



Carryl MacLeod
Project Manager, Marketing Business Unit

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Second Quarter 2018 Semi-annual Groundwater Monitoring Report
Former Chevron Service Station No. 376584
670 98th Avenue
Oakland, California
ACDEH Case No. RO0379
GeoTracker Global ID: T0600101442

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document submitted on my behalf to the State Water Board's GeoTracker website.

Sincerely,

A handwritten signature in blue ink that reads "Carryl MacLeod".

Carryl MacLeod
Project Manager

Report Title	Sample Period	PDF Report	GEO_MAPS	Sample ID	Matrix	GeO_Z	GEO_XY	GEO_BORE	GEO_WELL	EDF
376584 2018-08-14 2Q18 GWM Report	2018 Q2	X		MW-1	W				X	X
				MW-2	W				X	X
				MW-3	W				X	X
				MW-4	W				X	X
				MW-5	W				X	X
				Well-18	W				X	X



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August 14, 2018

Ms. Karel Detterman
Alameda County Environmental Health Department
1131 Harbor Bay Parkway
Alameda, California 94602
(via electronic upload)

**Subject: Second Quarter 2018 Semiannual Groundwater Monitoring Report
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue, Oakland, California
ACEHD Case No. RO0000379**

Dear Ms. Detterman:

On behalf of Chevron Environmental Management Company (Chevron), AECOM is pleased to present this second quarter 2018 semiannual groundwater monitoring report for the above-referenced site.

Future Work

The next groundwater monitoring event is scheduled to be conducted during the fourth quarter of 2018, during which all wells will be gauged and sampled.

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 Brenda Evans at (805) 233-3988.

Sincerely,

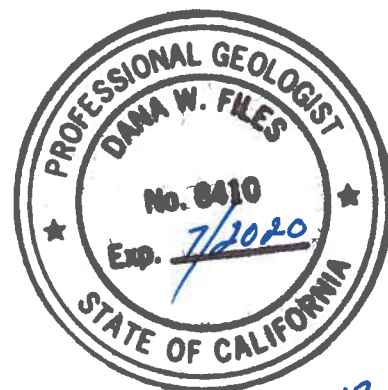
Brenda Evans
Senior Project Manager

Dana Files, PG #8410
Project Geologist

ccs: Carryl MacLeod, Chevron (via electronic copy)
Linda Hothem, Linda Hothem Trust (via email)
Roslyn Danforth, c/o Rocklin Industries (via paper copy)
City of Oakland Department of Public Works, c/o Mark Arniola (via email)

Enclosures:

- Attachment A - Groundwater Monitoring 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



8-14-18

ATTACHMENT A

**GROUNDWATER
MONITORING SUMMARY**

Second Quarter 2018 Semiannual Groundwater Monitoring Summary

Chevron Site No. 376584 (Former Union Oil Service Station 2720)

670 98th Avenue, Oakland, California

CURRENT FIELD ACTIVITIES

Groundwater monitoring frequency:	Quarterly
Activity date:	June 29, 2018
Groundwater monitoring subcontractor:	Gettler-Ryan Inc. (G-R)
Number of groundwater wells total:	6
Number of groundwater wells off-site:	4
Number of wells sampled (this period):	6
Number of wells with LNAPL ¹ (this period):	0
LNAPL recovered during this period (gallons):	None

SITE HYDROLOGY

Groundwater elevation range (feet above mean sea level) (this period):	7.83 to 8.32
Depth to water range (feet below top of well casings)	7.94 (Well-18) to 10.16 (MW-4)
Approximate groundwater flow direction (this period):	West-southwest
Approximate hydraulic gradient (feet per foot) (this period):	0.002

GROUNDWATER CONDITIONS

Maximum detected TPH-GRO concentration (this period):	300 µg/L (MW-1)
Historical maximum detected TPH-GRO concentration:	2,940,000 µg/L (MW-1) on 10/4/1990
Maximum detected TPH-DRO concentration (this period):	210 µg/L (MW-1)
Historical maximum detected TPH-DRO concentration:	17,000 µg/L (Well-18) on 2/14/1990
Maximum detected TPH-DRO w/SGC concentration (this period):	120 µg/L (MW-1)
Historical maximum detected TPH-DRO w/SGC concentration:	920 µg/L (MW-1) on 6/24/2016
Maximum detected benzene concentration (this period):	Not detected
Historical maximum detected benzene concentration:	7,780 µg/L (MW-1) on 10/4/1990
Maximum detected MTBE concentration (this period):	Not detected
Historical maximum detected MTBE concentration:	Not detected

(1) Light non-aqueous phase liquid

Second Quarter 2018 Semiannual Groundwater Monitoring Summary

Chevron Site No. 376584 (Former Union Oil Service Station 2720)

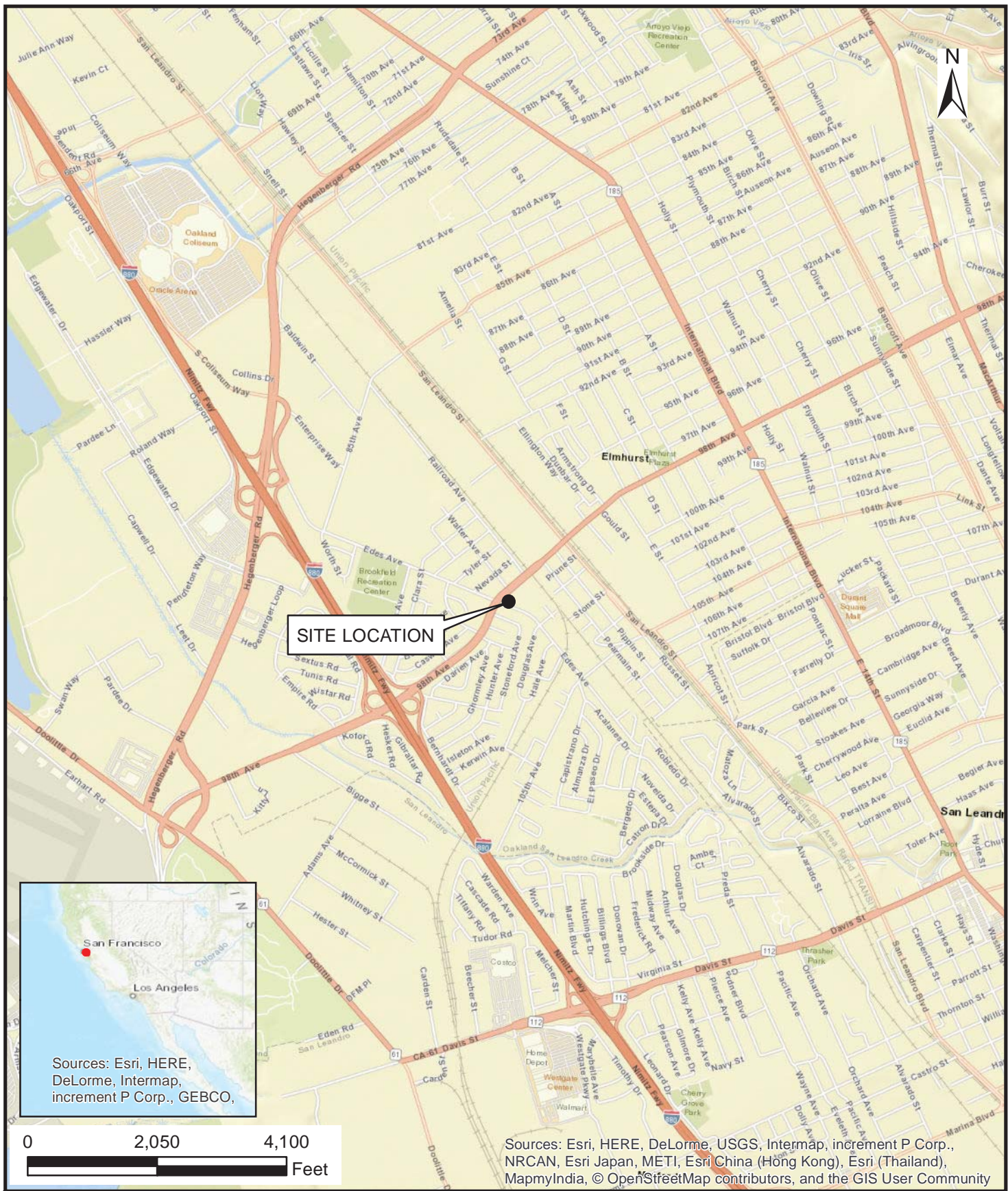
670 98th Avenue, Oakland, California

GROUNDWATER TRENDS AND OBSERVATIONS

- Groundwater flow direction during the second quarter 2018 monitoring event is to the west-southwest.
- Total petroleum hydrocarbons as gasoline-range organics (TPH-GRO) were detected in two of six groundwater samples collected from the wells sampled during this period. The maximum TPH-GRO concentration (300 µg/L) was in the groundwater sample collected from MW-1.
- Total petroleum hydrocarbons-diesel range organics (TPH-DRO) were detected in three of six groundwater samples collected from the wells sampled during this period. The maximum TPH-DRO concentration (210 µg/L) was in the groundwater sample collected from MW-1.
- TPH-DRO with silica gel cleanup was detected in one of six groundwater samples collected from the wells sampled during this period, 120 µg/L from MW-1.
- Benzene, toluene, ethylbenzene, total xylenes, MTBE, and naphthalene concentrations were not detected in groundwater samples collected during this period.

ATTACHMENT B

FIGURES



SITE LOCATION



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO,

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



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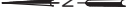
SITE LOCATION MAP

Chevron Site No. 376584
 (Former Union Oil Service Station 2720)
 670 98th Avenue
 Oakland, California

FIGURE NUMBER:

1

DRAWN BY:	DATE:	PROJECT NUMBER:	SHEET NUMBER:
T. Quiroz	07/25/2018	60580698	1 of 1



- LEGEND**
- CHEVRON SITE NO. 376584 PROPERTY BOUNDARY
 - - - - - 100 --- CONTOUR OF TPH-GRO CONCENTRATIONS IN MICROGRAMS PER LITER (DASHED WHERE INFERRER)
 - - - - - FORMER RICHFIELD SERVICE STATION PROPERTY BOUNDARY (692 98TH AVENUE)
 - MONITORING WELL (2/9/1990 BY SCI)
 - TPH-GRO TOTAL PETROLEUM HYDROCARBONS-GASOLINE RANGE ORGANICS
 - (#) TPH-GRO CONCENTRATION IN MICROGRAMS PER LITER
 - NOTE: BASE MAP FROM GOOGLE EARTH PRO
 - ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY DETECTION LIMIT

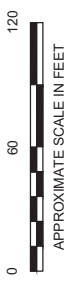


FIGURE NUMBER	5
SHEET NUMBER	1 of 1

SCALE	1" = 60'
DATE	07/30/2018
PROJECT NUMBER	60580698
TPH-GRO CONCENTRATION MAP CHEVRON SITE NO. 376584 (FORMER UNION OIL SERVICE STATION 2720) 670 98th AVENUE OAKLAND, CALIFORNIA	

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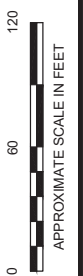
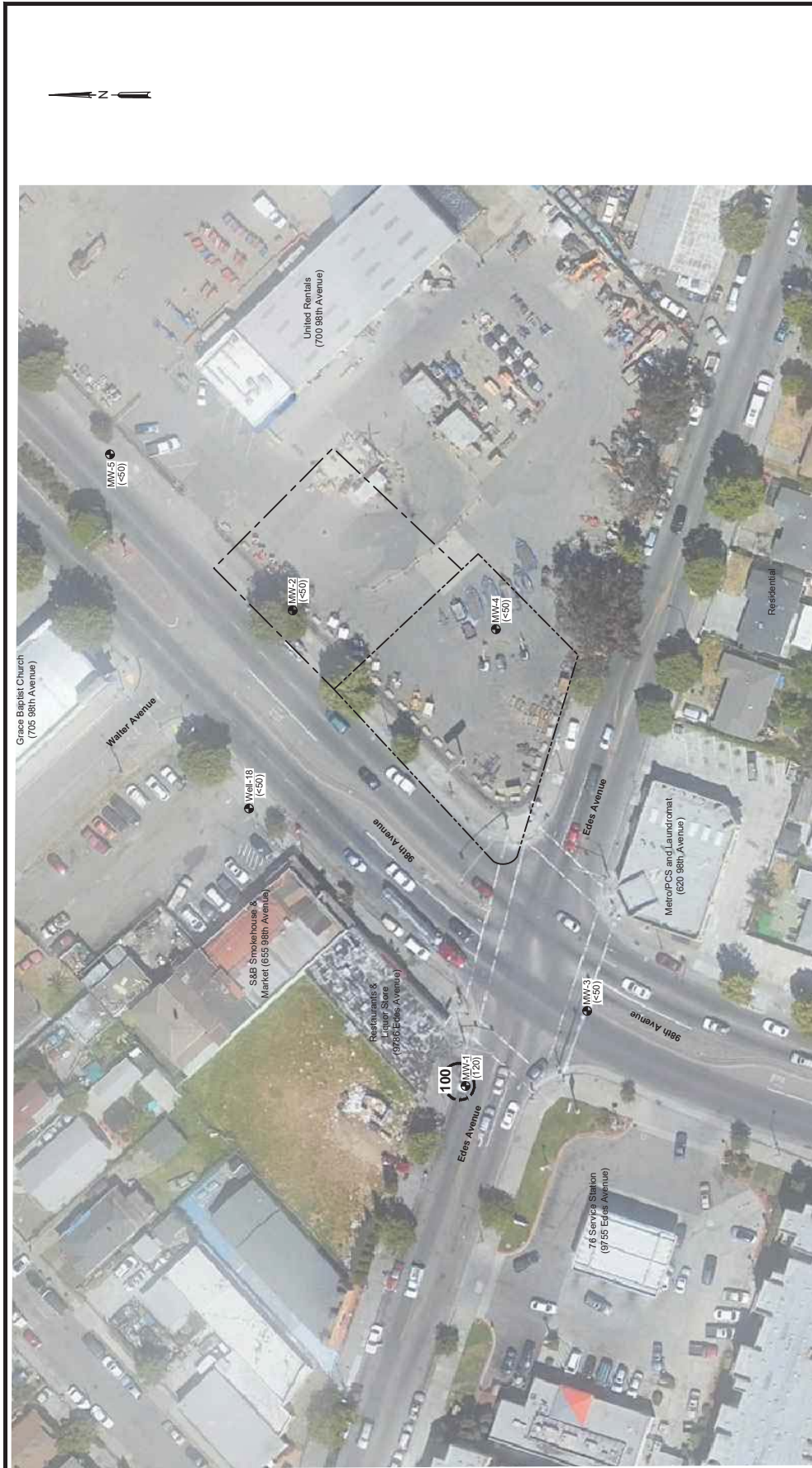
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APPROVED BY	BE		

