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November 5, 2018

Ms. Karel Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Dear Ms. Detterman:

Attached for your review is the *Third Quarter 2018 Groundwater Monitoring and Sampling Report* for

Former Chevron Service Station 90955
1200 Park Street
Alameda, CA
ACDEH Case No. RO0003230

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

If you should have any further questions, please do not hesitate to contact me at (925) 842-4249.

Sincerely,

A handwritten signature in black ink, appearing to read "Shelby Lathrop".

Shelby Lathrop
Project Manager

Chevron Environmental Management Company

**THIRD QUARTER 2018
GROUNDWATER MONITORING AND
SAMPLING REPORT**

Former Chevron Service Station No. 90955
1200 Park Street
Alameda, California
ACDEH Case RO0003230

November 12, 2018

Colleen Taggart

Colleen Taggart
Environmental Engineer

Katherine Szymanski

Katherine Szymanski, P.G.
Project Manager



THIRD QUARTER 2018 GROUNDWATER MONITORING AND SAMPLING REPORT

Former Chevron Service Station 206145
1200 Park Street
Alameda, California
ACEH Case RO0003230

Prepared for:
Chevron Environmental Management
Company

Prepared by:
Arcadis U.S., Inc.
2300 Clayton Road
Suite 400
Concord
California 94520
Tel 925 274 1100

Our Ref.:
B0090955.GW18

Date:
November 12, 2018

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1 INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) prepared this Third Quarter 2018 Groundwater Monitoring and Sampling Report (Report) for the former Chevron Service Station located at 1200 Park Street, Alameda, California (Site; Figure 1, Figure 2). On March 20 and 21, 2018 four monitoring wells (MW-1, MW-2, MW-3, and MW-4) were installed at the Site (Arcadis, 2018) according to *Work Plan for Additional Site Assessment* (GHD 2017a) and the *Work Plan Addendum* (GHD 2017b). Quarterly monitoring of these wells continued with the sampling event on August 24, 2018 as described in this report.

2 GROUNDWATER MONITORING AND SAMPLING

Groundwater Sampling

On August 24, 2018, MW-1, MW-2, MW-3, and MW-4 were purged and sampled by the methods described in Appendix A. Samples were stored in an ice-chilled cooler for transportation to Eurofins of Lancaster, Pennsylvania (a State-certified analytical laboratory) under standard chain-of-custody protocol. Laboratory analytical data is included in Appendix B. Samples were analyzed for the following compounds of concern (COCs):

- Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-g) by United States Environmental Protection Agency (USEPA) Method 8015B;
- TPH - Diesel Range Organics both with and without silica gel cleanup (TPH-d w/ Si Gel and TPH-d, respectively) by USEPA Method 8015B;
- TPH - Motor Oil Range Organics (TPH-mo) by USEPA Method 8015B; and
- Benzene, toluene, ethylbenzene, and xylenes (collectively known as BTEX compounds) and naphthalene by USEPA Method 8260B.

A Chevron-branded service station operated on-site until 1978. Based on the property history and the results from the Phase 2 investigation, methyl tertiary-butyl ether (MTBE) was not considered a constituent of concern at this Site, and therefore not analyzed.

A letter was submitted by former consultant GHD to Alameda County Department of Environmental Health (ACDEH) on November 10, 2016 documenting the historical service station operations and tank contents. It has been documented the underground storage tank was used for storing gasoline only and diesel was not dispensed at the site.

Groundwater Elevation Monitoring

Depth to groundwater in each monitoring well was measured to the nearest 0.01 foot using an electronic water-level meter. Groundwater elevations ranged from 17.41 ft above mean sea level (amsl) (MW-2) to 17.62 ft amsl (MW-3) consistent with previous monitoring events. Field measurements are tabulated in Table 1 and plotted on Figure 3. Well construction details and screen interval assessments are included in Table 2.

Analytical Results

All analytical data is tabulated in Table 3. TPH-d w/ Si Gel, TPH-g, TPH-m, BTEX compounds, naphthalene, and groundwater elevations are illustrated in Figure 3.

3 DATA INTERPRETATION AND CONCLUSIONS

Groundwater elevation across the site indicate a flow direction of west-northwest, with a gradient of about 0.005 ft/ft. The majority of COC mass in groundwater is encountered in MW-2 and MW-3, with the highest concentrations being of TPH-g. COC detections in MW-1 and MW-4 were minor. Isoconcentration contours for TPH-g are included in Figure 4. Concentrations trends from the date of the installation of the monitoring wells for all COCs is included in Appendix C.

Gasoline is the main COC at the Site. There is no record of diesel ever having been dispensed, and maximum site-wide results for TPH-d w/ Si Gel and TPH-mo were low (See Table 3).

4 REFERENCES

- Gettler-Ryan Inc. 2018. Groundwater Monitoring & Sampling Report Third Quarter Event of August 29, 2018. Former Chevron Service Station 90955, 1200 Park Street, Alameda California. June.
- GHD. 2017a. Work Plan for Additional Site Assessment. Former Chevron Service Station 90955, 1200 Park Street, Alameda California. May 10.
- GHD. 2017b. Work Plan Addendum. Former Chevron Service Station 90955, 1200 Park Street, Alameda California. February 3.
- SWRCB. 2012. Low-Threat Underground Storage Tank Case Closure Policy, August 17, Available at: https://www.waterboards.ca.gov/ust/ltr_cls_pclcy.html .

TABLES



Table 1
Monitoring Well Field Measurements
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



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Monitoring Well ID	Sample Date	TOC (ft)	GWE (ft)	Total Depth (ft)	Depth to Water (ft)	pH	Conductivity ($\mu\text{S}/\text{cm}$)	Temperature °C
MW-1	4/2/2018	27.56	18.69	14.75 ¹	8.87	7.65	512	18.8
	5/31/2018	27.56	18.32	14.75	9.24	6.97	456	18.5
	8/24/2018	27.56	17.45	14.75	10.11	7.12	265	19.6
MW-2	4/2/2018	27.32	18.79	14.35 ¹	8.53	7.79	588	18.8
	5/31/2018	27.32	18.24	14.35	9.08	7.33	517	18.8
	8/24/2018	27.32	17.41	14.35	9.91	7.06	357	20.7
MW-3	4/2/2018	27.32	19.19	14.92 ¹	8.13	7.77	599	19.0
	5/31/2018	27.32	18.59	14.92	8.73	6.85	557	19.7
	8/24/2018	27.32	17.62	14.92	9.70	7.01	335	22.1
MW-4	4/2/2018	26.70	19.07	14.97 ¹	7.63	7.65	574	18.9
	5/31/2018	26.70	18.46	14.97	8.24	6.96	661	18.8
	8/24/2018	26.70	17.45	14.97	9.25	7.23	363	21.3

Notes:

TOC = Top of Casing

GWE = Groundwater Elevation

ft = Feet

$\mu\text{S}/\text{cm}$ = micro-Siemens per centimeter

¹ Depth to water values updated from initial well install event to first groundwater sampling event.

Table 2
Screen Interval Assessment
Former Chevron Service Station No. 90121
3026 Lakeshore Avenue
Oakland, California

Well ID	Date Installed	Well Type	Casing Diameter inches	Top of Casing (TOC) feet above ASL	Construction Well Depth feet BGS	Current Well Depth feet below TOC	Current Depth to Water (DTW) feet BGS	Screened Interval feet BGS	Screen Interval Assessment
MW-1	3/20/2018	Monitoring Well (active)	2	27.56	15	14.75	10.11	5-15	Current DTW is within the screen interval
MW-2	3/20/2018	Monitoring Well (active)	2	27.32	15	14.35	9.91	5-15	Current DTW is within the screen interval
MW-3	3/20/2018	Monitoring Well (active)	2	27.32	15	14.92	9.70	5-15	Current DTW is within the screen interval
MW-4	3/21/2018	Monitoring Well (active)	2	26.70	15	14.97	9.25	5-15	Current DTW is within the screen interval

Notes:

1. Active wells were most recently surveyed on 05/31/2018

Table 3
Groundwater Monitoring Sample Data
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



