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Second Quarter 2015 Semi-Annual Groundwater Monitoring Report

Former Chevron-branded Service Station 92029 890 West MacArthur Boulevard Oakland, California Case #: RO0002438



Prepared for: Chevron Environmental Management Company 6101 Bollinger Canyon Road San Ramon, CA 94583

Prepared by: Stantec Consulting Services Inc. 15575 Los Gatos Blvd., Building C Los Gatos, CA 95032



Carryl MacLeod
Project Manager
Marketing Business Unit

Chevron Environmental Management Company 6101 Bollinger Canyon Road San Ramon, CA 94583 Tel (925) 790-6506 CMacleod@chevron.com

June 25, 2015

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

Dear Mr. Detterman:

Attached for your review is the Second Quarter 2015 Semi-Annual Groundwater Monitoring Report for former Chevron-branded service station 92029, located at 890 West MacArthur Boulevard in Oakland, California (Case #: RO0002438). This report was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. 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 or the Stantec project manager, Travis Flora, at (408) 356-6124 ext. 238, or <a href="mailto:travis.flora@stantec.com">travis.flora@stantec.com</a>.

Sincerely,

Carryl MacLeod Project Manager



June 25, 2015

Attention: Mr. Mark Detterman

Alameda County Environmental Health

1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Reference: Second Quarter 2015 Semi-Annual Groundwater Monitoring Report

Former Chevron-branded Service Station 92029 890 West MacArthur Boulevard, Oakland, California

Case #: RO0002438

Dear Mr. Detterman:

On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Services Inc. (Stantec) is pleased to submit the Second Quarter 2015 Semi-Annual Groundwater Monitoring Report for former Chevron-branded service station 92029, located at 890 West MacArthur Boulevard, Oakland, Alameda County, California (Site - shown on **Figure 1**). This report is presented in three sections: Site Background, Second Quarter 2015 Groundwater Monitoring and Sampling Program, and Conclusions and Recommendations.

#### SITE BACKGROUND

The Site is a former Chevron-branded service station located on the northeast corner at the intersection of West MacArthur Boulevard and Market Street in Oakland, California. The Site is currently a fenced vacant lot. A former Chevron-branded service station operated at the Site from approximately 1956 to 2004. Prior to 1970, Site features consisted of two 5,000-gallon and one 3,000-gallon gasoline underground storage tanks (USTs) located in the eastern portion of the Site, three fuel dispenser islands (one located in the northwestern portion of the Site and two located in the central portion of the Site), associated product piping, a station building with two hydraulic hoists, and a waste oil UST (unknown size) located in the northern portion of the Site. The product piping was replaced in 1970, and the 3,000-gallon UST was replaced with a 10,000-gallon UST sometime before 1978. In 1982, the two 5,000-gallon and one 10,000-gallon USTs were replaced with three 10,000-gallon fiberglass USTs.

In 1984, the service station building was demolished, the hydraulic hoists were removed, and a kiosk was installed near the center of the Site. In addition, the three fuel dispenser islands were removed from the Site and replaced with five fuel dispenser islands (two located in the north-central portion of the Site and three located in the south-central portion of the Site). The fuel dispenser islands were replaced and the USTs were upgraded in 1997. The waste oil UST was removed from the Site sometime between 1984 and 1997. In 2005, the service station was closed and all Site structures, including the three 10,000-gallon fiberglass USTs and fuel dispenser islands, were removed. According to the Well Installation Report, prepared by Conestoga-Rovers & Associates (CRA) and dated November 18, 2008, extensive over-excavation was performed at this time and approximately 5,135 tons of impacted soil and 25,500 gallons of groundwater were removed and disposed off Site.

Former Chevron-branded Service Station 92029 June 25, 2015 Page 2 of 6

Land use near the Site consists of a mixture of commercial and residential properties. The Site is bounded to the north by a residential area, on the west by Market Street followed by a small grocery store and associated parking, on the south by West MacArthur Boulevard followed by a tire sales and service shop, and to the east by a motel.

#### SECOND QUARTER 2015 GROUNDWATER MONITORING AND SAMPLING PROGRAM

Gettler-Ryan Inc. (G-R) performed the Second Quarter 2015 groundwater monitoring and sampling event on May 7, 2015. G-R's standard operating procedures (SOPs) and field data sheets are included in **Attachment A**. G-R gauged depth-to-groundwater (DTW) in four Site wells (MW-5 through MW-8) prior to collecting groundwater samples for laboratory analysis. All four wells, which are located down-gradient of the Site, were sampled this quarter. Sheen was noted in well MW-6 during sampling.

Investigation-derived waste (IDW) generated during the Second Quarter 2015 groundwater monitoring and sampling event was transported by Clean Harbors Environmental Services to Seaport Environmental in Redwood City, California.