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SCALE:	DATE:	1" = 60'
PROJECT NUMBER:	07/30/2018	60580698
TPH-DRO W/SGC CONCENTRATION MAP SECOND QUARTER 2018 CHEVRON SITE NO. 376584 (FORMER UNION OIL SERVICE STATION 2720) 670 98th AVENUE OAKLAND, CALIFORNIA		

FIGURE NUMBER:	6
SHEET NUMBER:	1 of 1



LEGEND

- CHEVRON SITE NO. 376584 PROPERTY BOUNDARY
- FORMER RICHFIELD SERVICE STATION PROPERTY BOUNDARY (692 98TH AVENUE)
- MONITORING WELL (2/9/1990 BY SCI)
- TPH-DRO TOTAL PETROLEUM W/SGC HYDROCARBONS/DIESEL RANGE ORGANICS WITH SILICA GEL CLEANUP (#) TPH-DRO W/SGC CONCENTRATION IN MICROGRAMS PER LITER
- 100 --- CONTOUR OF TPH-DRO W/SGC CONCENTRATIONS IN MICROGRAMS PER LITER (DASHED WHERE INFERRED)
- (<#) ANALYTE NOT DETECTED AT OR ABOVE INDICATED LABORATORY DETECTION LIMIT
- NOTE: BASE MAP FROM GOOGLE EARTH PRO

ATTACHMENT C

TABLES

Table 1
Summary of Well Construction Details
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE INSTALLED	TOTAL DEPTH (ft bgs)	BOREHOLE DIAMETER (inches)	WELL CASING DIAMETER (inches)	SCREENED INTERVAL (ft bgs)	SLOT SIZE (inches)	TOP OF CASING ELEVATION (ft amsl)	COMMENTS
MW-1	2/7/1990	19.30	8	2	6-21	0.020	16.18	
MW-2	2/7/1990	27.50	8	2	9-27.5	0.020	16.50	
MW-3	2/8/1990	22.30	8	2	7-22	0.020	16.54	
MW-4	2/8/1990	21.10	8	2	7.5-22.5	0.020	18.40	
MW-5	2/9/1990	22.00	8	2	7.5-22.5	0.020	17.35	
Well-18	2/9/1990	16.55	8	2	6-16	0.020	15.97	

Notes:

Well data were obtained from Subsurface Consultants' borelogs and State Water Resources Control Board's GeoTracker database.
ft bgs = feet below ground surface
ft amsl = feet above mean sea level
ID = Identification

Table 2
Current Groundwater Monitoring Data and Analytical Results
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-DRO w/SGC (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	16.18	6/29/2018	8.35	7.83	0	300	210	120	<0.5	<0.5	<0.5	<0.5	
MW-2	16.50	6/29/2018	8.20	8.30	0	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	
MW-3	16.54	6/29/2018	8.58	7.96	0	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	
MW-4	18.40	6/29/2018	10.16	8.24	0	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	
MW-5	17.35	6/29/2018	9.03	8.32	0	<50	55 J	<50	<0.5	<0.5	<0.5	<0.5	
Well-18	15.97	6/29/2018	7.94	8.03	0	120	82 J	<50	<0.5	<0.5	<0.5	<0.5	
QA	--	6/29/2018	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<0.5	

NOTES:

- * TOC and GWE are in feet above mean sea level.
- BTEX analyzed by Environmental Protection Agency (EPA) Method 8260B
- TPH-GRO and TPH-DRO analyzed by EPA Method 8015B
- <# = Analyte not detected at or above indicated laboratory detection limit
- µg/L = Micrograms per liter
- = Not available/not sampled
- B = Benzene
- DTW = Depth to water below TOC
- E = Ethylbenzene
- ft = Feet
- GWE = Groundwater elevation
- ID = Identification
- J = Laboratory estimated value
- LNAPL = Light non-aqueous phase liquid
- QA = Quality assurance/trip blank
- SGC = Silica gel cleanup
- T = Toluene
- TOC = Top of casing
- TPH-DRO = Total petroleum hydrocarbons-diesel range organics
- TPH-GRO = Total petroleum hydrocarbons-gasoline range organics
- X = Total xylenes

Table 3
Current Groundwater Analytical Results - Oxygenate Compounds
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	NAPHTHALENE (µg/L)
MW-1	6/29/2018	<0.5	<1
MW-2	6/29/2018	<0.5	<1
MW-3	6/29/2018	<0.5	<1
MW-4	6/29/2018	<0.5	<1
MW-5	6/29/2018	<0.5	<1
Well-18	6/29/2018	<0.5	<1
QA	6/29/2018	<0.5	--

NOTES:

Oxygenate compounds analyzed by Environmental Protection Agency
Method 8260B

µg/L = Micrograms per liter

-- = Not available/not sampled

ID = Identification

MTBE = Methyl tertiary butyl ether

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

QA = Quality assurance/trip blank

Table 4
Historical Groundwater Monitoring Data and Analytical Results
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-DRO w/SGC (µg/L)	KEROSENE (µg/L)	MOTOR OIL (µg/L)	TOTAL OIL & GREASE (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS	
MW-1	--	2/12/1990	--	--	--	55.1 ¹	100 ²	--	--	--	ND	60.8 ³	11.9 ³	ND ³	19.9 ³		
	16.19	3/1/1990	8.95	7.24	0	--	--	--	--	--	--	--	--	--	--		
	16.19	3/6/1990	8.55	7.64	0	--	--	--	--	--	--	--	--	--	--		
	16.19	3/23/1990	9.17	7.02	0	--	--	--	--	--	--	--	--	--	--		
	16.19	6/30/1990	9.56	6.63	0	950	<500	--	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.19	10/4/1990	10.23	5.96	0	2,940,000	<200	--	--	--	--	7,780	26,700	20,000	20,300		
	16.19	4/15/1993	8.47	7.73	0.01	--	--	--	--	--	--	--	--	--	--		
	16.19	5/24/1993	8.93	7.28	0.02	--	--	--	--	--	--	--	--	--	--		
	16.19	6/24/1993	8.85	7.34	0.005	--	--	--	--	--	--	--	--	--	--		
	16.19	3/31/1995	7.47	8.72	0	5,900	-- ⁴	--	2,300 ⁵	--	--	67	12	92	500		
	16.19	12/31/1996	6.41	9.78	0	14,000	10,000 ^{6,7}	--	--	--	--	130	<25	470	2,000		
	16.19	9/22/1997	8.86	7.33	0	2,000	<51	--	<51	<51	<51	350	<2.5	140	560		
	16.18	6/17/2016	8.43	7.75	0	--	--	920	--	--	--	--	--	--	--	--	Well re-developed
	16.18	6/24/2016	8.48	7.70	0	3,400	480	770	--	--	--	--	<0.5	<0.5	0.8	<0.5	Well surveyed
	16.18	12/21/2016**	7.32	8.86	0	2,100	1,100	770	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	16.18	6/29/2018	8.35	7.83	0	300	210	120	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
MW-2	--	2/13/1990	--	--	--	35.1 ¹	100 ²	--	--	--	ND	ND ³	ND ³	1.3 ³	4.0 ³		
	16.52	3/1/1990	8.85	7.67	0	--	--	--	--	--	--	--	--	--	--		
	16.52	3/6/1990	8.46	8.06	0	--	--	--	--	--	--	--	--	--	--		
	16.52	3/23/1990	9.02	7.50	0	--	--	--	--	--	--	--	--	--	--		
	16.52	6/30/1990	9.40	7.12	0	<500	<500	--	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.52	10/4/1990	9.80	6.72	0	52.8	<200	--	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.52	4/15/1993	8.31	8.21	0	<1,000	<1,000	--	--	--	--	<1	<1	<1	<1		
	16.52	5/24/1993	8.73	7.79	0	--	--	--	--	--	--	--	--	--	--		
	16.52	6/24/1993	8.63	7.89	0	--	--	--	--	--	--	--	--	--	--		
	16.52	3/31/1995	7.35	9.17	0	<50	<50	--	<50	--	--	<0.5	<0.5	<0.5	<0.5		
	16.52	12/31/1996	6.37	10.15	0	<50	200 ^{6,8}	--	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.52	9/22/1997	8.89	7.83	0	<50	<51	--	<51	<510	--	<0.5	<0.5	<0.5	<0.5		
	16.50	6/17/2016	8.28	8.22	0	--	--	--	--	--	--	--	--	--	--		
	16.50	6/24/2016	8.32	8.18	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.50	12/21/2016**	7.25	9.25	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5		
	16.50	6/29/2018	8.20	8.30	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5		
MW-3	--	2/13/1990	--	--	--	ND ¹	100 ²	--	--	--	ND	ND ³	ND ³	ND ³	2.9 ³		
	16.56	3/1/1990	9.17	7.39	0	--	--	--	--	--	--	--	--	--	--		
	16.56	3/6/1990	8.78	7.78	0	--	--	--	--	--	--	--	--	--	--		
	16.56	3/23/1990	9.35	7.21	0	--	--	--	--	--	--	--	--	--	--		
	16.56	6/30/1990	9.74	6.82	0	2,600	<500	--	--	--	--	<0.5	<0.5	<0.5	44		
	16.56	10/4/1990	10.17	6.39	0	42.9	<200	--	--	--	--	<0.5	<0.5	<0.5	8.5		
	16.56	4/15/1993	8.65	7.91	0	<1,000	<1,000	--	--	--	--	<1	<1	<1	<1		
	16.56	5/24/1993	9.10	7.46	0	--	--	--	--	--	--	--	--	--	--		
	16.56	6/24/1993	9.02	7.54	0	--	--	--	--	--	--	--	--	--	--		
	16.56	3/31/1995	7.67	8.89	0	1,600	-- ⁴	--	500 ⁵	--	--	<0.5	<0.5	<0.5	4.1		
	16.56	12/31/1996	6.62	9.94	0	380	620 ^{7,9}	--	--	--	--	<0.5	<0.5	<0.5	0.65		
	16.56	9/22/1997	9.08	7.48	0	61	<51	--	<51	<510	--	<0.5	<0.5	<0.5	<0.5		
	16.54	6/17/2016	8.62	7.92	0	--	--	--	--	--	--	--	--	--	--		