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Well ID	Sample Date	TPH-d 8015 (SGT) µg/L	TPH-d µg/L	TPH-g µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethy- benzene µg/L	Total Xylenes µg/L	Naphthalene µg/L
MW-1	4/2/2018	110	88*	<50	83	<0.5	<0.5	<0.5	<0.5	<1
	5/31/2018	<100	69	<100	<120	<1	<1	<1	<1	2
	8/24/2018	<100	230	<100	190	<1	<1	<1	<5	<10
MW-2	4/2/2018	710	920 J*	3,500	46 J	4	4	7	5	150
	5/31/2018	480	810	2,000	70	2	2	5	2	100
	8/24/2018	880	1,700	4,200	280	4 J	3 J	6	3 J	100
MW-3	4/2/2018	1,500	2400 J*	6,400	64 J	8	<3	100	37	56
	5/31/2018	260	710	2,800	53	5	1	55	14	47
	8/24/2018	1,400	1,900	3,600	200	5	0.6 J	39	4 J	<10
MW-4	4/2/2018	<50	51 J*	<50	<39	<0.5	<0.5	<0.5	<0.5	<1
	5/31/2018	<100	<100	71	<120	<1	<1	2	<1	3
	8/24/2018	<110	150	<100	74 J	<1	<1	<5	<5	<10

Notes:

*Target analytes were detected in the method blank associated with the samples as noted on the QC Summary.
The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. Results are reported from the re-trial. The following are the results from the original analysis: MW-1 (68 µg/L), MW-2 (1200 J µg/L), MW-3 (2200 J µg/L), and MW-4 (51 J µg/L).

µg/L = Micrograms per liter

Bold = Value exceeds laboratory reporting limits

J = Quantified as approximate based on data validation

TPH-GRO = Gasoline Range Organics by Environmental Protection Agency (EPA) Method 8015B
TPH-DRO = diesel range organics by EPA Method 8015B
TPH-MRO = Motor oil range Organics by EPA Method 8015B
SGT = Silica Gel Treated

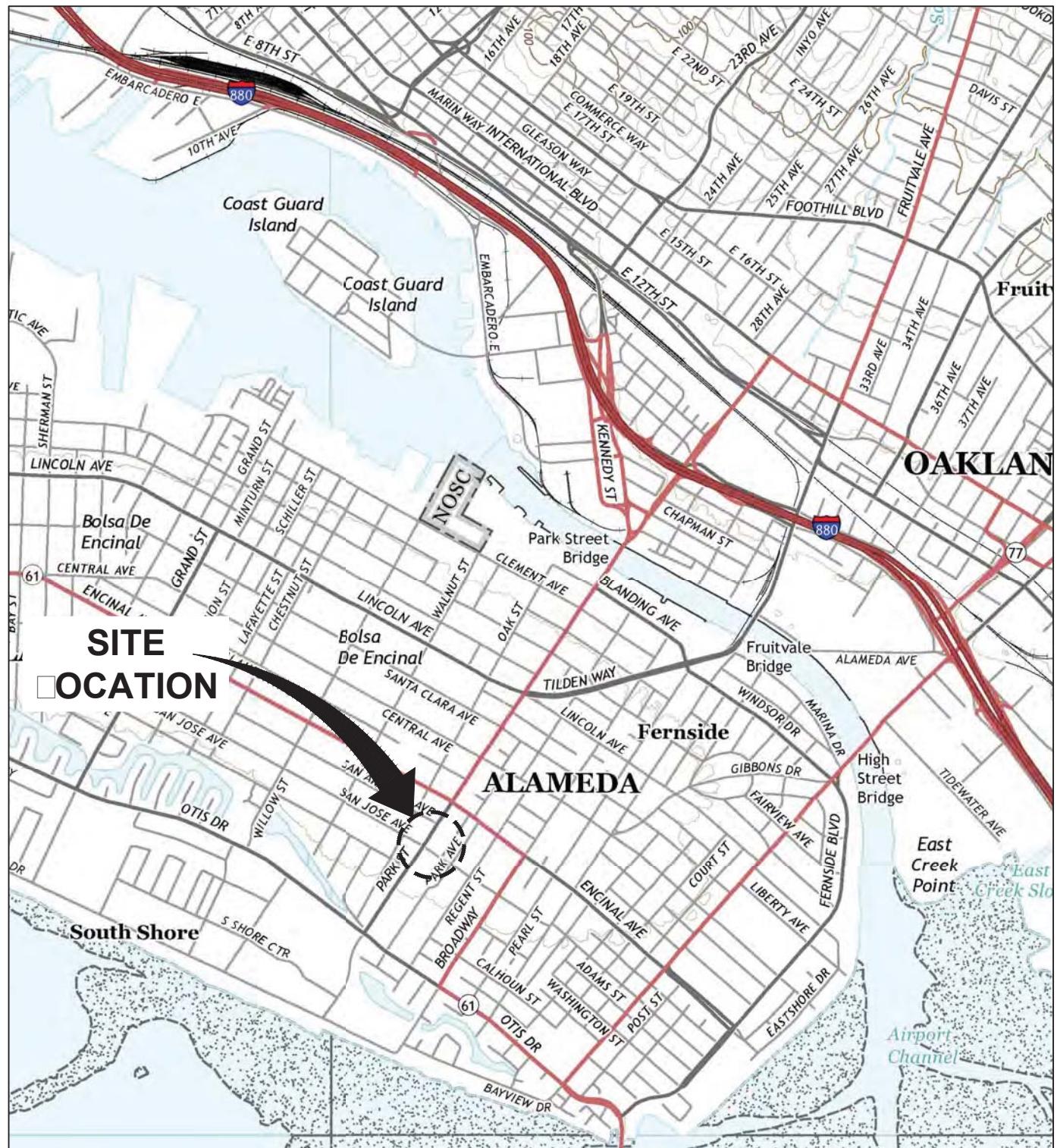
Samples analyzed by EPA Method 8260B:

Benzene, toluene, ethylbenzene and total xylenes (collectively BTEX)

ESL = Environmental Screening Levels for shallow groundwater [Groundwater Vapor Intrusion Human Health Risk Screening Levels for commercial/Industrial]
-- = Not applicable

FIGURES





REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. □ UAD., OAKLAND EAST AND OAKLAND WEST, CALIFORNIA, 2015.

0 2000' 4000'

Approximate Scale: 1 in. □ 2000 ft.



