.000	ug/L	87.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BZF1102-BS1	LCS	11.100	10.000	ug/L	111		75 - 125		
Toluene-d8 (Surrogate)	BZF1102-BS1	LCS	10.000	10.000	ug/L	100		80 - 120		
4-Bromofluorobenzene (Surrogate)	BZF1102-BS1	LCS	9.4400	10.000	ug/L	94.4		80 - 120		

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Volatile Organic Analysis (EPA Method 8260B)

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: BZF1102	Used client sample: N										
Benzene	MS	1612122-94	ND	23.410	25.000	ug/L		93.6		70 - 130	
	MSD	1612122-94	ND	22.040	25.000	ug/L	6.0	88.2	20	70 - 130	
Toluene	MS	1612122-94	ND	25.580	25.000	ug/L		102		70 - 130	
	MSD	1612122-94	ND	25.130	25.000	ug/L	1.8	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1612122-94	ND	11.480	10.000	ug/L		115		75 - 125	
	MSD	1612122-94	ND	11.110	10.000	ug/L	3.3	111		75 - 125	
Toluene-d8 (Surrogate)	MS	1612122-94	ND	9.9300	10.000	ug/L		99.3		80 - 120	
	MSD	1612122-94	ND	9.6600	10.000	ug/L	2.8	96.6		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1612122-94	ND	9.6900	10.000	ug/L		96.9		80 - 120	
	MSD	1612122-94	ND	9.8200	10.000	ug/L	1.3	98.2		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: BZF1288						
Gasoline Range Organics (C6 - C12)	BZF1288-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	**BZF1288-BLK1**	**103**	%	**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: BZF1288										
Gasoline Range Organics (C6 - C12)	BZF1288-BS1	LCS	920.94	1000.0	ug/L	92.1		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BZF1288-BS1	LCS	42.163	40.000	ug/L	105		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: BZF1288	Used client sample: N										
Gasoline Range Organics (C6 - C12)	MS	1616196-01	ND	878.72	1000.0	ug/L		87.9		70 - 130	
	MSD	1616196-01	ND	1061.9	1000.0	ug/L	18.9	106	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1616196-01	ND	41.944	40.000	ug/L		105		70 - 130	
	MSD	1616196-01	ND	40.163	40.000	ug/L	4.3	100		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: BZF2287						
Methane	BZF2287-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: BZF2287										
Methane	BZF2287-BS1	LCS	0.011065	0.010843	mg/L	102		80 - 120		
	BZF2287-BSD1	LCSD	0.011245	0.010843	mg/L	104	1.6	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: BZF1398						
Nitrate as NO3	BZF1398-BLK1	ND	mg/L	0.44		
Sulfate	BZF1398-BLK1	ND	mg/L	1.0		
QC Batch ID: BZF1405						
Non-Volatile Organic Carbon	BZF1405-BLK1	ND	mg/L	1.0		
QC Batch ID: BZF1438						
Nitrite as NO2	BZF1438-BLK1	ND	mg/L	0.17		
QC Batch ID: BZF1602						
Total Alkalinity as CaCO3	BZF1602-BLK1	ND	mg/L	4.1		
QC Batch ID: BZF1629						
Iron (II) Species	BZF1629-BLK1	ND	ug/L	100		
QC Batch ID: BZF1671						
Total Sulfide	BZF1671-BLK1	ND	mg/L	0.10		

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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: BZF1398										
Nitrate as NO3	BZF1398-BS1	LCS	21.103	22.134	mg/L	95.3		90 - 110		
Sulfate	BZF1398-BS1	LCS	95.047	100.00	mg/L	95.0		90 - 110		
QC Batch ID: BZF1405										
Non-Volatile Organic Carbon	BZF1405-BS1	LCS	5.2740	5.0000	mg/L	105		85 - 115		
QC Batch ID: BZF1438										
Nitrite as NO2	BZF1438-BS1	LCS	1.6057	1.6425	mg/L	97.8		90 - 110		
QC Batch ID: BZF1602										
Total Alkalinity as CaCO3	BZF1602-BS3	LCS	106.04	100.00	mg/L	106		90 - 110		
QC Batch ID: BZF1629										
Iron (II) Species	BZF1629-BS1	LCS	2627.3	2500.0	ug/L	105		90 - 110		
QC Batch ID: BZF1671										
Total Sulfide	BZF1671-BS1	LCS	0.51378	0.50000	mg/L	103		90 - 110		