Table 4
Historical Groundwater Monitoring Data and Analytical Results
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-DRO w/SGC (µg/L)	KEROSENE (µg/L)	MOTOR OIL (µg/L)	TOTAL OIL & GREASE (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-4	16.54	6/24/2016	8.68	7.86	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5	Well surveyed
	16.54	12/21/2016**	7.60	8.94	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5	
	16.54	6/29/2018	8.58	7.96	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5	
	--	2/13/1990	--	--	--	ND ¹	ND ²	--	--	--	ND	ND ³	ND ³	ND ³	ND ³	
	17.71	3/1/1990	9.98	7.73	0	--	--	--	--	--	--	--	--	--	--	
	17.71	3/6/1990	9.60	8.11	0	--	--	--	--	--	--	--	--	--	--	
	17.71	3/23/1990	10.20	7.51	0	--	--	--	--	--	--	--	--	--	--	
	17.71	6/30/1990	10.57	7.14	0	<500	<500	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	17.71	10/4/1990	10.98	6.73	0	<20	<200	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	17.71	4/15/1993	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	
	17.71	5/24/1993	9.88	7.83	0	<1,000	<1,000	--	--	--	--	<1	<1	<1	<1	
	17.71	6/24/1993	9.78	7.93	0	--	--	--	--	--	--	--	--	--	--	Well inaccessible
	17.71	3/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	
	17.71	12/31/1996	8.15	9.56	0	790	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	17.71	9/22/1997	10.59	7.12	0	<50	<50	--	<50	<500	--	<0.5	<0.5	<0.5	<0.5	
	18.40	6/17/2016	10.18	8.22	0	--	--	--	--	--	--	--	--	--	--	Well re-developed
	18.40	6/24/2016	10.25	8.15	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5	Well surveyed
	18.40	12/21/2016**	9.20	9.20	0	51	<50	180	--	--	--	<0.5	<0.5	<0.5	<0.5	
18.40	6/29/2018	10.16	8.24	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5		
MW-5	--	2/13/1990	--	--	--	ND ¹	ND ²	--	--	--	ND	ND ³	ND ³	ND ³	ND ³	
	--	3/1/1990	9.61	--	0	--	--	--	--	--	--	--	--	--	--	
	--	3/6/1990	9.23	--	0	--	--	--	--	--	--	--	--	--	--	
	--	3/23/1990	9.80	--	0	--	--	--	--	--	--	--	--	--	--	
	--	6/30/1990	10.17	--	0	<500	<500	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	--	10/4/1990	10.59	--	0	<20	<200	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	--	3/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	Well inaccessible
	--	12/31/1996	7.18	--	0	<50	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
	--	9/22/1997	9.48	--	0	<50	<51	--	<51	<510	--	<0.5	<0.5	<0.5	<0.5	
	17.35	6/17/2016	9.08	8.27	0	--	--	--	--	--	--	--	--	--	--	Well re-developed
	17.35	6/24/2016	9.12	8.23	0	<50	<50	95	--	--	--	<0.5	<0.5	<0.5	<0.5	Well surveyed
	17.35	12/21/2016**	8.05	9.30	0	<50	<50	<50	--	--	--	<0.5	<0.5	<0.5	<0.5	
17.35	6/29/2018	9.03	8.32	0	<50	55 J	<50	--	--	--	<0.5	<0.5	<0.5	<0.5		
Well-18	--	2/13/1990	--	--	--	134,000 ¹	17,000 ²	--	--	--	120,000	3,730 ³	8,920 ³	5,430 ³	22,500 ³	
	15.97	3/1/1990	8.53	7.44	0	--	--	--	--	--	--	--	--	--	--	
	15.97	3/6/1990	8.11	7.86	0	--	--	--	--	--	--	--	--	--	--	
	15.97	3/23/1990	8.73	7.24	0	--	--	--	--	--	--	--	--	--	--	
	15.97	6/30/1990	9.11	6.86	0	26,000	2,400	--	--	--	--	660	470	180	2,000	
	15.97	10/4/1990	9.50	6.47	0	4,900	<200	--	--	--	--	82	40	190	635	
	15.97	4/15/1993	8.06	7.91	0	7,000	10,000 ⁵	--	--	--	--	440	340	180	1,600	
	15.97	5/24/1993	8.49	7.48	0	--	--	--	--	--	--	--	--	--	--	
	15.97	6/24/1993	8.40	7.57	0	--	--	--	--	--	--	--	--	--	--	
	15.97	3/31/1995	7.09	8.88	0	11,000	-- ⁴	--	1,900	--	--	190	10	350	1,300	
	15.97	12/31/1996	6.01	9.96	0	18,000	<50	--	--	--	--	110 ¹⁰	2.3 ¹⁰	100 ¹⁰	230 ¹⁰	
	15.97	9/22/1997	8.45	7.52	0	190	<51	--	<51	<510	--	8.5	<0.5	4.8	7.4	

Table 4
Historical Groundwater Monitoring Data and Analytical Results
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL			TPH-DRO (µg/L)	TPH-DRO w/SGC (µg/L)	KEROSENE (µg/L)	MOTOR OIL (µg/L)	TOTAL OIL & GREASE (µg/L)		T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
					THICKNESS (ft)	TPH-GRO (µg/L)	B					X					
15.97	7.94	6/17/2016	8.03	7.94	0	--	--	--	--	--	--	--	--	--	--	--	Well re-developed
15.97	7.92	6/24/2016	8.05	7.92	0	890	120	96	96	--	--	--	--	<0.5	1	<0.5	Well surveyed
15.97	8.99	12/21/2016**	6.98	8.99	0	180	66	93	93	--	--	--	--	<0.5	<0.5	<0.5	
15.97	8.03	6/29/2018	7.94	8.03	0	120	82 J	<50	<50	--	--	--	--	<0.5	<0.5	<0.5	
WP1-W	--	9/23/1997	--	--	--	<50	<50	--	<500	<50	<500	--	--	<0.5	<0.5	<0.5	Grab sample
WP2-W	--	9/22/1997	--	--	--	<50	<53	--	<530	<53	<530	--	--	<0.5	<0.5	<0.5	Grab sample
WP3-W	--	9/22/1997	--	--	--	<50	<51	--	<510	<51	<510	--	--	<0.5	<0.5	<0.5	Grab sample
WP5-W	--	9/22/1997	--	--	--	76	<54	--	<540	<54	<540	--	--	<0.5	<0.5	<0.5	Grab sample
WP6-W	--	9/22/1997	--	--	--	<50	<54	--	<540	<54	<540	--	--	<0.5	<0.5	<0.5	Grab sample
WP7-W	--	9/24/1997	--	--	--	410	<51	--	<510	<51	<510	--	13	58	13	81	Grab sample
WP8-W	--	9/24/1997	--	--	--	8,600	<51	--	<510	<51	<510	--	16	1.4	16	1.8	Grab sample
WP9-W	--	9/23/1997	--	--	--	<50	140 ¹¹	--	<500	<50	<500	--	<0.5	<0.5	<0.5	1	Grab sample
WP10-W	--	9/23/1997	--	--	--	<50	<50	--	<500	<50	<500	--	<0.5	<0.5	<0.5	<0.5	Grab sample
WP11-W	--	9/23/1997	--	--	--	<50	<53	--	<530	<53	<530	--	<0.5	<0.5	<0.5	<0.5	Grab sample
WP12-W	--	9/23/1997	--	--	--	980	<51	--	<510	<51	<510	--	110	110	110	320	Grab sample
WP13-W	--	9/24/1997	--	--	--	<50	<51	--	<510	<51	<510	--	<0.5	<0.5	<0.5	<0.5	Grab sample
WP14-W	--	9/23/1997	--	--	--	<50	<56	--	<560	<56	<560	--	<0.5	<0.5	<0.5	<0.5	Grab sample
QA	--	4/15/1993	--	--	--	<1,000	<1,000	--	--	--	--	--	<1	<1	<1	<1	
--	--	3/31/1995	--	--	--	<50	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
--	--	9/22/1997	--	--	--	<50	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
--	--	6/24/2016	--	--	--	<50	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
--	--	12/21/2016	--	--	--	<50	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	
--	--	6/29/2018	--	--	--	<50	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	

Table 4
Historical Groundwater Monitoring Data and Analytical Results
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

NOTES:

* TOC and GWE are in feet above mean sea level.
 ** = No groundwater monitoring was conducted in 2017 due to access issues with the well owner (City of Oakland).

µg/L = Micrograms per liter

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

-- = Not available/not sampled

B = Benzene

bgs = Below ground surface

DTW = Depth to water below TOC

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

J = Laboratory estimated value

LNAPL = Light non-aqueous phase liquid

ND = Not detected (reporting limit not available in source document: "Soil and groundwater contamination assessment, Phase 2," April 10, 1990, by Subsurface Consultants, Inc.)

QA = Quality assurance/trip blank

SGC = Silica gel cleanup

T = Toluene

TOC = Top of casing

TPH-DRO = Total petroleum hydrocarbons-diesel range organics

TPH-GRO = Total petroleum hydrocarbons-gasoline range organics

X = Total xylenes

¹ Total volatile hydrocarbons by EPA Methods 5030/8015M (source: "Soil and Groundwater Contamination Assessment, Phase 2," April 10, 1990, by Subsurface Consultants, Inc.)

² Total extractable hydrocarbons by EPA Methods 3550/8015M (source: "Soil and Groundwater Contamination Assessment, Phase 2," April 10, 1990, by Subsurface Consultants, Inc.)

³ Purgeable aromatics by EPA Methods 5030/8020 (source: "Soil and Groundwater Contamination Assessment, Phase 2," April 10, 1990, by Subsurface Consultants, Inc.)

⁴ Diesel range not reported by laboratory due to overlap of hydrocarbon ranges (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁵ Laboratory reports that sample chromatogram does not resemble diesel standard (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁶ Laboratory reports that hydrocarbon reported does not resemble diesel standard (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁷ Laboratory estimated value due to overlapping fuel patterns (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁸ Laboratory reports hydrocarbon is in late diesel range (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁹ Laboratory reports hydrocarbon is in early diesel range (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

¹⁰ Surrogate recovery was outside of laboratory QA/QC limits due to sample interference (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

¹¹ Laboratory reports that compound is in the diesel range but its chromatogram does not have a pattern characteristic of petroleum hydrocarbons (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

Table 5
Historical Groundwater Analytical Results - Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	n-BUTYL- BENZENE (µg/L)	sec-BUTYL- BENZENE (µg/L)	CHLOROFORM (µg/L)	1,2-DICHLORO ETHANE (µg/L)	ISOPROPYL- BENZENE (µg/L)	NAPHTHALENE (µg/L)	n-PROPYL BENZENE (µg/L)	TETRACHLORO ETHENE (µg/L)	TRICHLORO ETHENE (µg/L)
MW-1	2/12/1990	--	--	--	--	ND ²	--	--	--	--	2.4 ²	11.8 ²
	6/30/1990	--	--	--	--	<1	--	--	--	--	2.8	13
	10/4/1990	--	--	--	--	<2,500	--	--	--	--	<2,500	<2,500
	3/31/1995	--	--	--	--	<10	--	--	--	--	<10	<10
	12/31/1996	--	--	--	--	<2	--	--	--	--	<0.5	0.9
	9/22/1997	--	--	--	--	<3	--	--	--	--	1.8	5.6
	6/24/2016	<0.5	<5	27	18	<0.5	<0.5	15	7	55	<0.5	<0.5
12/21/2016	<0.5	<5	18	13	<0.5	<0.5	10	5	34	<0.5	<0.5	
6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--	--
MW-2	2/13/1990	--	--	--	--	ND ²	--	--	--	--	8.5 ²	25.1 ²
	6/30/1990	--	--	--	--	<1	--	--	--	--	16	35
	10/4/1990	--	--	--	--	<0.5	--	--	--	--	6.8	18.7
	4/15/1993	--	--	--	--	<1	--	--	--	--	<1	14
	3/31/1995	--	--	--	--	<1	--	--	--	--	22	46
	12/31/1996	--	--	--	--	<2	--	--	--	--	3.5	7.6
	9/22/1997	--	--	--	--	<3	--	--	--	--	6.3	12
	6/24/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	<1	<1	2	2
	12/21/2016	<0.5	<5	<1	<1	<0.5	0.6	<1	<1	<1	3	2
	6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--
MW-3	2/13/1990	--	--	--	--	ND ²	--	--	--	--	1.6 ²	21.7 ²
	6/30/1990	--	--	--	--	<1	--	--	--	--	6.2	26
	10/4/1990	--	--	--	--	<0.5	--	--	--	--	5.1	24.5
	4/15/1993	--	--	--	--	<1	--	--	--	--	<1	<1
	3/31/1995	--	--	--	--	<1	--	--	--	--	4.1	18
	12/31/1996	--	--	--	--	<2	--	--	--	--	1.5	8.8
	9/22/1997	--	--	--	--	<3	--	--	--	--	2.8	12
	6/24/2016	<0.5	<5	<1	<1	0.5	<0.5	<1	<1	<1	1	1
	12/21/2016	<0.5	<5	<1	<1	0.5	<0.5	<1	<1	<1	1	0.8
	6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--
MW-4	2/13/1990	--	--	--	--	ND ²	--	--	--	--	67.4 ²	2.4 ²
	6/30/1990	--	--	--	--	<1	--	--	--	--	260	3
	10/4/1990	--	--	--	--	7	--	--	--	--	95.5	2.8
	5/24/1993	--	--	--	--	<1	--	--	--	--	<1	<1
	12/31/1996	--	--	--	--	<2	--	--	--	--	310	0.7
	9/22/1997	--	--	--	--	<3	--	--	--	--	47	0.6
6/24/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	<1	<1	140	1	