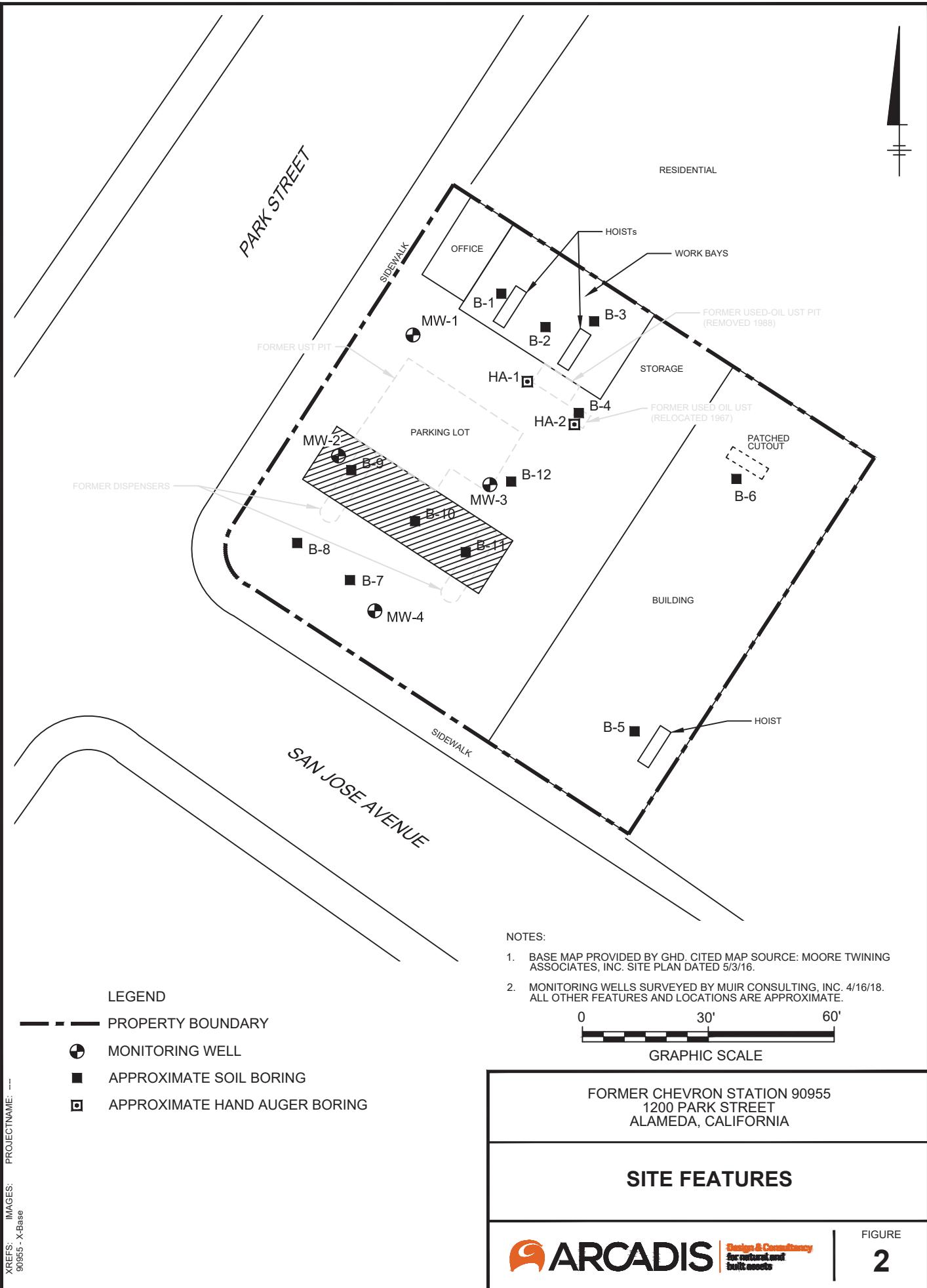
FORMER CHEVRON STATION 90955
 1200 PARK STREET
 ALAMEDA, CALIFORNIA