#### **Groundwater Elevation and Gradient**

Well construction details and a screen interval assessment for each Site well are presented in **Table 1**. All four Site wells are currently screened across the prevailing groundwater table. Current and historical groundwater elevation data are presented in **Table 2**. A groundwater elevation contour map (based on Second Quarter 2015 data) is shown on **Figure 2**. The direction of groundwater flow at the time of sampling was generally towards the southwest at an average hydraulic gradient of approximately 0.032 feet per foot (ft/ft). This is generally consistent with the historical direction of groundwater flow, as shown by the groundwater flow direction rose diagram on **Figure 3** illustrating the direction of groundwater flow from First Quarter 2002 to present.

#### **Schedule of Laboratory Analysis**

Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline range organics (TPH-GRO) using United States Environmental Protection Agency (US EPA) Method 8015B (SW-846). Benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds) and fuel oxygenates (methyl tertiary-butyl ether [MtBE], di-isopropyl ether [DIPE], ethyl tertiary-butyl ether [EtBE], tertiary-amyl methyl ether [TAME], and tertiary-butyl alcohol [TBA]) were analyzed using US EPA Method 8260B (SW-846).

#### **Groundwater Analytical Results**

During Second Quarter 2015, groundwater samples were collected from four Site wells (MW-5 through MW-8). Current and historical groundwater analytical results are included in **Table 2** and **Table 3**. A figure showing the latest groundwater analytical data plotted on a Site map is included as **Figure 4**. A TPH-GRO isoconcentration map is shown on **Figure 5**. A benzene isoconcentration map is shown on **Figure 6**. An isoconcentration map was not developed for MtBE because concentrations were below California Regional Water Quality Control Board – San Francisco Bay Region Environmental Screening Levels (ESLs) for groundwater that is a current or potential source of drinking water or method detection limits (MDLs).

Former Chevron-branded Service Station 92029 June 25, 2015 Page 3 of 6

Certified laboratory analysis reports and chain-of-custody documents are presented as **Attachment B**. Hydrographs based on current and historical groundwater elevations and analytical results are included in **Attachment C**. A summary of Second Quarter 2015 groundwater analytical results follows:

- **TPH-GRO** was detected in three Site wells, at concentrations of 2,800 micrograms per liter (µg/L; well MW-5), 3,600 µg/L (well MW-6), and 5,000 µg/L (well MW-7), which are within historical limits for each respective well.
- Benzene was detected in three Site wells, at concentrations of 1 μg/L (well MW-5), 19 μg/L (well MW-6), and 24 μg/L (well MW-7), which are within historical limits for each respective well.
- **Toluene** was detected in three Site wells, at concentrations of 0.8 µg/L (well MW-7), 1 µg/L (well MW-5), and 2 µg/L (well MW-6). The concentrations in wells MW-5 and MW-6 are within historical limits, while the concentration in well MW-7 is a historical high.
- Ethylbenzene was detected in three Site wells, at concentrations of 2 μg/L (well MW-5), 7 μg/L (well MW-6), and 19 μg/L (well MW-7), which are within historical limits for each respective well.
- **Total Xylenes** were detected in one Site well, at a concentration of 1 µg/L (well MW-7), which is within historical limits for this well.
- MtBE was detected in two Site wells, at concentrations of 2 µg/L (well MW-6) and 3 µg/L (well MW-7). The concentration in well MW-6 is within historical limits, while the concentration in well MW-7 is a historical low.
- **DIPE** was not detected above the MDL (0.5 µg/L) in any Site well sampled.
- EtBE was not detected above the MDL (0.5 µg/L) in any Site well sampled.
- **TAME** was not detected above the MDL (0.5 µg/L) in any Site well sampled.
- **TBA** was detected in two Site wells, at concentrations of 2 µg/L (well MW-7) and 3 µg/L (well MW-6), which are within historical limits for each respective well.

#### CONCLUSIONS AND RECOMMENDATIONS

Concentrations were conservatively compared to ESLs for groundwater that is a current or potential source of drinking water and concentrations of TPH-GRO and benzene were observed equal to or above ESLs as follows:

- TPH-GRO concentrations exceed the ESL of 100 µg/L in wells MW-5, MW-6, and MW-7;
- Benzene concentrations equal or exceed the ESL of 1  $\mu$ g/L in wells MW-5, MW-6, and MW-7.

During Second Quarter 2015, maximum concentrations of petroleum hydrocarbons were observed in well MW-6, located down-gradient of former service station features (fuel dispenser islands and gasoline USTs) situated in the southern and eastern portions of the Site, and in well

Former Chevron-branded Service Station 92029 June 25, 2015 Page 4 of 6

MW-7, which is located approximately 95 feet down-gradient of well MW-6. TPH-GRO and benzene were also detected above or equal to ESLs in well MW-5, located down-gradient of former service station features (fuel dispenser islands, hydraulic hoists, and waste oil UST) situated in the northern portion of the Site. The dissolved-phase petroleum hydrocarbon plume does not appear to extend to the furthest down-gradient well MW-8, which is approximately 190 feet southwest of the Site.

Based on concentrations of TPH-GRO and benzene equal to or above ESLs, Stantec recommends continuation of the semi-annual groundwater monitoring and sampling program. Reports will continue to be submitted to Alameda County Environmental Health (ACEH) within 60 days following groundwater monitoring and sampling events.