Table 5
Historical Groundwater Analytical Results - Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	n-BUTYL- BENZENE (µg/L)	sec-BUTYL- BENZENE (µg/L)	CHLOROFORM (µg/L)	1,2-DICHLORO ETHANE (µg/L)	ISOPROPYL- BENZENE (µg/L)	NAPHTHALENE (µg/L)	n-PROPYL BENZENE (µg/L)	TETRACHLORO ETHENE (µg/L)	TRICHLORO ETHENE (µg/L)
	12/21/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	<1	<1	140	1
	6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--
MW-5	2/13/1990	--	--	--	--	ND ²	--	--	--	--	1.4 ²	1 ²
	6/30/1990	--	--	--	--	<1	--	--	--	--	2.1	<1
	10/4/1990	--	--	--	--	<0.5	--	--	--	--	0.7	<0.5
	12/31/1996	--	--	--	--	<2	--	--	--	--	3	<0.5
	9/22/1997	--	--	--	--	<3	--	--	--	--	1.9	<0.5
	6/24/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	<1	<1	<0.5	<0.5
	12/21/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	<1	<1	<0.5	<0.5
	6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--
Well-18	2/14/1990	--	--	--	--	ND ²	--	--	--	--	ND ²	ND ²
	6/30/1990	--	--	--	--	<10	--	--	--	--	<10	<10
	10/4/1990	--	--	--	--	<0.5	--	--	--	--	6	9
	4/15/1993	--	--	--	--	<1	--	--	--	--	<1	<1
	3/31/1995	--	--	--	--	<10	--	--	--	--	10	<10
	12/31/1996	--	--	--	--	<2	--	--	--	--	5.6	2.1
	9/22/1997	--	--	--	--	<3	--	--	--	--	11	4.8
	6/24/2016	<0.5	<5	1	<1	<0.5	0.6	4	5	5	2	2
	12/21/2016	<0.5	<5	<1	<1	<0.5	<0.5	<1	2	<1	1	1
	6/29/2018	<0.5	--	--	--	--	--	--	<1	--	--	--
WP1-W	9/23/1997	--	--	--	--	<3	--	--	--	--	8.1	<0.5
WP2-W	9/22/1997	--	--	--	--	<3	--	--	--	--	11	29 ³
WP3-W	9/22/1997	--	--	--	--	<3	--	--	--	--	29	6.6
WP5-W	9/22/1997	--	--	--	--	<3	--	--	--	--	15	10
WP6-W	9/22/1997	--	--	--	--	<3	--	--	--	--	12	12
WP7-W	9/24/1997	--	--	--	--	<3	--	--	--	--	3.2	3.3
WP8-W	9/24/1997	--	--	--	--	<3	--	--	--	--	<0.5	<0.5
WP9-W	9/23/1997	--	--	--	--	<3	--	--	--	--	<0.5	4

Table 5
Historical Groundwater Analytical Results - Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	n-BUTYL- BENZENE (µg/L)	sec-BUTYL- BENZENE (µg/L)	CHLOROFORM (µg/L)	1,2-DICHLORO ETHANE (µg/L)	ISOPROPYL- BENZENE (µg/L)	NAPHTHALENE (µg/L)	n-PROPYL BENZENE (µg/L)	TETRACHLORO ETHENE (µg/L)	TRICHLORO ETHENE (µg/L)
WP10-W	9/23/1997	--	--	--	--	<3	--	--	--	--	2.5	7.7
WP11-W	9/23/1997	--	--	--	--	<3	--	--	--	--	3.9	12
WP12-W	9/23/1997	--	--	--	--	<3	--	--	--	--	2.1	15 ³
WP13-W	9/24/1997	--	--	--	--	<3	--	--	--	--	1.7	7.1
WP14-W	9/23/1997	--	--	--	--	<3	--	--	--	--	2.6	18
QA	3/31/1995	--	--	--	--	<1	--	--	--	--	<1	<1
	9/22/1997 ⁴	--	--	--	--	7.9	--	--	--	--	<0.5	<0.5
	6/24/2016	<0.5	--	--	--	--	--	--	--	--	--	--
	12/21/2016	<0.5	--	--	--	--	--	--	--	--	--	--
	6/29/2018	<0.5	--	--	--	--	--	--	--	--	--	--

NOTES:

µg/L = Micrograms per liter

-- = Not available/not sampled

ID = Identification

MTBE = Methyl tertiary butyl ether

ND = Not detected, reporting limit unknown

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

QA = Quality assurance/trip blank

TBA = Tertiary butyl alcohol

¹ Environmental Protection Agency (EPA) Method 8010/601, except where noted (source: "Report on Groundwater Monitoring", December 22, 1997, by Baseline Environmental Consulting)

² Purgeable halocarbons by EPA Methods 5030/8010 (source: "Soil and Groundwater Contamination Assessment, Phase 2", April 10, 1990, by Subsurface Consultants, Inc.)

³ Value taken from EPA Method 8240 (source: "Report on Groundwater Monitoring", December 22, 1997, by Baseline Environmental Consulting)

⁴ Laboratory report that trichlorofluoromethane (0.0008 mg/L) was detected above laboratory reporting limits (source: "Report on Groundwater Monitoring", December 22, 1997, by Baseline Environmental Consulting)

Table 6
Historical Groundwater Analytical Results - Additional Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	TOTAL 1,2-			DIBROMO		TOTAL	
		1,1,-DICHLORO ETHENE (µg/L)	1,1-DICHLORO ETHANE (µg/L)	DICHLORO ETHENE (µg/L)	1,1,1-TRICHLORO ETHANE (µg/L)	CHLORO METHANE (µg/L)	CHLORINATED HYDROCARBONS (µg/L)	TOTAL LEAD (µg/L)
MW-1	2/12/1990	ND ²	ND ²	ND ²	5.1 ²	9 ²	--	--
	6/30/1990	<1	4.1	<1	8	<1	--	--
	10/4/1990	<2,500	<2,500	<2,500	<2,500	<2,500	--	--
	3/31/1995	<10	<10	<10	<10	<20	--	14
	12/31/1996	<0.5	1.5	1	<0.5	<0.5	3.4	--
9/22/1997	<0.5	1.5	1.1	1.9	<0.5	11.9	--	
MW-2	2/13/1990	7.1 ²	4.9 ²	ND ²	11.6 ²	7.9 ²	--	--
	6/30/1990	3.1	5.1	4.8	15	<1	--	--
	10/4/1990	<0.5	2.4	<0.5	6.3	<0.5	--	--
	4/15/1993	<1	<1	<1	<1	<1	--	--
	3/31/1995	1.7	1.1	1.4	5.1	<1	--	4.2
12/31/1996	--	--	--	--	<2	--	--	
9/22/1997	--	--	--	--	<3	--	--	
MW-3	2/13/1990	5.7 ²	ND ²	ND ²	17.1 ²	69.2 ²	--	--
	6/30/1990	1.3	2.1	3.5	21	<1	--	--
	10/4/1990	<0.5	<0.5	<0.5	11	<0.5	--	--
	4/15/1993	<1	<1	<1	<1	<1	--	--
	3/31/1995	2.2	<1	<1	18	<2	--	<3
12/31/1996	<0.5	<0.5	<0.5	5	<0.5	15.3	--	
9/22/1997	<0.5	<0.5	<0.5	5.5	<0.5	20.3	--	
MW-4	2/13/1990	ND ²	ND ²	ND ²	1.8 ²	15.3 ²	--	--
	6/30/1990	<1	<1	<1	2.7	<1	--	--
	10/4/1990	<0.5	<0.5	<0.5	1.1	<0.5	--	--
	5/24/1993 ³	<1	<1	<1	<1	<1	--	--
	12/31/1996	<0.5	<0.5	<0.5	1.7	<0.5	312.4	--
9/22/1997	<0.5	<0.5	<0.5	2.1	<0.5	49.7	--	
MW-5	2/13/1990	ND ²	ND ²	ND ²	1.3 ²	ND ²	--	--
	6/30/1990	<1	<1	<1	1.3	<1	--	--

Table 6
Historical Groundwater Analytical Results - Additional Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	TOTAL 1,2-			DIBROMO		TOTAL	
		1,1,-DICHLORO ETHENE (µg/L)	1,1-DICHLORO ETHANE (µg/L)	DICHLORO ETHENE (µg/L)	1,1,1-TRICHLORO ETHANE (µg/L)	CHLORO METHANE (µg/L)	CHLORINATED HYDROCARBONS (µg/L)	TOTAL LEAD (µg/L)
	10/4/1990	<0.5	<0.5	<0.5	0.5	<0.5	--	--
	12/31/1996	<0.5	<0.5	<0.5	0.5	<0.5	3.5	--
	9/22/1997	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	--
Well-18	2/14/1990	ND ²	ND ²	ND ²	ND ²	ND ²	--	--
	6/30/1990	<10	<10	<10	<10	<10	--	--
	10/4/1990	<5	<5	<5	9	<5	--	--
	4/15/1993	<1	<1	<1	<1	<1	--	--
	3/31/1995	<10	<10	<10	<10	<10	--	16
	12/31/1996	<0.5	<0.5	<0.5	2.1	<0.5	18.7	--
	9/22/1997	0.7	<0.5	<0.5	4.8	<0.5	34.5	--
WP1-W	9/23/1997	<0.5	<0.5	<0.5	1	<0.5	9.1	--
WP2-W	9/22/1997	1	<0.5	<0.5	5.3	<0.5	46.3	--
WP3-W	9/22/1997	<0.5	<0.5	2.6	4.3	<0.5	42.5	--
WP5-W	9/22/1997	<0.5	<0.5	1.9	<0.5	<0.5	26.9	--
WP6-W	9/22/1997	<0.5	<0.5	3.1	0.8	<0.5	27.9	--
WP7-W	9/24/1997	<0.5	0.7	3.7	<0.5	<0.5	10.9	--
WP8-W	9/24/1997	<0.5	1.4	2.2	<0.5	<0.5	3.6	--
WP9-W	9/23/1997	<0.5	0.7	<0.5	1.2	<0.5	5.9	--
WP10-W	9/23/1997	<0.5	<0.5	<0.5	3.3	<0.5	13.5	--
WP11-W	9/23/1997	1.7	<0.5	<0.5	12	<0.5	37.6	--

Table 6
Historical Groundwater Analytical Results - Additional Oxygenate Compounds¹
Chevron Site No. 376584 (Former Union Oil Service Station 2720)
670 98th Avenue
Oakland, California

WELL ID	DATE	1,1,-DICHLORO ETHENE (µg/L)	1,1-DICHLORO ETHANE (µg/L)	TOTAL 1,2- DICHLORO ETHENE (µg/L)	1,1,1-TRICHLORO ETHANE (µg/L)	DIBROMO		TOTAL CHLORINATED HYDROCARBONS (µg/L)	TOTAL LEAD (µg/L)
						CHLORO METHANE (µg/L)			
WP12-W	9/23/1997	5	1	<0.5	20 ⁴	<0.5		43.1	--
WP13-W	9/24/1997	<0.5	<0.5	<0.5	2.6	<0.5		11.4	--
WP14-W	9/23/1997	1.2	1.3	<0.5	9.4	<0.5		32.5	--
QA	3/31/1995	<1	<1	<1	<1	<1		34.5	--
	9/22/1997 ⁵	<0.5	<0.5	<0.5	<0.5	<0.5		7.9	--

NOTES:

µg/L = Micrograms per liter

-- = Not available/not sampled

ID = Identification

MTBE = Methyl tertiary butyl ether

ND = Not detected, reporting limit unknown

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

QA = Quality assurance/trip blank

¹ EPA Method 8010/601, except where noted (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

² Purgeable halocarbons by EPA Methods 5030/8010 (source: "Soil and Groundwater Contamination Assessment, Phase 2," April 10, 1990, by Subsurface Consultants, Inc.)