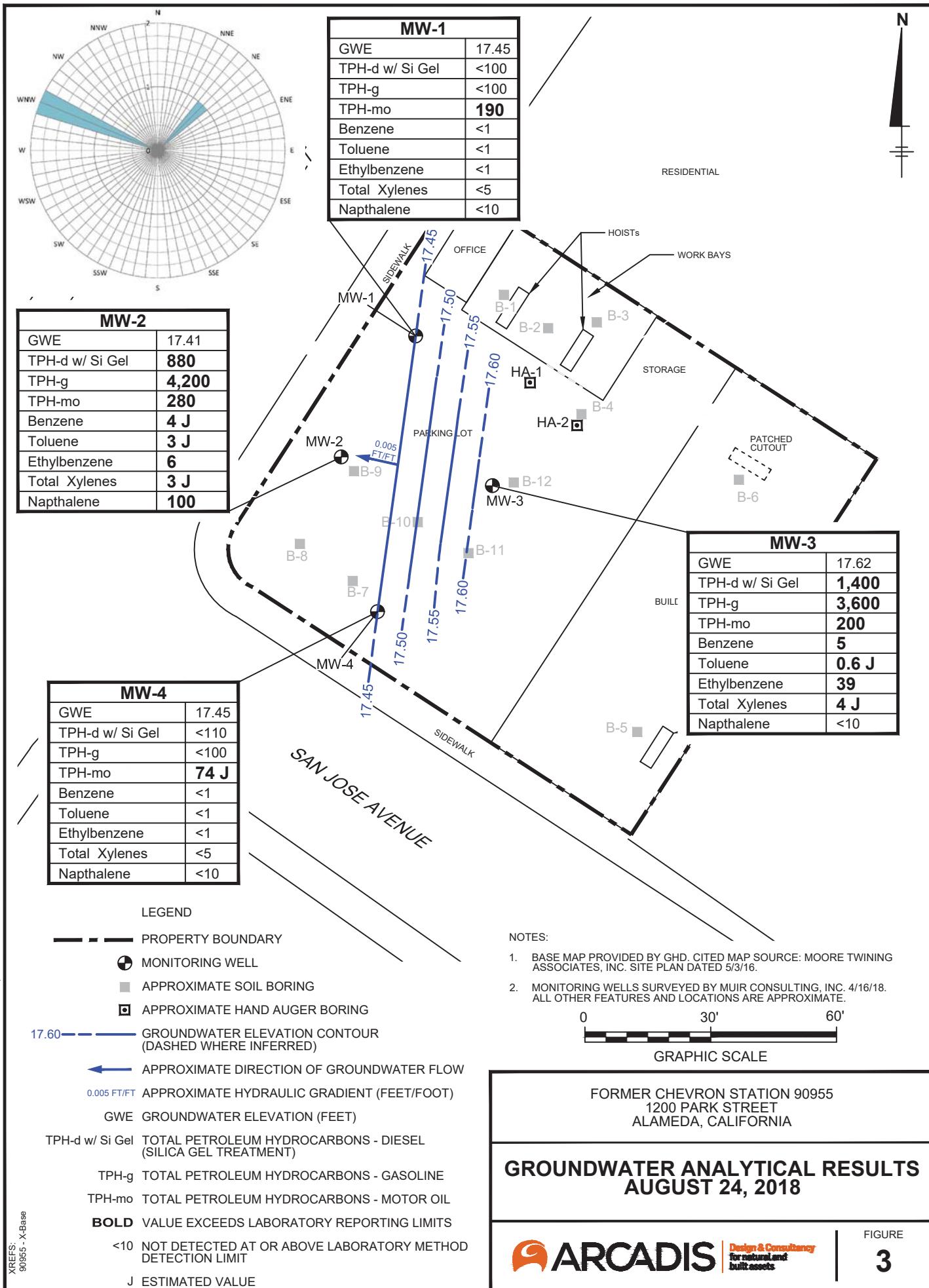
SITE LOCATION MAP

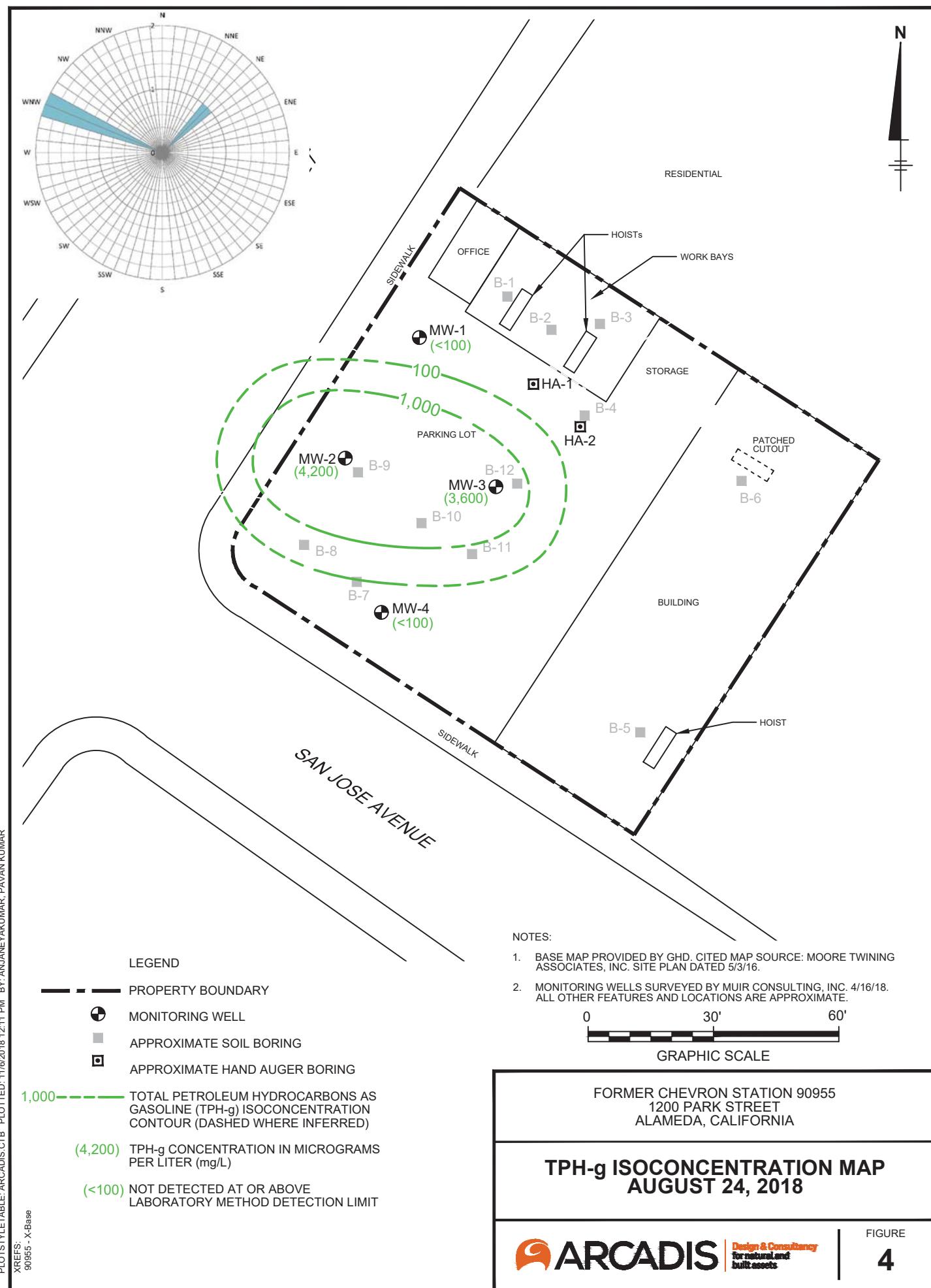
ARCADIS

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FIGURE
1







Groundwater Sampling Field Forms



GETTLER-RYAN INC.

TRANSMITTAL

August 29, 2018
G-R #17155916

TO: Ms. Katherine Szymanowski
Arcadis
2300 Clayton Road, Suite 400
Concord, CA 94520

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

RE: **Chevron #9-0955**
1200 Park Street
Alameda, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Report Third Quarter Event of August 24, 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-9-0955

WELL CONDITION STATUS SHEET

Client/ Facility #:	Chevron #9-0955				Job #:	17155916					
Site Address:	1200 Park Street				Event Date:	8-24-18					
City:	Alameda, CA				Sampler:	BW					
WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Relapped Rk=Repair Kit	Apron Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) Inches from TOC	Casing Condition (Condition prevents tight cap seal)	REPLACE LOCK Y/N	REPLACE CAP Y/N	WELL VAULT Manufacture/Sizer # of Bolts	Pictures Taken Y/N
MW-1	OK							N	N	ENCO /8" 1/2	N
MW-2	OK										
MW-3	OK										
MW-4	OK										
DRUMS PRESENT ON SITE? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> #: ARE DRUMS PROPERLY LABELED? Y/N — LOCATION OF DRUMS:											
Comments: (Signature)											

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 #9-0955
 Site Address: 1200 Park Street
 City: Alameda, CA

Job Number: 17155916
 Event Date: 8-24-18 (inclusive)
 Sampler: AW

Well ID MW-1
 Well Diameter 2 in.
 Total Depth 14.75 ft.
 Depth to Water 10.11 ft.

Date Monitored:

8-24-18

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

Check if water column is less than 0.50 ft.

4.64 x VF — = — 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): 0750
 Sample Time/Date: 0835 / 8-24-18
 Approx. Flow Rate: 200 lpm.
 Did well de-water? N If yes, Time: — Volume: — ltr. DTW @ Sampling: 10.73

Weather Conditions:
 Water Color: Cloudy Odor: Y / D
 Sediment Description: Cloudy

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (μS / mS $\mu\text{hos}/\text{cm}$)	Temperature ($^{\circ}\text{C}$ / $^{\circ}\text{F}$)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0808</u>	<u>3.6</u>	<u>7.08</u>	<u>262</u>	<u>19.5</u>	<u>—</u>	<u>—</u>	<u>10.16</u>
<u>0811</u>	<u>4.2</u>	<u>7.11</u>	<u>263</u>	<u>19.6</u>	<u>—</u>	<u>—</u>	<u>10.20</u>
<u>0814</u>	<u>4.6</u>	<u>7.12</u>	<u>265</u>	<u>19.6</u>	<u>—</u>	<u>—</u>	<u>10.23</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>6</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>EUROFINS</u>	<u>TPH-GRO(8015)/BTEX(8260)/NAPHTHALENE(8260)</u>
<u>2</u>	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO(8015)</u>
<u>2</u>	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO w/sgc(8015)</u>
<u>2</u>	<u>x 1 liter ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-MO(8015)</u>

COMMENTS: DEPTH PUMP SET AT: ~ 12.5 ft.

* Roots in well.

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 #9-0955
 Site Address: 1200 Park Street
 City: Alameda, CA

Job Number: 17155916
 Event Date: 8/24/18 (inclusive)
 Sampler: JW

Well ID	<u>MW-2</u>	Date Monitored:	<u>8-24-18</u>
Well Diameter	<u>2</u> in.	Volume Factor (VF)	3/4" = 0.02 4" = 0.66 5" = 1.02 6" = 1.50 12" = 5.80
Total Depth	<u>14.35</u> ft	<input type="checkbox"/> Check if water column is less than 0.50 ft.	
Depth to Water	<u>9.91</u> ft	<u>4.44</u> x VF = _____ x3 case volume = Estimated Purge Volume: _____ gal.	
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: _____			
Purge Equipment:	Sampling Equipment:		
Disposable Bailer	Disposable Bailer	Time Started: _____ (2400 hrs)	
Stainless Steel Bailer	Pressure Bailer	Time Completed: _____ (2400 hrs)	
Stack Pump	Metal Filters	Depth to Product: _____ ft	
Peristaltic Pump	Peristaltic Pump	Depth to Water: _____ ft	
QED Bladder Pump	QED Bladder Pump	Hydrocarbon Thickness: _____ ft	
	Other: _____	Visual Confirmation/Description: _____	
		Skimmer / Absorbant Sock (circle one): _____	
		Amt Removed from Skimmer: _____ ltr	
		Amt Removed from Well: _____ ltr	
		Water Removed: _____ ltr	

Start Time (purge):	<u>0850</u>	Weather Conditions:	<u>Cloudy</u>				
Sample Time/Date:	<u>0935 / 8-24-18</u>	Water Color:	<u>Cloudy</u>				
Approx. Flow Rate:	<u>200 ml/min.</u>	Sediment Description:	<u>moderate</u>				
Did well de-water?	<u>N</u>	If yes, Time:	<u>—</u> Volume: <u>—</u> ltr.				
DTW @ Sampling:	<u>10.00</u>						
Time (2400 hr.)	Volume (Liters)	pH	Conductivity (<u>15</u> / mS μmhos/cm)	Temperature (<u>19</u> / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0908</u>	<u>3.6</u>	<u>7.13</u>	<u>368</u>	<u>20.6</u>	<u>—</u>	<u>—</u>	<u>9.94</u>
<u>0911</u>	<u>4.2</u>	<u>7.05</u>	<u>362</u>	<u>20.7</u>	<u>—</u>	<u>—</u>	<u>4.99</u>
<u>0914</u>	<u>4.8</u>	<u>7.06</u>	<u>357</u>	<u>20.7</u>	<u>—</u>	<u>—</u>	<u>10.00</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(8260)/NAPHTHALENE(8260)
<u>24</u>	<u>x 500ml ambers</u>	YES	NP	EUROFINS	TPH-DRO(8015)
	<u>x 500ml ambers</u>	YES	NP	EUROFINS	TPH-DRO w/sgc(8015)
	<u>2 x 1 liter ambers</u>	YES	NP	EUROFINS	TPH-MO(8015)

COMMENTS: DEPTH PUMP SET AT: ~12.0ft.

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 #9-0955
 Site Address: 1200 Park Street
 City: Alameda, CA

Job Number: 17155916
 Event Date: 8-24-18 (inclusive)
 Sampler: AW

Well ID MW- 3
 Well Diameter 2 in.
 Total Depth 14.92 ft.
 Depth to Water 9.70 ft.
5.22 xVF — = —

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

Check if water column is less than 0.50 ft.