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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: BZF1398	Used client sample: N										
Nitrate as NO3	DUP	1616580-01	44.427	46.127		mg/L	3.8		10		
	MS	1616580-01	44.427	90.137	44.715	mg/L		102		80 - 120	
	MSD	1616580-01	44.427	90.342	44.715	mg/L	0.2	103	10	80 - 120	
Sulfate	DUP	1616580-01	392.77	392.57		mg/L	0.0		10		
	MS	1616580-01	392.77	588.15	202.02	mg/L		96.7		80 - 120	
	MSD	1616580-01	392.77	589.35	202.02	mg/L	0.2	97.3	10	80 - 120	
QC Batch ID: BZF1405	Used client sample: N										
Non-Volatile Organic Carbon	DUP	1616563-02	0.94200	ND		mg/L			10		
	MS	1616563-02	0.94200	6.0482	5.0251	mg/L		102		80 - 120	
	MSD	1616563-02	0.94200	6.0894	5.0251	mg/L	0.7	102	10	80 - 120	
QC Batch ID: BZF1438	Used client sample: Y - Description: MW-1-W-160615, 06/15/2016 05:50										
Nitrite as NO2	DUP	1616578-02	ND	ND		mg/L			10		
	MS	1616578-02	ND	1.7176	1.7289	mg/L		99.3		90 - 110	
	MSD	1616578-02	ND	1.7215	1.7289	mg/L	0.2	99.6	10	90 - 110	
QC Batch ID: BZF1602	Used client sample: Y - Description: MW-1-W-160615, 06/15/2016 05:50										
Total Alkalinity as CaCO3	DUP	1616578-02	166.74	165.98		mg/L	0.5		10		
QC Batch ID: BZF1629	Used client sample: Y - Description: MW-1-W-160615, 06/15/2016 05:50										
Iron (II) Species	DUP	1616578-02	ND	ND		ug/L			10		
QC Batch ID: BZF1671	Used client sample: N										
Total Sulfide	DUP	**1616563-02**	**ND**	**ND**		**mg/L**			**10**		
	MS	**1616563-02**	**ND**	**0.39006**	**0.50000**	**mg/L**		**78.0**		**80 - 120**	**Q03**
	MSD	**1616563-02**	**ND**	**0.38855**	**0.50000**	**mg/L**	**0.4**	**77.7**	**10**	**80 - 120**	**Q03**

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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: BZF1452						
Dissolved Iron	BZF1452-BLK1	ND	ug/L	50		
QC Batch ID: BZF1655						
Total Manganese	BZF1655-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: BZF1452										
Dissolved Iron	BZF1452-BS1	LCS	1065.6	1000.0	ug/L	107		85 - 115		
QC Batch ID: BZF1655										
Total Manganese	BZF1655-BS1	LCS	484.35	500.00	ug/L	96.9		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: BZF1452	Used client sample: N										
Dissolved Iron	DUP	1616437-01	ND	ND		ug/L			20		
	MS	1616437-01	ND	1004.8	1020.4	ug/L		98.5		75 - 125	
	MSD	1616437-01	ND	1080.7	1020.4	ug/L	7.3	106	20	75 - 125	
QC Batch ID: BZF1655	Used client sample: N										
Total Manganese	DUP	1616577-02	1834.6	1792.0		ug/L	2.4		20		
	MS	1616577-02	1834.6	2215.8	500.00	ug/L		76.2		75 - 125	
	MSD	1616577-02	1834.6	2298.8	500.00	ug/L	3.7	92.8	20	75 - 125	

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Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
Q03	Matrix spike recovery(s) is(are) not within the control limits.