³ Surrogate recovery was outside of QA/QC limits due to matrix interference (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁴ Value taken from EPA Method 8240 (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

⁵ Laboratory reported that trichlorofluoromethane (0.0008 mg/L) was detected above laboratory reporting limits (source: "Report on Groundwater Monitoring," December 22, 1997, by Baseline Environmental Consulting)

ATTACHMENT D

HYDROGRAPHS

Chart 1 - Hydrograph for Well MW-1

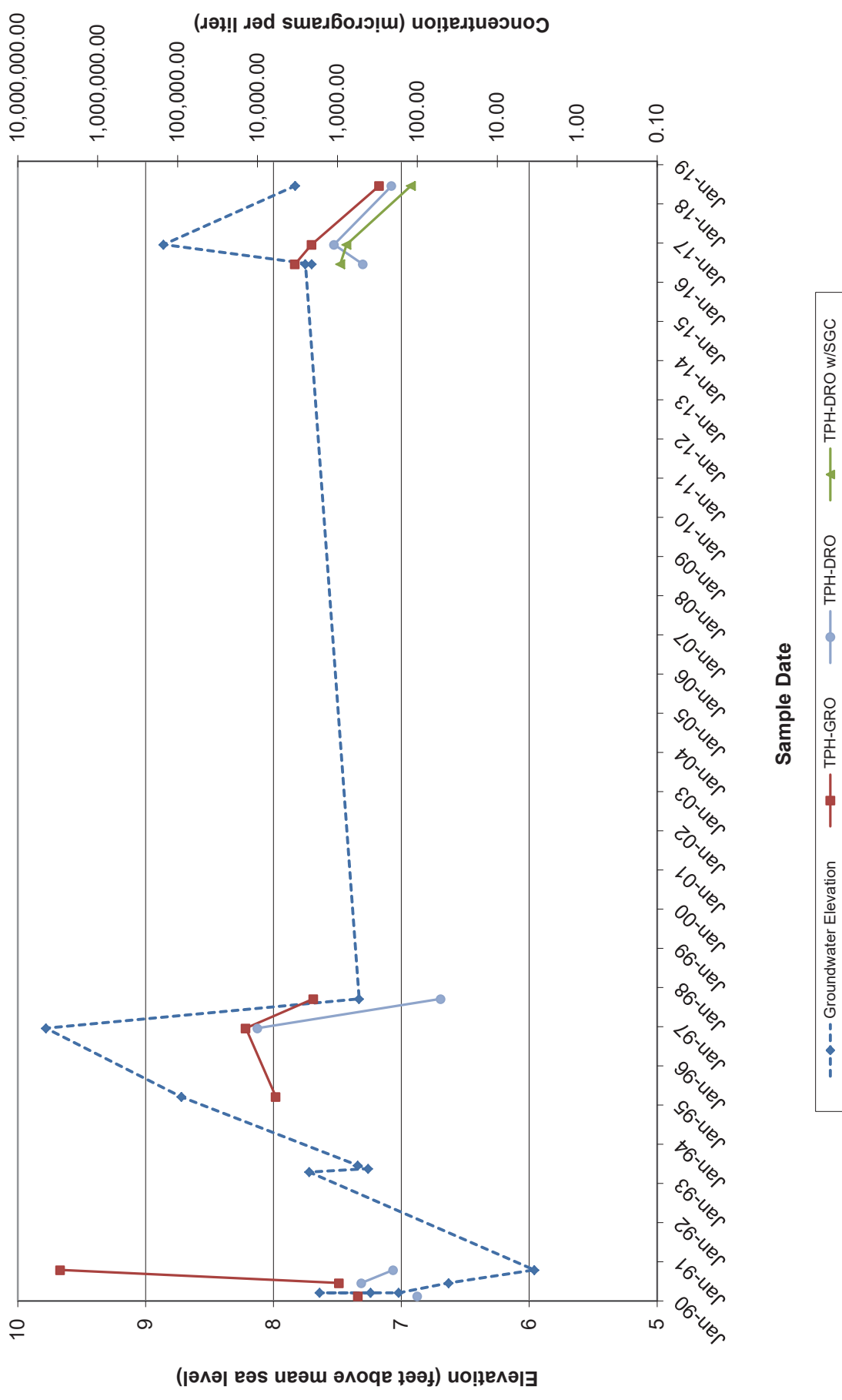


Chart 2 - Hydrograph for Well MW-2

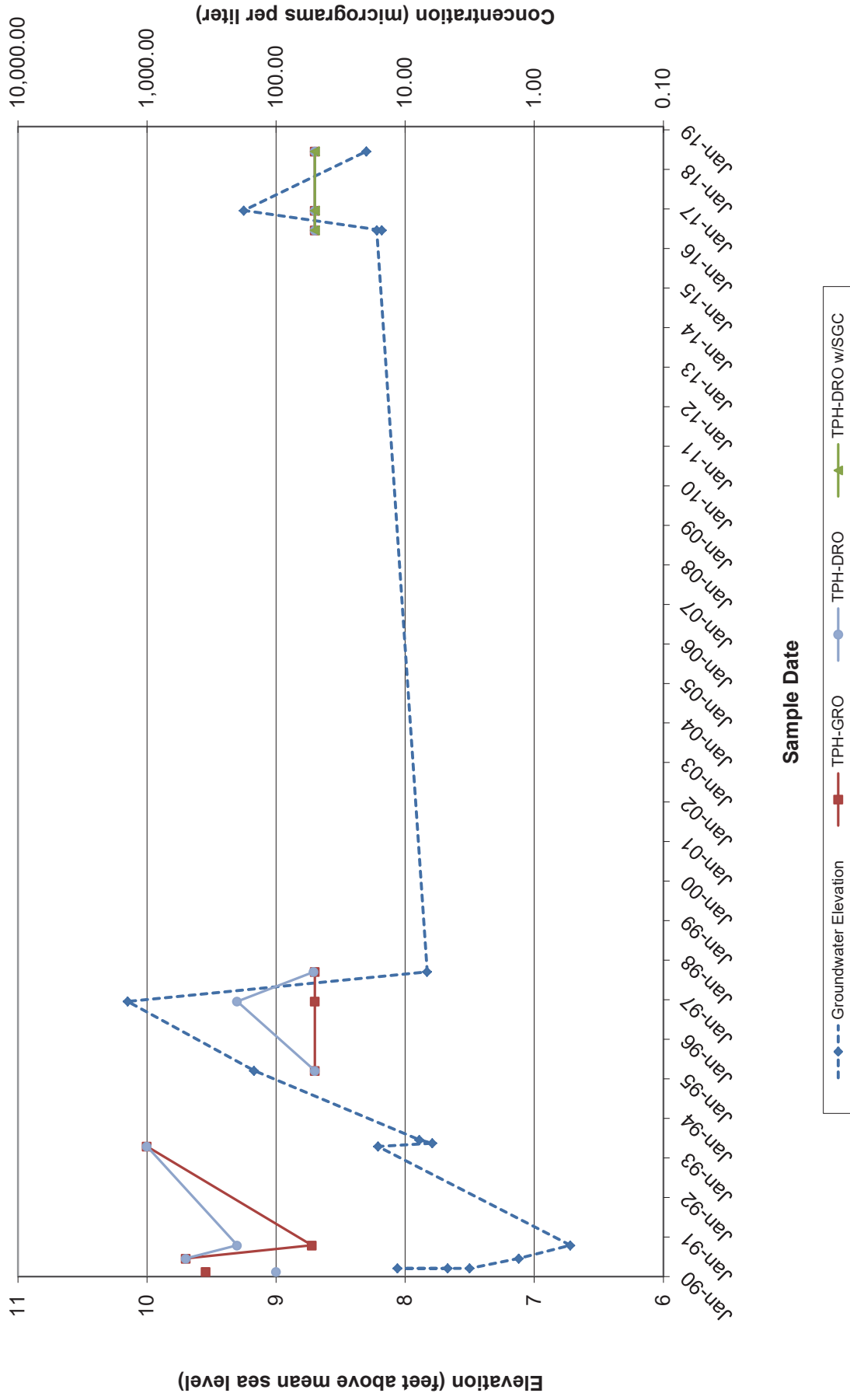


Chart 3 - Hydrograph for Well MW-3

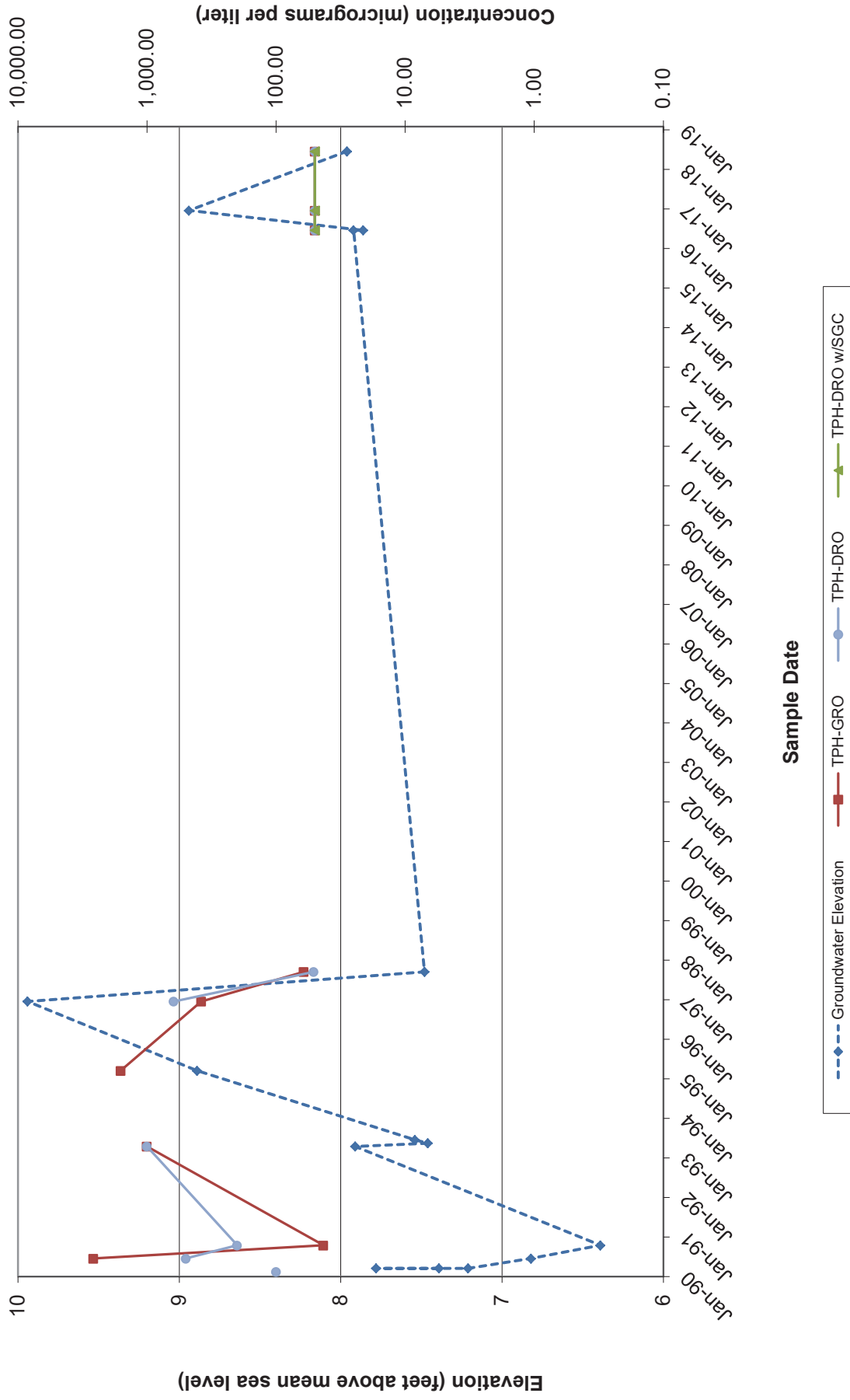


Chart 4 - Hydrograph for Well MW-4

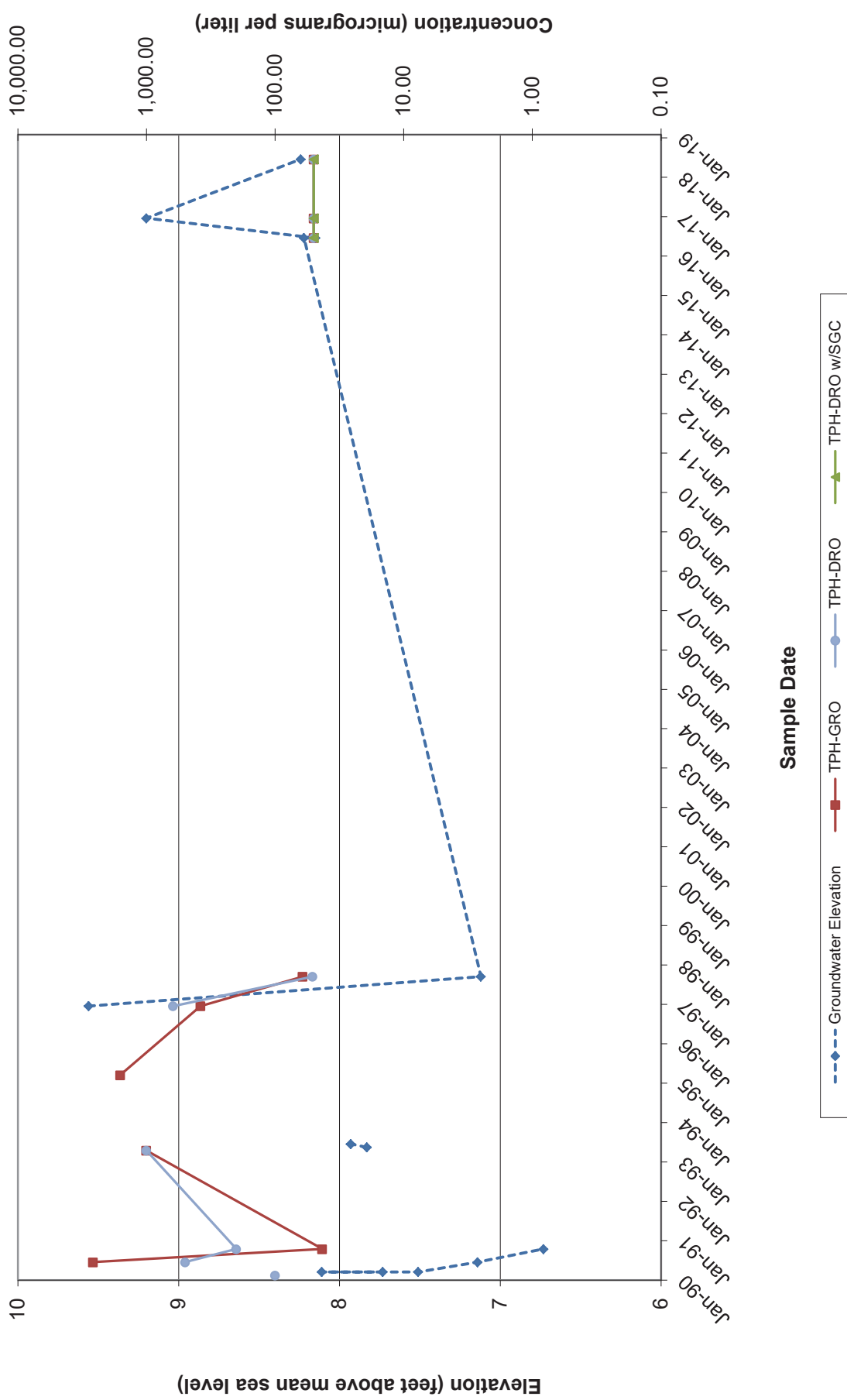


Chart 5 - Hydrograph for Well MW-5

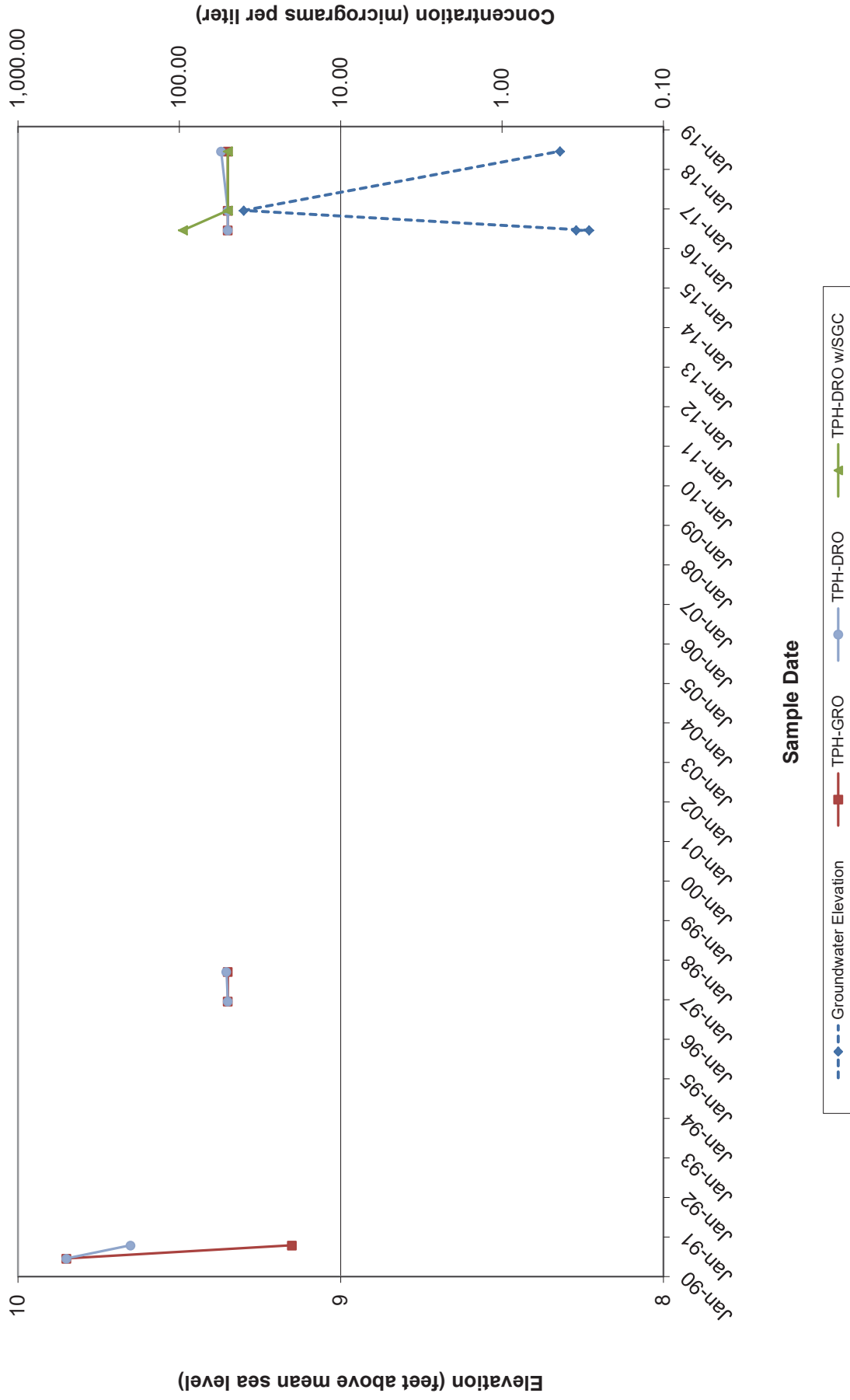
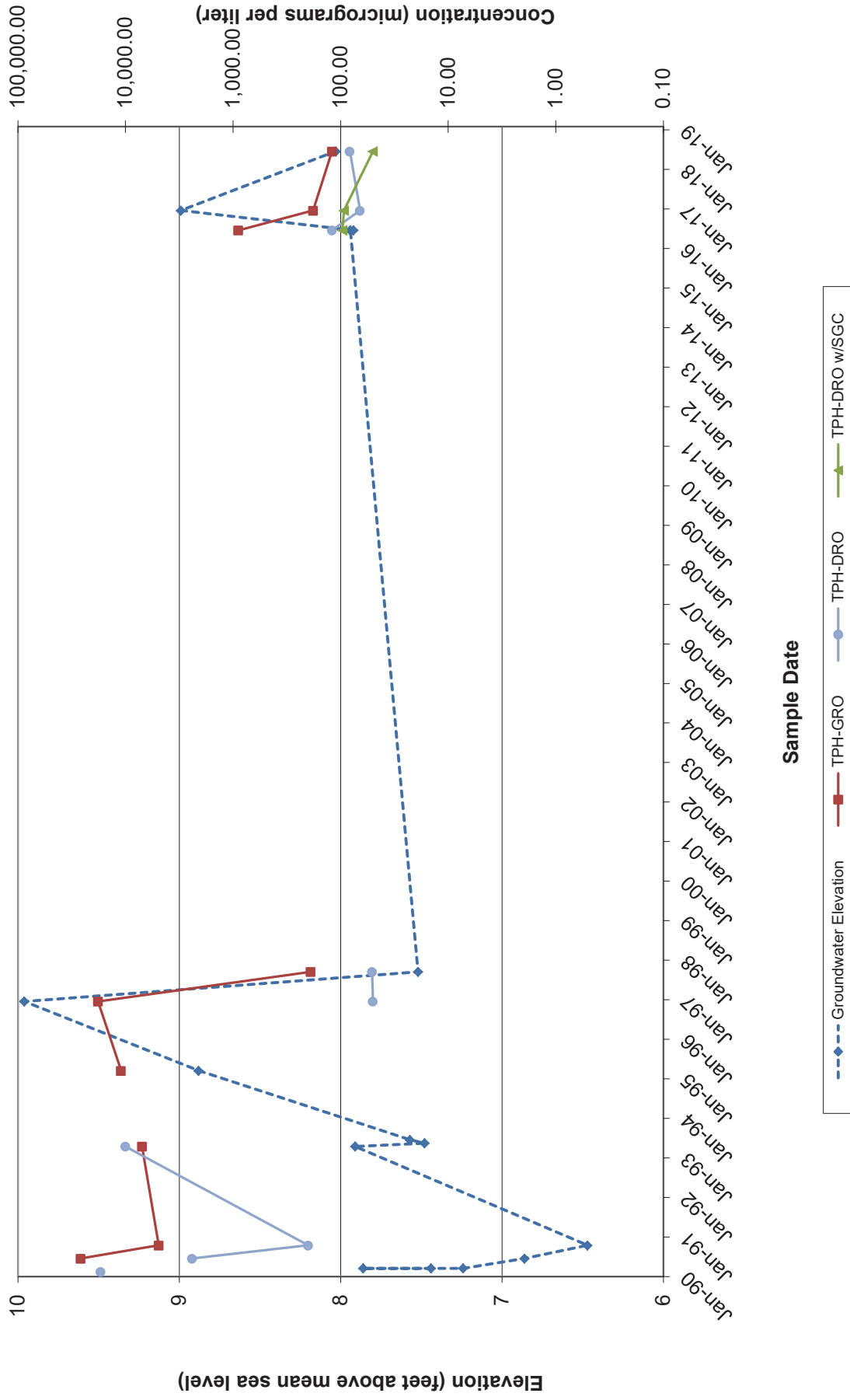


Chart 6 - Hydrograph for Well-18



ATTACHMENT E

**FIELD PROCEDURES AND
FIELD LOGS**



GETTLER-RYAN INC.



TRANSMITTAL

July 6, 2018
G-R #17155903

TO: Ms. Brenda Evans
AECOM
1220 Avenida Acaso
Camarillo, California 93012

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

RE: **Chevron Facility #376584**
Former Union Oil Service Station
670 98th Avenue
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package First Semi Annual Event of June 29, 2018

COMMENTS:

Pursuant to your request, we are providing you with a copy 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/376584

STANDARD OPERATING PROCEDURE, LOW-FLOW PURGING AND SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following Standard Operating Procedure (SOP) for the collection and handling of representative groundwater samples using the Low-Flow (Minimal-Drawdown) Purging technique. This SOP incorporates purging and sampling methods discussed in U.S. EPA, Ground Water Issue, Publication Number EPA/540/S-95/504, April 1996 by Puls, R.W. and M.J. Barcelona - "*Low-Flow (Minimal-Drawdown) Ground-Water Sampling Procedures.*"

A QED Well Wizard™ (or equivalent) bladder pump or Peristaltic Pump will be used to purge and sample selected wells as outlined in the scope-of-work. An in-line flow cell or other multi-parameter meter is used to collect water quality indicating parameters during purging.

Initial Pump Discharge Test Procedures

The Static Water Level (SWL) is measured in all wells at the site prior to the installation of the pump or tubing and initiation of the test procedures in any well. In addition, the presence or absence of separate-phase hydrocarbons (SPH) is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot. The SWL measurement and SPH thickness, if any, will be recorded on the field data sheet. Total well depths are measured annually.

The bladder pump or suction inlet tubing of the peristaltic pump is then positioned with its inlet located within the screened interval of the well. The in-line flow cell is then connected to the discharge tubing. After pump installation, the SWL is allowed to recover to its original level. The pump is then started at a discharge rate between 100 ml to 300 ml per minute with the in-line flow cell connected. The water level is monitored continuously for any change from the original measurement and the discharge rate is adjusted until an optimum discharge rate (ODR) is determined. The goal for the ODR is to produce a stable drawdown of less than 0.1 meter as allowed by site conditions; however the total drawdown from the initial SWL should not exceed 25% of the distance between pump inlet location and the top of the well screen. Once achieved, the ODR will be confirmed by volumetric discharge measurement and recorded on the field data sheet.