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): 0950
 Sample Time/Date: 1040 18-24-18
 Approx. Flow Rate: 200 mlpm.
 Did well de-water? ✓ If yes, Time: —

Weather Conditions:
 Water Color: Cloudy Odor: O/N Slight
 Sediment Description: Cloudy
 Itr. DTW @ Sampling: 9.83

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>1008</u>	<u>3.6</u>	<u>6.98</u>	<u>328</u>	<u>22.0</u>	<u>—</u>	<u>—</u>	<u>9.77</u>
<u>1011</u>	<u>4.2</u>	<u>7.00</u>	<u>333</u>	<u>22.1</u>	<u>—</u>	<u>—</u>	<u>9.80</u>
<u>1014</u>	<u>4.8</u>	<u>7.01</u>	<u>335</u>	<u>22.1</u>	<u>—</u>	<u>—</u>	<u>9.83</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW- 3</u>	<u>6</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>EUROFINS</u>	<u>TPH-GRO(8015)/BTEX(8260)/NAPHTHALENE(8260)</u>
<u>25</u>	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO(8015)</u>
	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO w/sgc(8015)</u>
	<u>2</u> x 1 liter ambers	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-MO(8015)</u>

COMMENTS: DEPTH PUMP SET AT: ~ 12.0 ft.

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 #9-0955
 Site Address: 1200 Park Street
 City: Alameda, CA

Job Number: 17155916
 Event Date: 8-24-18 (inclusive)
 Sampler: AV

Well ID MW-4

Date Monitored: 8-24-18

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 14.97 ft.

Depth to Water 9.75 ft

Check if water column is less than 0.50 ft

5.72 x VF — = — 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): 0655

Weather Conditions:

Sample Time/Date: 0740 / 8-24-18

Cloudy

Approx. Flow Rate: 200 ml/min.

Cloudy

Did well de-water? ✓ If yes, Time: — Volume: — ltr. DTW @ Sampling: 9.38

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (mS/mhos/cm)	Temperature (°C / °F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>0713</u>	<u>3.6</u>	<u>7.18</u>	<u>355</u>	<u>21.2</u>	<u>—</u>	<u>—</u>	<u>9.29</u>
<u>0716</u>	<u>4.2</u>	<u>7.21</u>	<u>359</u>	<u>21.3</u>	<u>—</u>	<u>—</u>	<u>9.33</u>
<u>0719</u>	<u>4.8</u>	<u>7.23</u>	<u>363</u>	<u>21.3</u>	<u>—</u>	<u>—</u>	<u>9.38</u>

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>6</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>EUROFINS</u>	<u>TPH-GRO(8015)/BTEX(8260)/NAPHTHALENE(8260)</u>
<u>2</u>	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO(8015)</u>
<u>2</u>	<u>x 500ml ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-DRO w/sgc(8015)</u>
<u>2</u>	<u>x 1 liter ambers</u>	<u>YES</u>	<u>NP</u>	<u>EUROFINS</u>	<u>TPH-MO(8015)</u>

COMMENTS: DEPTH PUMP SET AT: ~11.5ft.

Add/Replaced Gasket: _____

Add/Replaced Bolt or FRK: _____

Add/Replaced Lock: _____

Add/Replaced Plug: _____

Chevron California Region Analysis Request/Chain of Custody

eurofins | 1C-588
Lancaster
Laboratories
82418-Q1

Facility #9-0955-0ML G-R#17155916 GLOWSQD#T10000009401
Acct. # _____ Group # _____ Sample # _____
Instructions on reverse side correspond with circled numbers.

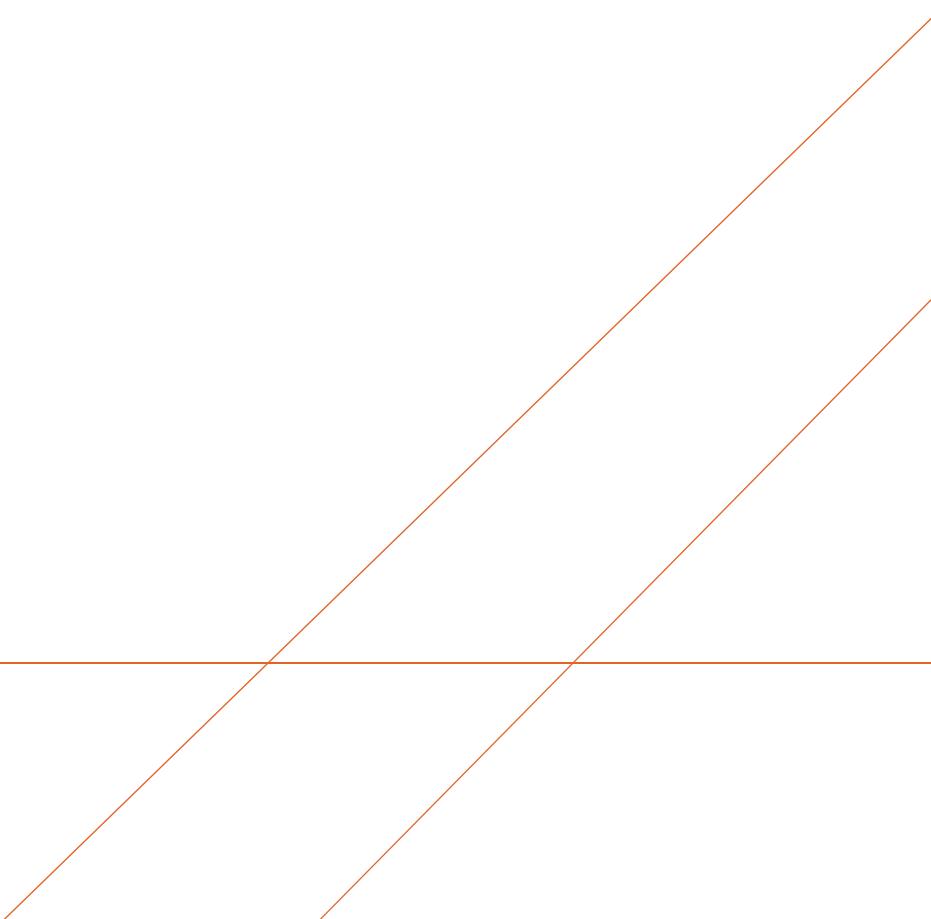
Client Information			Analyses Requested									
			Matrix					Remarks				
①	Site Address		④	Sediment	Soil	Composite	Grab	Water	Oil	Total Lead	Oxygenates	
	ARCAKS		⑤	<input checked="" type="checkbox"/>	<input type="checkbox"/>							
	ChevronPM		⑥	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
①	PARK STREET, ALAMEDA, CA		②	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ChevronPM		③	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ARCAKS		④	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Deanna@grinc.com		⑤	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Conqueror-Ryan Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568		⑥	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Contractor: Harding, deanna@grinc.com			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Contractor #: 551-7444 x180			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Sampler: Alex W.			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
②	Sample Identification	Soil	Collected	Depth	Date	Time	Grab	Water	Oil	Total Lead	Oxygenates	
	QA			16.824	16.824		X					
	MVN-1			16.824	16.825		X					
	MVN-2			16.824	16.825		X					
	MVN-3			16.824	16.824		X					
	MVN-4			16.824	16.824		X					
⑦	Turnaround Time Requested (TAT) (please circle)	4 day	5 day	72 hour	24 hr	EDD	Relinquished by	Received by	Date	Time	Time	
	Standard						18.624	1130	AUG 18	1130	9	
							Relinquished by	Received by	Date	Time		
⑧	Data Package (circle if required)	EDD (circle if required)	EDF/FLAT (default)	Other:	UPS	FedEx	Other	Received by	Date	Time	Time	
	Type I - Full											
	Type VI (Raw Data)											
	Temperature Upon Receipt	°C	Custody Seals Intact?	Yes	No							

- Results in Dry Weight
- J value reporting needed
- Must meet lowest detection limits possible for 8260 compounds
- 8021 MTBE Confirmation
- Confirm highest hit by 8260
- Confirm all hits by 8260
- Run _____ oxy's on highest hit
- Run _____ oxy's on all hits

The white copy should accompany samples to Eurofins Lancaster Laboratories. Inc. • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The yellow copy should be retained by the client.

Issued by Dept. 40 Management
7050 03

Laboratory Analytical Results





REVISED

ANALYSIS REPORT

Prepared by:

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

Prepared for:

Chevron
L4310
6001 Bollinger Canyon Rd.
San Ramon CA 94583

Report Date: September 27, 2018 14:43

Project: 90955

Account #: 11928
Group Number: 1980496
PO Number: 0015269765
Release Number: CMACLEOD
State of Sample Origin: CA

Electronic Copy To ARCADIS
Electronic Copy To ARCADIS

Attn: Katherine Szymanowski
Attn: Colleen Taggart

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

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.



REVISED

SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection</u>	<u>ELLE#</u>
	<u>Date/Time</u>	
QA-T-180824 NA Water	08/24/2018	9772970
MW-1-W-180824 Grab Groundwater	08/24/2018 08:35	9772971
MW-2-W-180824 Grab Groundwater	08/24/2018 09:35	9772972
MW-3-W-180824 Grab Groundwater	08/24/2018 10:40	9772973
MW-4-W-180824 Grab Groundwater	08/24/2018 07:40	9772974

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

Sample Description: QA-T-180824 NA Water
 Facility# 90955 Job# 17155916 GRD
 1200 Park Street-Alameda T10000009401

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018

Chevron
ELLE Sample #: WW 9772970
ELLE Group #: 1980496
Matrix: Water

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.	0.2	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC Volatiles	SW-846 8015B		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	17	100	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B Water	SW-846 8260B	1	F182431AA	08/31/2018 13:29	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F182431AA	08/31/2018 13:29	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18239B20A	08/28/2018 20:01	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18239B20A	08/28/2018 20:01	Jeremy C Giffin	1

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

Sample Description: MW-1-W-180824 Grab Groundwater
Facility# 90955 **Job#** 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772971
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 08:35

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.	0.2	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC Volatiles	SW-846 8015B		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	17	100	1
GC Petroleum Hydrocarbons	SW-846 8015B		ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	230	52	100	1
Total DRO was detected in the method blank associated with the samples as noted on the QC Summary in the amount of 61 ug/l (LOQ 100; MDL 50).						
GC Petroleum Hydrocarbons	SW-846 8015B modified		ug/l	ug/l	ug/l	
02500	Total TPH	n.a.	190	38	120	1
02500	TPH Motor Oil C16-C36	n.a.	190	38	120	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.						
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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX & Naphthalene 8260B	SW-846 8260B	1	F182431AA	08/31/2018 19:45	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F182431AA	08/31/2018 19:45	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18239B20A	08/28/2018 23:43	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18239B20A	08/28/2018 23:43	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	182390004A	08/30/2018 19:51	Thomas C Wildermuth	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B modified	1	182420022A	09/04/2018 14:32	Timothy M Emrick	1

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

Sample Description: MW-1-W-180824 Grab Groundwater
Facility# 90955 Job# 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772971
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 08:35

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	182390003A	09/04/2018 18:57	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	182390004A	08/28/2018 02:30	Sherry L Morrow	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	182390003A	08/28/2018 02:30	Sherry L Morrow	1
11191	TPH Fuels Waters Extraction	SW-846 3510C	1	182420022A	08/30/2018 19:00	Ryan J Dowdy	1

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

Sample Description: MW-2-W-180824 Grab Groundwater
Facility# 90955 **Job#** 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772972
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 09:35

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	4 J	1	5	5
10945	Ethylbenzene	100-41-4	6	1	5	5
10945	Naphthalene	91-20-3	100	20	50	5
10945	Toluene	108-88-3	3 J	1	5	5
10945	Xylene (Total)	1330-20-7	3 J	3	25	5
GC Volatiles	SW-846 8015B		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	4,200	85	500	5
GC Petroleum Hydrocarbons	SW-846 8015B		ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	1,700	52	100	1
GC Petroleum Hydrocarbons	SW-846 8015B modified		ug/l	ug/l	ug/l	
02500	Total TPH	n.a.	280	38	110	1
02500	TPH Motor Oil C16-C36	n.a.	280	38	110	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.						
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.	880	50	100	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX & Naphthalene 8260B	SW-846 8260B	1	F182431AA	08/31/2018 20:07	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F182431AA	08/31/2018 20:07	Daniel H Heller	5
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18242A20A	09/01/2018 01:23	Marie D Beamenderfer	5
01146	GC VOA Water Prep	SW-846 5030B	1	18242A20A	09/01/2018 01:23	Marie D Beamenderfer	5
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	182390004A	08/30/2018 20:13	Thomas C Wildermuth	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B modified	1	182420022A	09/04/2018 13:49	Timothy M Emrick	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	182390003A	09/04/2018 19:19	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	182390004A	08/28/2018 02:30	Sherry L Morrow	1

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

REVISED

Sample Description: MW-2-W-180824 Grab Groundwater
Facility# 90955 Job# 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772972
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 09:35

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	182390003A	08/28/2018 02:30	Sherry L Morrow	1
11191	TPH Fuels Waters Extraction	SW-846 3510C	1	182420022A	08/30/2018 19:00	Ryan J Dowdy	1

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

Sample Description: MW-3-W-180824 Grab Groundwater
Facility# 90955 **Job#** 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772973
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 10:40

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	5	0.2	1	1
10945	Ethylbenzene	100-41-4	39	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	0.6 J	0.2	1	1
10945	Xylene (Total)	1330-20-7	4 J	0.5	5	1
GC Volatiles	SW-846 8015B		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	3,600	17	100	1
GC Petroleum Hydrocarbons	SW-846 8015B		ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	1,900	51	100	1
GC Petroleum Hydrocarbons	SW-846 8015B modified		ug/l	ug/l	ug/l	
02500	Total TPH	n.a.	200	38	120	1
02500	TPH Motor Oil C16-C36	n.a.	200	38	120	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.						
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.	1,400	50	100	1
The reverse surrogate, capric acid, is present at <1%.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX & Naphthalene 8260B	SW-846 8260B	1	F182431AA	08/31/2018 20:29	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F182431AA	08/31/2018 20:29	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18239B20A	08/29/2018 00:39	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18239B20A	08/29/2018 00:39	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	182390004A	08/30/2018 20:34	Thomas C Wildermuth	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B modified	1	182420022A	09/04/2018 14:11	Timothy M Emrick	1
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	182390003A	09/04/2018 19:41	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	182390004A	08/28/2018 02:30	Sherry L Morrow	1

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

Sample Description: MW-3-W-180824 Grab Groundwater
Facility# 90955 Job# 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772973
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 10:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	182390003A	08/28/2018 02:30	Sherry L Morrow	1
11191	TPH Fuels Waters Extraction	SW-846 3510C	1	182420022A	08/30/2018 19:00	Ryan J Dowdy	1

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

Sample Description: MW-4-W-180824 Grab Groundwater
Facility# 90955 **Job#** 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772974
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 07:40

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.	0.2	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC Volatiles	SW-846 8015B		ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	17	100	1
GC Petroleum Hydrocarbons	SW-846 8015B		ug/l	ug/l	ug/l	
06609	TPH-DRO CA C10-C28	n.a.	150	53	110	1
Total DRO was detected in the method blank associated with the samples as noted on the QC Summary in the amount of 61 ug/l (LOQ 100; MDL 50).						
GC Petroleum Hydrocarbons	SW-846 8015B modified		ug/l	ug/l	ug/l	
02500	Total TPH	n.a.	74 J	38	110	1
02500	TPH Motor Oil C16-C36	n.a.	74 J	38	110	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.						
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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX & Naphthalene 8260B	SW-846 8260B	1	F182431AA	08/31/2018 20:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F182431AA	08/31/2018 20:51	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	18239B20A	08/29/2018 01:06	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	18239B20A	08/29/2018 01:06	Jeremy C Giffin	1
06609	TPH-DRO CA C10-C28	SW-846 8015B	1	182390004A	08/30/2018 20:56	Thomas C Wildermuth	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B modified	1	182420022A	09/04/2018 13:27	Timothy M Emrick	1

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

Sample Description: MW-4-W-180824 Grab Groundwater
Facility# 90955 Job# 17155916 GRD
1200 Park Street-Alameda T10000009401