Purging and Water Quality Parameter Measurement

When the ODR has been determined and the SWL drawdown has been established within the acceptable range, and a minimum of one pump system volume (bladder volume and/or discharge tubing volume) has been purged, field measurements for temperature (T), pH, conductivity (Ec), and if required, oxygen reduction potential (ORP) and dissolved oxygen (DO) will be collected and documented on the field data sheet. Measurements should be taken every three to five minutes until parameters stabilize for three consecutive readings. The minimum parameter subset of T ($\pm 10\%$), pH (± 0.1 unit), and Ec (± 10 uS) are required to stabilize. Additional parameters that may be required are DO (± 0.2 mg/l) and ORP (± 20 mV).

Sample Collection

When water quality parameters have stabilized, and the SWL drawdown remains established within the acceptable range, groundwater sample collection may begin. If used, the in-line flow cell and its tubing are disconnected from the discharge tubing prior to sample collection. Water samples are collected from the discharge tubing into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. 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. 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. 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.

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 LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584
 Site Address: 670 98Th Avenue
 City: Oakland, CA

Job Number: 17155903
 Event Date: 6/29/18 (inclusive)
 Sampler: JH

Well ID: MW1
 Well Diameter: 2 in.
 Total Depth: 19.67 ft.
 Depth to Water: 8.35 ft.
11.32 xVF = _____ = _____ x3 case volume = Estimated Purge Volume: _____ gal.

Date Monitored: 6-29-18

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

Check if water column is less than 0.50 ft.

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

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Peristaltic Pump ✓
 QED Bladder Pump _____

Sampling Equipment:

Disposable Bailer _____
 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): 0750
 Sample Time/Date: 0825 / 6-29-18
 Approx. Flow Rate: 200 m lpm.
 Did well de-water? _____ If yes, Time: _____ Volume: _____ ltr.

Weather Conditions: Sunny
 Water Color: Cloudy Odor: Y / N
 Sediment Description: Cloudy
 DTW @ Sampling: 8.49

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µS/mS / µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0808</u>	<u>3.6</u>	<u>7.23</u>	<u>409</u>	<u>19.2</u>	/	/	<u>8.41</u>
<u>0811</u>	<u>4.2</u>	<u>7.27</u>	<u>400</u>	<u>19.2</u>	/	/	<u>8.44</u>
<u>0814</u>	<u>4.8</u>	<u>7.29</u>	<u>394</u>	<u>19.3</u>	/	/	<u>8.49</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW1</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTEX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2</u> x 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: ~ 10.5ft.

Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584 Job Number: 17155903
 Site Address: 670 98Th Avenue Event Date: 6.29.18 (inclusive)
 City: Oakland, CA Sampler: FT

Well ID: MW-2 Date Monitored: 6.29.18
 Well Diameter: 2 in.
 Total Depth: 28.24 ft.
 Depth to Water: 8.20 ft. Check if water column is less than 0.50 ft.
20.04 xVF = x3 case volume = Estimated Purge Volume: gal.

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

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

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Peristaltic Pump _____
 QED Bladder Pump _____

Sampling Equipment:

Disposable Bailer _____
 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): 0825 Weather Conditions: Sunny
 Sample Time/Date: 0900 / 6.29.18 Water Color: CLEAN Odor: Y / 0
 Approx. Flow Rate: 200 g lpm. Sediment Description: NONE
 Did well de-water? No If yes, Time: _____ Volume: _____ ltr. DTW @ Sampling: 8.29

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µS) mS µmhos/cm	Temperature (° / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0843</u>	<u>3.6</u>	<u>7.04</u>	<u>418</u>	<u>19.4</u>			<u>8.23</u>
<u>0846</u>	<u>4.2</u>	<u>7.06</u>	<u>425</u>	<u>19.2</u>			<u>8.26</u>
<u>0849</u>	<u>4.8</u>	<u>7.08</u>	<u>432</u>	<u>19.1</u>			<u>8.29</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTEX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2</u> x 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: ≈ 10.50'

Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584
 Site Address: 670 98Th Avenue
 City: Oakland, CA

Job Number: 17155903
 Event Date: 6-29-18 (inclusive)
 Sampler: HW

Well ID: mw-3
 Well Diameter: 2 in.
 Total Depth: 22.80 ft.
 Depth to Water: 8.58 ft.
14.22 xVF _____ = _____ x3 case volume = Estimated Purge Volume: _____ gal.

Date Monitored: 6-29-18

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.

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

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Peristaltic Pump ✓
 QED Bladder Pump _____

Sampling Equipment:

Disposable Bailer _____
 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): 0610
 Sample Time/Date: 0645 / 6-29-18
 Approx. Flow Rate: 200 m lpm.
 Did well de-water? N If yes, Time: _____

Weather Conditions: Dawn
 Water Color: Cloudy Odor: Y / N
 Sediment Description: Cloudy
 Volume: _____ ltr. DTW @ Sampling: 8-71

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (° / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0628</u>	<u>3.6</u>	<u>7.18</u>	<u>320</u>	<u>18.4</u>	/	/	<u>8.64</u>
<u>0631</u>	<u>4.2</u>	<u>7.24</u>	<u>324</u>	<u>18.5</u>	/	/	<u>8.67</u>
<u>0634</u>	<u>4.8</u>	<u>7.27</u>	<u>330</u>	<u>18.5</u>	/	/	<u>8.71</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>mw-3</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTEX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2</u> x 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: ~ 10.5ft.

Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584 Job Number: 17155903
 Site Address: 670 98Th Avenue Event Date: 6.29.18 (inclusive)
 City: Oakland, CA Sampler: FT

Well ID: MW-4 Date Monitored: 6.29.18

Well Diameter: 2 in.

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

Total Depth: 21.73 ft.

Depth to Water: 10.16 ft.

Check if water column is less than 0.50 ft.

11.57 xVF — = — x3 case volume = Estimated Purge Volume: — gal.

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

Purge Equipment:

- Disposable Bailer _____
- Stainless Steel Bailer _____
- Stack Pump _____
- Peristaltic Pump /
- QED Bladder Pump _____

Sampling Equipment:

- Disposable Bailer _____
- 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): 0920 Weather Conditions: Sunny
 Sample Time/Date: 0955 / 6.29.18 Water Color: Clean Odor: Y / N
 Approx. Flow Rate: 200 m lpm. Sediment Description: NONE
 Did well de-water? NO If yes, Time: _____ Volume: _____ ltr. DTW @ Sampling: 10.18

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µS) / mS (µmhos/cm)	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0938</u>	<u>3.6</u>	<u>6.86</u>	<u>397</u>	<u>19.5</u>	<u>/</u>	<u>/</u>	<u>10.16</u>
<u>0941</u>	<u>4.2</u>	<u>6.88</u>	<u>402</u>	<u>19.4</u>	<u>/</u>	<u>/</u>	<u>10.17</u>
<u>0944</u>	<u>4.8</u>	<u>6.90</u>	<u>408</u>	<u>19.3</u>	<u>/</u>	<u>/</u>	<u>10.18</u>

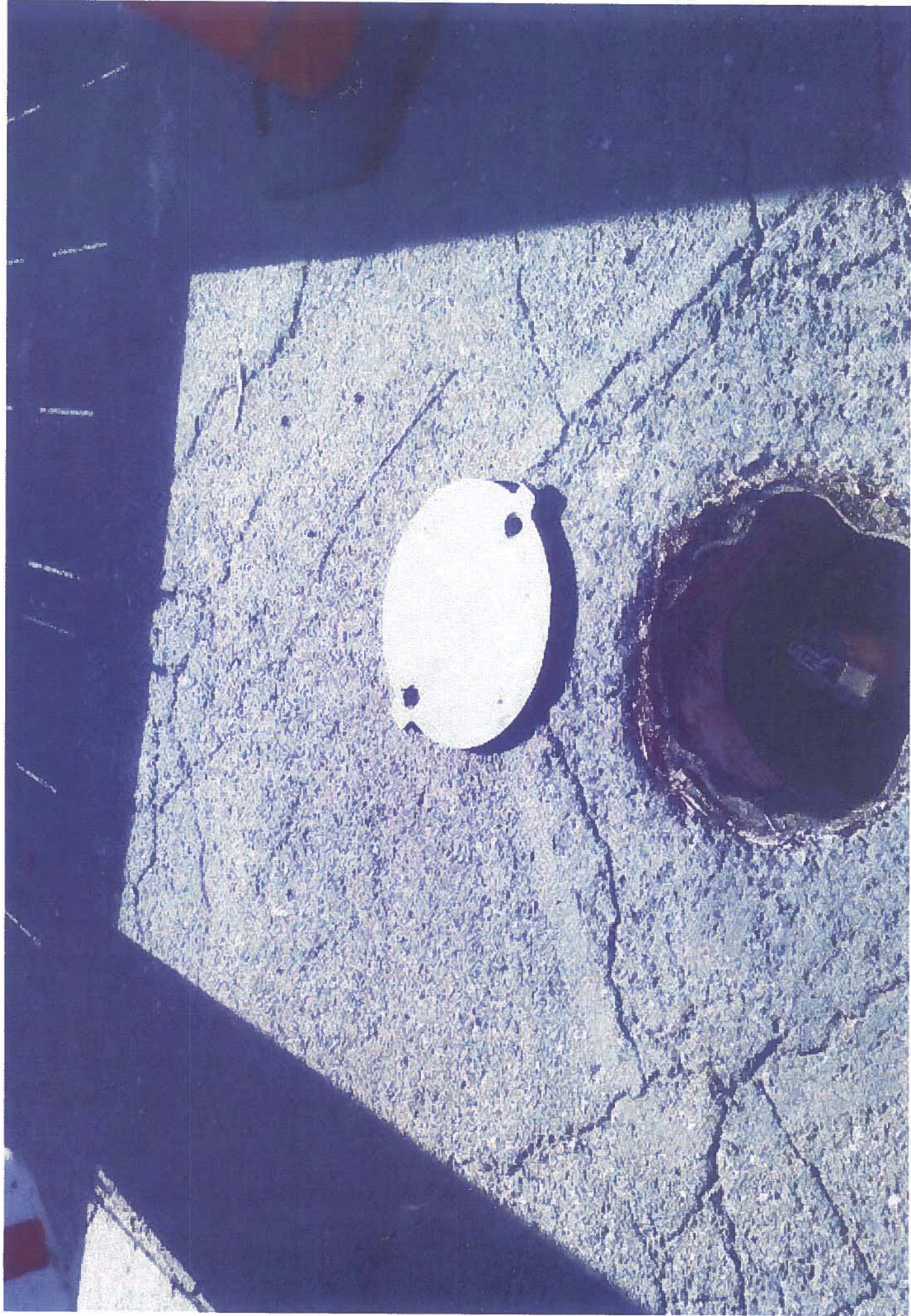
LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTEX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2</u> x 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: ≈ 12.00'
FMCO 12" (ZBF, NEEDS NEW COVER & NEW BOX)
(SEE PHOTOS)

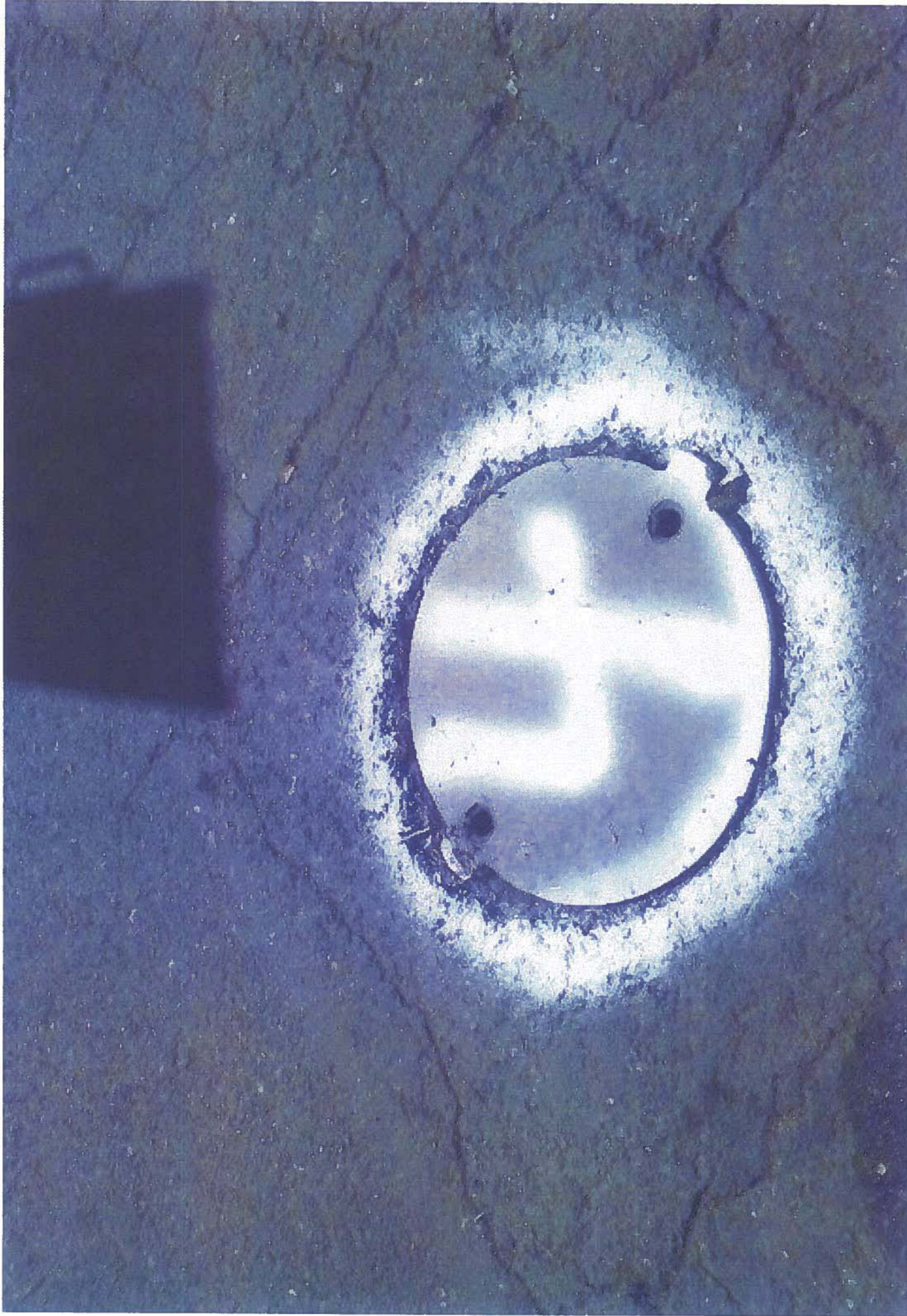
Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

376584 Oakland 6-29-18, well MW-4 damaged box, pic 2



MW-4.jpg

376584 Oakland 6-29-18, well MW-4 damaged box



MW-4 #2. ipa



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584
 Site Address: 670 98Th Avenue
 City: Oakland, CA

Job Number: 17155903
 Event Date: 6/29/18 (inclusive)
 Sampler: AW

Well ID: MW-5
 Well Diameter: 2 in.
 Total Depth: 22.56 ft.
 Depth to Water: 9.03 ft.
13.53 xVF _____ = _____ x3 case volume = Estimated Purge Volume: _____ gal.

Date Monitored: 6-29-18

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 than 0.50 ft.