Chevron
ELLE Sample #: WW 9772974
ELLE Group #: 1980496
Matrix: Groundwater

Project Name: 90955

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/24/2018 07:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06610	TPH-DRO CA C10-C28 w/ Si Gel	SW-846 8015B	1	182390003A	09/04/2018 20:03	Thomas C Wildermuth	1
02376	Extraction - Fuel/TPH (Waters)	SW-846 3510C	1	182390004A	08/28/2018 02:30	Sherry L Morrow	1
11180	Low Vol Ext(W) w/SG	SW-846 3510C	1	182390003A	08/28/2018 02:30	Sherry L Morrow	1
11191	TPH Fuels Waters Extraction	SW-846 3510C	1	182420022A	08/30/2018 19:00	Ryan J Dowdy	1

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

Quality Control Summary

Client Name: Chevron
Reported: 09/27/2018 14:43

Group Number: 1980496

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 ug/l	MDL** ug/l	LOQ ug/l
Batch number: F182431AA			
Benzene	N.D.	0.2	1
Ethylbenzene	N.D.	0.2	1
Naphthalene	N.D.	4	10
Toluene	N.D.	0.2	1
Xylene (Total)	N.D.	0.5	5
Batch number: 18239B20A			
TPH-GRO N. CA water C6-C12	N.D.	17	100
Batch number: 18242A20A			
TPH-GRO N. CA water C6-C12	N.D.	17	100
Batch number: 182390004A			
TPH-DRO CA C10-C28	61 J	50	100
Batch number: 182420022A			
Total TPH	N.D.	40	120
TPH Motor Oil C16-C36	N.D.	40	120
Batch number: 182390003A			
TPH-DRO CA C10-C28 w/ Si Gel	N.D.	50	100

LCS/LCSD

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: F182431AA									
Benzene	20	19.98	20	19.63	100	98	80-120	2	30
Ethylbenzene	20	19.76	20	19.92	99	100	80-120	1	30
Naphthalene	20	18.66	20	18.39	93	92	53-124	1	30
Toluene	20	20.6	20	19.52	103	98	80-120	5	30
Xylene (Total)	60	59.25	60	60.02	99	100	80-120	1	30
Batch number: 18239B20A									
TPH-GRO N. CA water C6-C12	1100	1086.7	1100	1095.16	99	100	74-120	1	30

*- 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: 09/27/2018 14:43

Group Number: 1980496

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: 18242A20A TPH-GRO N. CA water C6-C12	Sample number(s): 9772972 1100	1069.25	1100	1050.97	97	96	74-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 182390004A TPH-DRO CA C10-C28	Sample number(s): 9772971-9772974 1605.97	1520.01	1605.97	1418.59	95	88	53-115	7	20
Batch number: 182420022A Total TPH	Sample number(s): 9772971-9772974 802.98	615.81	802.98	685.69	77	85	44-115	11	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 182390003A TPH-DRO CA C10-C28 w/ Si Gel	Sample number(s): 9772971-9772974 1605.97	1329.5	1605.97	1158.41	83	72	40-105	14	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: BTEX & Naphthalene 8260B

Batch number: F182431AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9772970	96	96	95	102
9772971	96	97	100	95
9772972	96	96	99	100
9772973	95	97	101	101
9772974	99	96	100	97
Blank	97	99	100	96
LCS	96	102	99	99
LCSD	95	95	96	99
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TPH-GRO N. CA water C6-C12

Batch number: 18239B20A

	Trifluorotoluene-F
9772970	89
9772971	85
9772973	112
9772974	85
Blank	87
LCS	96

*- 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: 09/27/2018 14:43

Group Number: 1980496

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-GRO N. CA water C6-C12

Batch number: 18239B20A

Trifluorotoluene-F

LCSD	98
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Limits: 63-135

Analysis Name: TPH-GRO N. CA water C6-C12

Batch number: 18242A20A

Trifluorotoluene-F

9772972	95
Blank	88
LCS	101
LCSD	100

Limits: 63-135

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

Batch number: 182390003A

Orthoterphenyl

9772971	65
9772972	66
9772973	68
9772974	57
Blank	75
LCS	85
LCSD	73

Limits: 47-115

Analysis Name: TPH-DRO CA C10-C28

Batch number: 182390004A

Orthoterphenyl

9772971	82
9772972	95
9772973	93
9772974	80
Blank	95
LCS	99
LCSD	95

Limits: 50-124

Analysis Name: TPH Fuels by GC (Waters)

Batch number: 182420022A

*- 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.

REVISED

Quality Control Summary

Client Name: Chevron
Reported: 09/27/2018 14:43

Group Number: 1980496

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 Fuels by GC (Waters)

Batch number: 182420022A

	Chlorobenzene	Orthotolphenyl
9772971	66	64
9772972	103	84
9772973	109	95
9772974	71	76
Blank	72	85
LCS	69	85
LCSD	76	95

Limits: 43-121 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.



Group Number(s): 1980496

Client: CA Office

Delivery and Receipt Information

Delivery Method:	<u>BASC</u>	Arrival Timestamp:	<u>08/25/2018 10:05</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>2</u>
State/Province of Origin:	<u>CA</u>		

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:	Yes
Samples Chilled:	Yes	VOA IDs (\geq 6mm):	See Below
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCI
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

VOA Vial IDs (Headspace \geq 6mm): QA (1 of 2)

Unpacked by Melvin Sanchez (8943) at 11:56 on 08/25/2018

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	DT131	1.0	DT	Wet	Y	Bagged	N
2	DT131	0.7	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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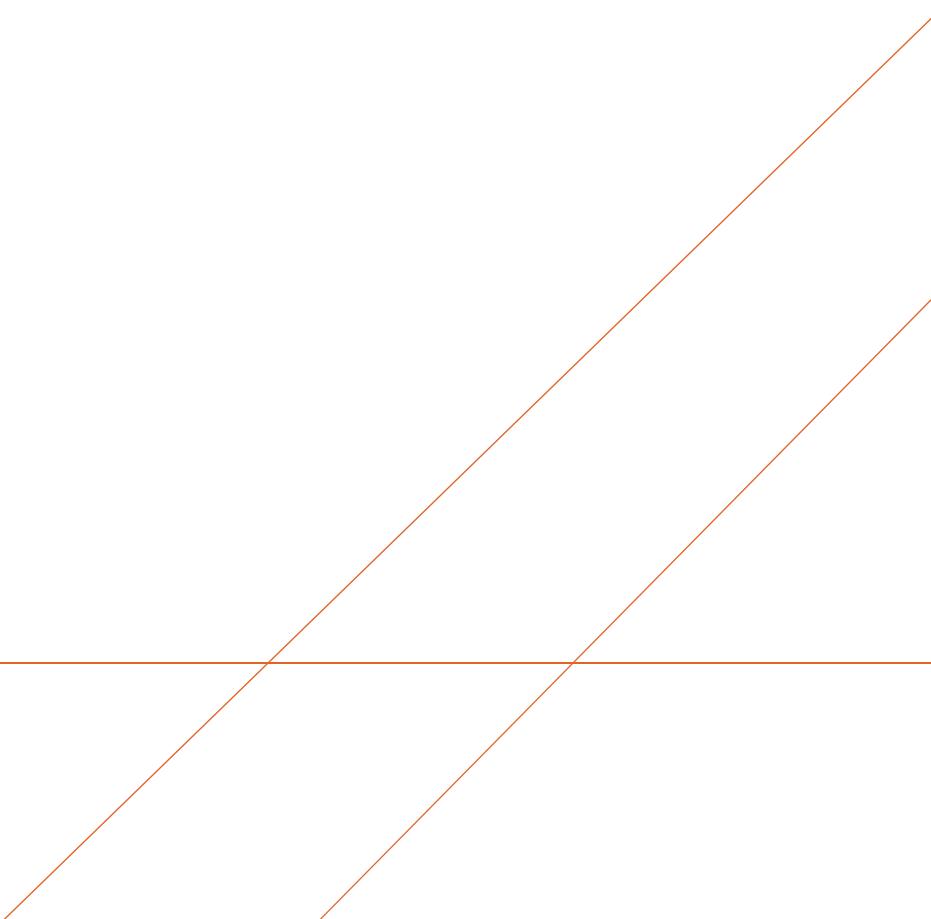
Data Qualifiers