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

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Peristaltic Pump _____
 QED Bladder Pump _____

Sampling Equipment:

Disposable Bailer _____
 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): 0700
 Sample Time/Date: 0735 / 6-29-18
 Approx. Flow Rate: 200 m lpm.
 Did well de-water? If yes, Time: _____

Weather Conditions: Sunny
 Water Color: Cloudy Odor: Y / 10
 Sediment Description: Cloudy
 Volume: _____ ltr. DTW @ Sampling: 9.15

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (15) mS μmhos/cm	Temperature (10) / F	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0718</u>	<u>3.6</u>	<u>7.22</u>	<u>340</u>	<u>18.8</u>	/	/	<u>9.09</u>
<u>0721</u>	<u>4.2</u>	<u>7.26</u>	<u>344</u>	<u>18.9</u>	/	/	<u>9.10</u>
<u>0724</u>	<u>4.8</u>	<u>7.29</u>	<u>350</u>	<u>18.9</u>	/	/	<u>9.15</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTEX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2x</u> 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: 11.0ft

Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING LOW FLOW FIELD DATA SHEET

Client/Facility#: Chevron #376584 Job Number: 17155903
 Site Address: 670 98Th Avenue Event Date: 6.29.18 (inclusive)
 City: Oakland, CA Sampler: FT

Well ID: WELL 18 Date Monitored: 6.29.18
 Well Diameter: 2 in.
 Total Depth: 16.70 ft.
 Depth to Water: 7.94 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 than 0.50 ft.

8.76 xVF - = - x3 case volume = Estimated Purge Volume: - gal.

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

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Peristaltic Pump /
 QED Bladder Pump _____

Sampling Equipment:

Disposable Bailer _____
 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 / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ ltr
 Amt Removed from Well: _____ ltr
 Water Removed: _____ ltr

Start Time (purge): 0730 Weather Conditions: SUNNY
 Sample Time/Date: 0805 16.29.18 Water Color: CLEAR Odor: Y / N
 Approx. Flow Rate: 200 m lpm. Sediment Description: NONE
 Did well de-water? NO If yes, Time: _____ Volume: _____ ltr. DTW @ Sampling: 8.00

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0748</u>	<u>3.6</u>	<u>6.96</u>	<u>468</u>	<u>18.9</u>	<u>/</u>	<u>/</u>	<u>7.96</u>
<u>0751</u>	<u>4.2</u>	<u>6.99</u>	<u>474</u>	<u>19.1</u>	<u>/</u>	<u>/</u>	<u>7.98</u>
<u>0754</u>	<u>4.8</u>	<u>7.01</u>	<u>481</u>	<u>19.3</u>	<u>/</u>	<u>/</u>	<u>8.00</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>WELL 18</u>	<u>6</u> x voa vial	YES	HCL	EUROFINS	TPH-GRO(8015)/BTX+MTBE(8260)/NAPHTHALENE(8260)
	<u>2</u> x 500ml ambers	YES	NP	EUROFINS	TPH-DRO w/sgc/TPH-DRO(8015)

COMMENTS: DEPTH PUMP SET AT: ~10.00'

Add/Replaced Gasket: _____ Add/Replaced Bolt or FRK: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

ATTACHMENT F

**LABORATORY ANALYTICAL
REPORT AND CHAIN-OF-
CUSTODY DOCUMENTATION**



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

Report Date: July 13, 2018 10:58

Project: 376584

Account #: 12181
Group Number: 1961301
SDG: CVX30
PO Number: 0015269765
Release Number: CMACLEOD
State of Sample Origin: CA

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.

Electronic Copy To AECOM
Electronic Copy To AECOM
Electronic Copy To Gettler-Ryan Inc.

Attn: Brenda Evans
Attn: Tony Quiroz
Attn: Gettler Ryan

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
QA-T-180629 NA Water	06/29/2018	9685617
MW-1-W-180629 Grab Groundwater	06/29/2018 08:25	9685618
MW-2-W-180629 Grab Groundwater	06/29/2018 09:00	9685619
MW-3-W-180629 Grab Groundwater	06/29/2018 06:45	9685620
MW-4-W-180629 Grab Groundwater	06/29/2018 09:55	9685621
MW-5-W-180629 Grab Groundwater	06/29/2018 07:35	9685622
WELL_18-W-180629 Grab Groundwater	06/29/2018 08:05	9685623

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: QA-T-180629 NA Water
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685617
ELLE Group #: 1961301
Matrix: Water

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018
SDG#: CVX30-01TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles						
		SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	D181922AA	07/11/2018 19:31	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/11/2018 19:31	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 21:12	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 21:12	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685618
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018 08:25
SDG#: CVX30-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B			ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles SW-846 8015B			ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	300	50	100	1
GC Petroleum Hydrocarbons SW-846 8015B			ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	210	50	100	1
GC Petroleum Hydrocarbons w/Si SW-846 8015B			ug/l	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	120	50	100	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 02:20	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 02:20	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 21:40	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 21:40	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/04/2018 00:43	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 18:06	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685619
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
 Collection Date/Time: 06/29/2018 09:00
 SDG#: CVX30-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B			ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and no target analytes were detected, the data is reported.

GC Volatiles SW-846 8015B			ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

GC Petroleum Hydrocarbons SW-846 8015B			ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	N.D.	50	110	1

GC Petroleum Hydrocarbons w/Si SW-846 8015B			ug/l	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	N.D.	50	110	1

The reverse surrogate, capric acid, is present at <1%.

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 02:44	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 02:44	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 22:08	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 22:08	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/03/2018 22:54	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 18:28	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685620
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018 06:45
SDG#: CVX30-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B			ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles SW-846 8015B			ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1
GC Petroleum Hydrocarbons SW-846 8015B			ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	N.D.	50	100	1
GC Petroleum Hydrocarbons w/Si SW-846 8015B			ug/l	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	N.D.	50	100	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 03:08	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 03:08	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 22:35	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 22:35	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/03/2018 23:16	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 18:50	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685621
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018 09:55
SDG#: CVX30-05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles			SW-846 8015B	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1
GC Petroleum Hydrocarbons			SW-846 8015B	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	N.D.	50	110	1
GC Petroleum Hydrocarbons w/Si			SW-846 8015B	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	N.D.	50	110	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 03:32	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 03:32	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 23:03	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 23:03	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/03/2018 23:38	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 19:12	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-5-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685622
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018 07:35
SDG#: CVX30-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles		SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1
GC Petroleum Hydrocarbons		SW-846 8015B	ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	55 J	50	100	1
GC Petroleum Hydrocarbons w/Si		SW-846 8015B	ug/l	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	N.D.	50	100	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 03:56	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 03:56	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 23:31	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 23:31	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/03/2018 23:59	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 19:33	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Sample Description: WELL_18-W-180629 Grab Groundwater
Facility# 376584 Job# 17155903 GRD
670 98th Avenue-Oakland T0600101442

Chevron
ELLE Sample #: WW 9685623
ELLE Group #: 1961301
Matrix: Groundwater

Project Name: 376584

Submittal Date/Time: 06/30/2018 12:40
Collection Date/Time: 06/29/2018 08:05
SDG#: CVX30-07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles		SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	120	50	100	1
GC Petroleum Hydrocarbons		SW-846 8015B	ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	82 J	50	110	1
GC Petroleum Hydrocarbons w/Si		SW-846 8015B	ug/l	ug/l	ug/l	
06610	TPH-DRO CA C10-C28 w/ Si Gel	n.a.	N.D.	50	110	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST VOCs + GRO by 8260B-Water	SW-846 8260B	1	D181922AA	07/12/2018 04:20	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D181922AA	07/12/2018 04:20	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18182B20A	07/02/2018 23:58	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18182B20A	07/02/2018 23:58	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	181830015A	07/04/2018 00:21	Thomas C Wildermuth	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	181830016A	07/11/2018 19:55	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	181830015A	07/02/2018 16:50	Christine E Gleim	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	181830016A	07/02/2018 16:50	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Chevron
Reported: 07/13/2018 10:58

Group Number: 1961301

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: D181922AA	Sample number(s): 9685617-9685623		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 18182B20A	Sample number(s): 9685617-9685623		
TPH-GRO N. CA water C6-C12	N.D.	50	100
Batch number: 181830015A	Sample number(s): 9685618-9685623		
TPH-DRO CA C10-C28	N.D.	50	100
Batch number: 181830016A	Sample number(s): 9685618-9685623		
TPH-DRO CA C10-C28 w/ Si Gel	N.D.	50	100

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: D181922AA	Sample number(s): 9685617-9685623								
Benzene	20	17.25			86		80-120		
Ethylbenzene	20	18.61			93		80-120		
Methyl Tertiary Butyl Ether	20	18.17			91		75-120		
Naphthalene	20	16.75			84		59-120		
Toluene	20	20.1			101		80-120		
Xylene (Total)	60	58.04			97		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18182B20A	Sample number(s): 9685617-9685623								
TPH-GRO N. CA water C6-C12	1100	1183.81	1100	1191.97	108	108	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 181830015A	Sample number(s): 9685618-9685623								
TPH-DRO CA C10-C28	1600	1134.41	1600	1091.66	71	68	53-115	4	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron
Reported: 07/13/2018 10:58

Group Number: 1961301

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 181830016A TPH-DRO CA C10-C28 w/ Si Gel	1600	866.26	1600	926.26	54	58	40-105	7	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: UST VOCs + GRO by 8260B-Water
Batch number: D181922AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9685617	103	103	100	93
9685618	102	101	101	94
9685619	124*	116	100	93
9685620	106	104	117	93
9685621	105	101	98	93
9685622	103	102	102	95
9685623	106	103	102	96
Blank	106	102	99	92
LCS	99	99	111	102
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 18182B20A

	Trifluorotoluene-F
9685617	87
9685618	89
9685619	84
9685620	89
9685621	82
9685622	88
9685623	81
Blank	80
LCS	99
LCSD	91

Limits: 63-135

Analysis Name: TPH-DRO CA C10-C28
Batch number: 181830015A

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron
Reported: 07/13/2018 10:58

Group Number: 1961301

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-DRO CA C10-C28

Batch number: 181830015A

Orthoterphenyl

9685618	82
9685619	85
9685620	85
9685621	85
9685622	116
9685623	85
Blank	79
LCS	89
LCSD	87

Limits: 50-124

Analysis Name: TPH-DRO CA C10-C28 w/ Si Gel

Batch number: 181830016A

Orthoterphenyl

9685618	70
9685619	80
9685620	76
9685621	79
9685622	79
9685623	75
Blank	79
LCS	74
LCSD	80

Limits: 42-126

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Chevron California Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # 12181
Group # 191301

For Eurofins Lancaster Laboratories use only
Sample # 4685617-23
Instructions on reverse side correspond with circled numbers.

1041

1 Client Information Facility # 376584-OML G-R#17155903 GIO# 10600101442 Site 87098th AVENUE, OAKLAND, CA ChevrPM AECOMEBR Consultant/Office Lead CONSULTANT Consultant/Ryan Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568 Consultant/Protect Mgr. Deanna L. Harding, deanna@grinc.com Consultant Phone # (925) 551-7444 x180		4 Matrix Sediment <input type="checkbox"/> Soil <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Potable <input type="checkbox"/> Surface <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Oil <input type="checkbox"/>		5 Analyses Requested Total Number of Containers: 2 TPH-DRO 8015 without Silica Gel Cleanup <input checked="" type="checkbox"/> TPH-DRO 8015 with Silica Gel Cleanup <input checked="" type="checkbox"/> TPH-GRO 8015 <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> BTEX + MTBE 8021 <input type="checkbox"/> 8260 <input checked="" type="checkbox"/>		6 Remarks Requesting Chromatograms for TPH-DRO and TPH-GRO range. Naphthalene (8260)	
2 Sample Identification Sampler: FROST & ALEX W. Soil Depth: 18.629 Collected Date: 0825 Collected Time: 0900 MW-1 MW-2 MW-3 MW-4 MW-5 WEL 18		3 Grab Composite <input type="checkbox"/>		Dissolved Lead Method Total Lead Method Oxygenates 8260 Full Scan		Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input checked="" type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run _____ oxy's on highest hit <input type="checkbox"/> Run _____ oxy's on all hits <input type="checkbox"/>	
7 Turnaround Time Requested (TAT) (please circle) (Standard) 5 day 48 hour 72 hour 24 hours EDD/EDD		Relinquished by: [Signature] Relinquished by: C. Salpe 29 Jun 18		Date: 18.6.29 Date: 29 Jun 18		Received by: [Signature] Received by: Felix Gonzalez Date: 6/29/18 Date: 6/30/18	
8 Data Package (circle if required) Type I - Full Type VI (Raw Data)		Relinquished by Commercial Carrier: UPS FedEx Other		Date: 6/30/18 Date: 6/30/18		Temperature Upon Receipt: 11.1 °C Custody Seals Intact? Yes No	



Client: CA Office

Delivery and Receipt Information

Delivery Method: BASC Arrival Timestamp: 06/30/2018 12:40
 Number of Packages: 1 Number of Projects: 1
 State/Province of Origin: CA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCI
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Felix Gonzalez (13783) at 13:13 on 06/30/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.1	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.