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 >= 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.
P^	Concentration difference between the primary and confirmation column > 40%. The higher 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

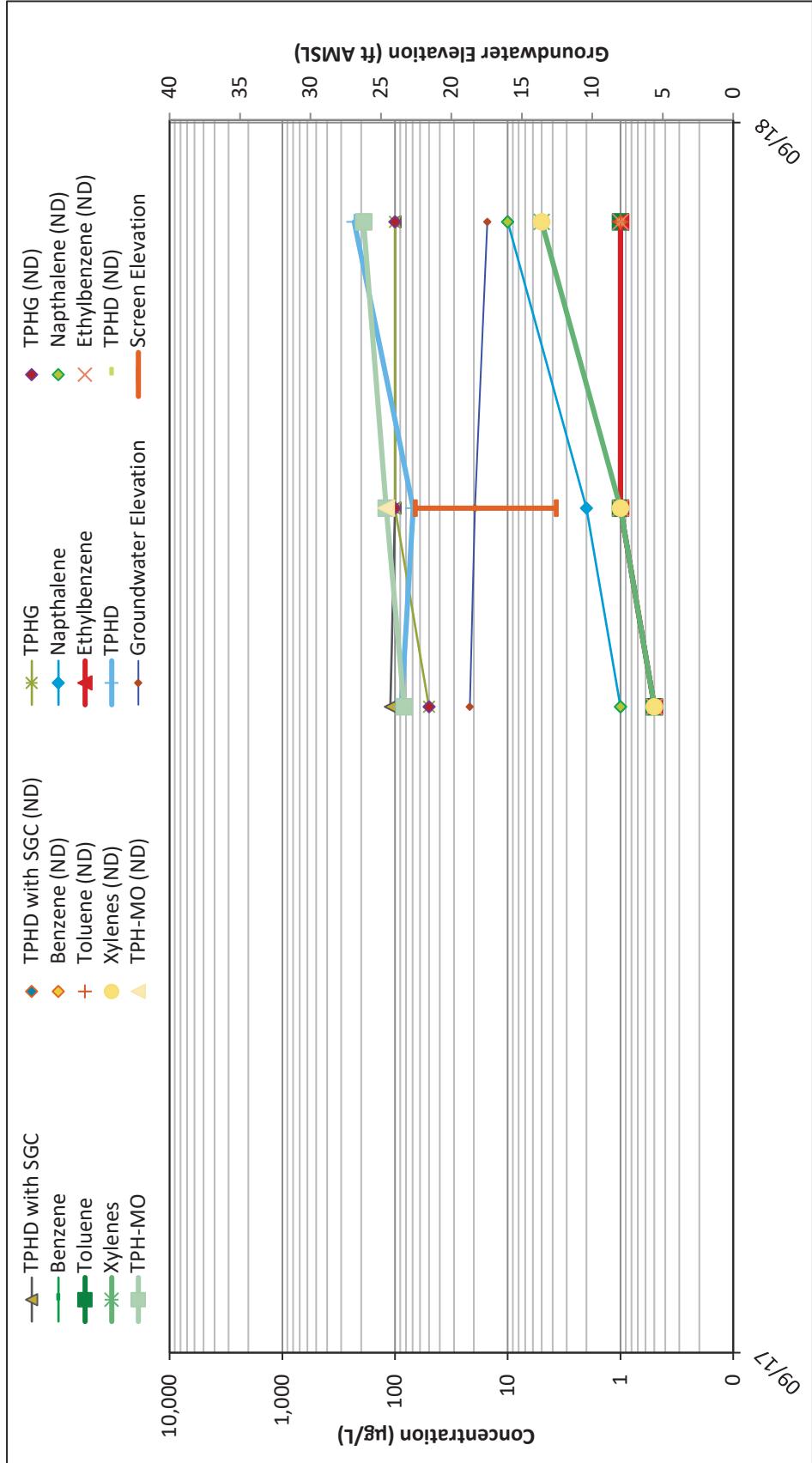
Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.

Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Trend Graphs



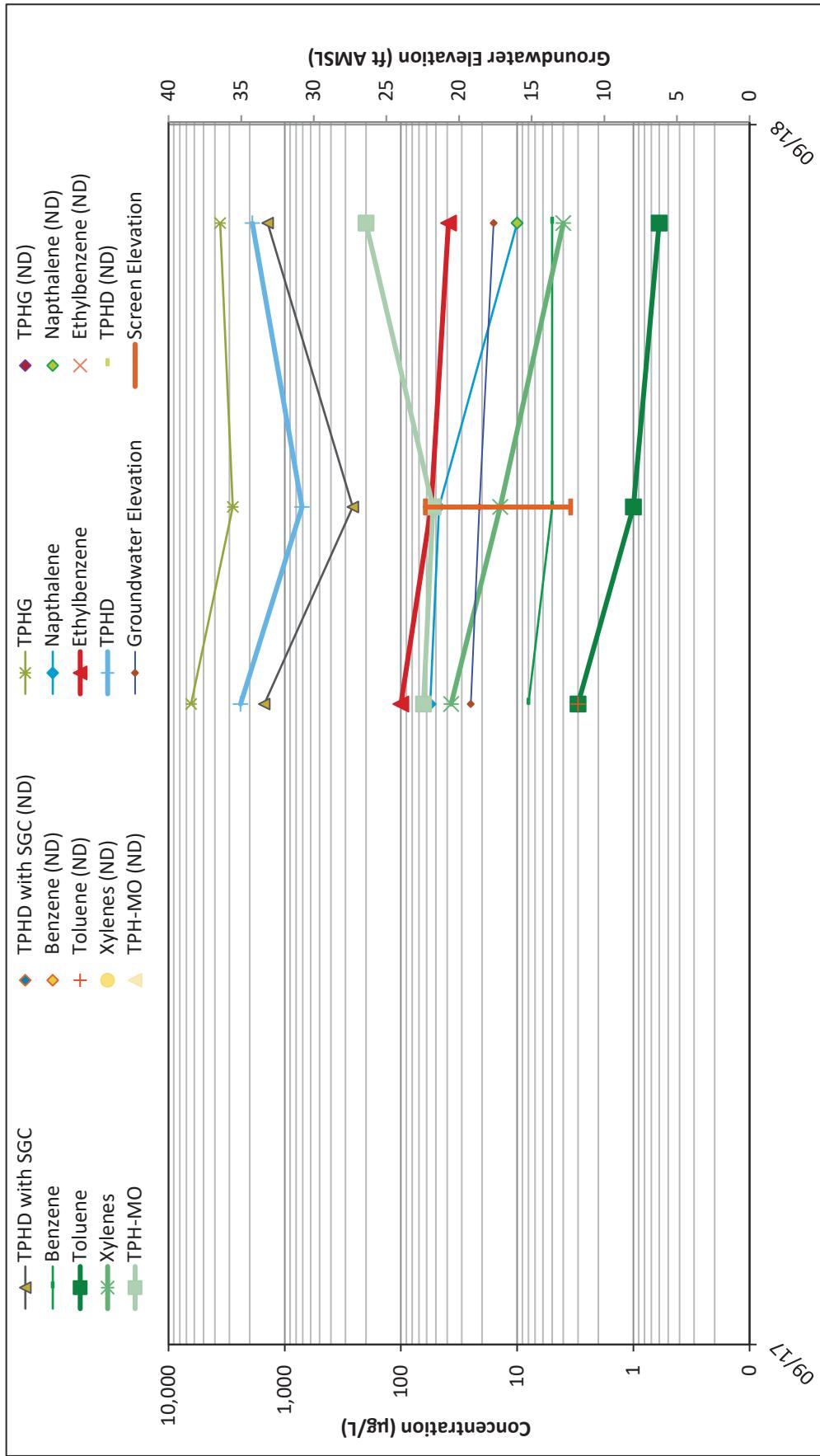
Appendix C
MW-1 Trend Graph
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



Appendix C
MW-2 Trend Graph
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



Appendix C
MW-3 Trend Graph
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



Appendix C
MW-4 Trend Graph
Former Chevron Service Station 90955
1200 Park Street
Alameda, California



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