In a letter dated July 9, 2014, ACEH approved Stantec's Work Plan Addendum, dated June 11, 2014, and requested a Site Investigation Report by September 12, 2014. Due to issues obtaining an encroachment permit from the City of Oakland, Stantec requested extensions on the due date for the Site Investigation Report in letters dated August 19 and October 30, 2014.

On February 25, 26, 27, and March 5, 2015, Stantec oversaw the advancement of five on-Site soil borings (SB-11 through SB-15) and five off-Site soil borings (SB-17 through SB-21) to further define the lateral extent of petroleum hydrocarbons in soil and groundwater and evaluate whether the Site meets the media-specific criteria set forth in the LTCP. Soil and grab groundwater samples were collected from each soil boring and results and conclusions will be presented in the Site Investigation Report.

In a meeting with Chevron and Stantec on April 22, 2015, to discuss the pending Site Investigation Report, ACEH requested additional data and additional figures be incorporated into the report to more fully evaluate the Site within the context of the Low-Threat UST Case Closure Policy (LTCP), and progress the Site toward a path to closure. Due to the additional requests, the report due date was extended to June 29, 2015. Stantec requested an additional extension for the Site Investigation Report in a letter dated June 19, 2015, to allow additional time to obtain the necessary data and complete the evaluation.

If you have any questions, please contact the Stantec Project Manager, Travis Flora, at (408) 356-6124 or <u>Travis.Flora@stantec.com</u>.

Former Chevron-branded Service Station 92029 June 25, 2015 Page 5 of 6

#### LIMITATIONS

This document entitled Second Quarter 2015 Semi-Annual Groundwater Monitoring Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Chevron Environmental Management Company (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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Former Chevron-branded Service Station 92029 June 25, 2015 Page 6 of 6

#### Attachments:

Table 1 – Well Details / Screen Interval Assessment – Second Quarter 2015

Table 2 – Groundwater Monitoring Data and Analytical Results

Table 3 – Groundwater Analytical Results – Oxygenate Compounds

Figure 1 – Site Location Map

Figure 2 – Groundwater Elevation Contour Map – Second Quarter 2015

Figure 3 – Groundwater Flow Direction Rose Diagram – Second Quarter 2015

Figure 4 – Site Plan Showing Groundwater Concentrations – Second Quarter 2015

Figure 5 – TPH-GRO Isoconcentration Map – Second Quarter 2015

Figure 6 – Benzene Isoconcentration Map – Second Quarter 2015

Attachment A – Gettler-Ryan Inc. Field Data Sheets and Standard Operating Procedures – Second Quarter 2015

Attachment B – Certified Laboratory Analysis Reports and Chain-of-Custody Documents Attachment C – Hydrographs

#### cc:

Ms. Carryl MacLeod, Chevron Environmental Management Company, 6101 Bollinger Canyon Road, San Ramon, CA 94583 – Electronic Copy

Mr. Buyandalai Itgel, 787 Marlesta Road, Pinole, CA 94564 – Electronic Copy



# Table 1 Well Details / Screen Interval Assessment Second Quarter 2015

Former Chevron-Branded Service Station 92029 890 West MacArthur Boulevard, Oakland, California

Well ID	Date Installed	Well Type	Casing Diameter (inches)	Top of Casing (feet above msl)	Construction Well Depth (feet bgs)	Current Well Depth <sup>1</sup> (feet below TOC)	Current Depth to Groundwater <sup>1</sup> (feet below TOC)	Screen Interval (feet bgs)	Screen Interval Assessment
MW-5	07/24/08	Monitoring	2	49.39	25.00	24.98	7.08	5-25	Depth-to-groundwater within screen interval.
MW-6	07/24/08	Monitoring	2	49.07	25.00	24.95	7.20	5-25	Depth-to-groundwater within screen interval.
MW-7	07/24/08	Monitoring	2	48.74	25.00	24.88	9.33	5-25	Depth-to-groundwater within screen interval.
MW-8	07/24/08	Monitoring	2	47.61	25.00	25.00	11.79	5-25	Depth-to-groundwater within screen interval.

#### Notes:

bgs = below ground surface

msl = mean sea level

TOC = top of casing

<sup>1</sup> = As measured prior to groundwater sampling on May 7, 2015.

WELL ID/	TOC*	DTW	GWE	TPH-GRO	B (ug/l)	T (va/t)	E	X (10,7/1)	MtBE
DATE	(ft.)	(ft.)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)
	Ground	dwater ESL		100	1	40	30	20	5
MW-5									
08/22/08 <sup>1</sup>	49.39	9.97	39.42						
08/27/08 <sup>3</sup>	49.39	10.03	39.36	54	0.5	0.8	<0.5	0.7	10
11/21/08 <sup>3</sup>	49.39	8.42	40.97	6,000	93	6	37	6	8
02/13/09 <sup>3</sup>	49.39	7.11	42.28	5,100	31	5	20	3	6
05/08/09 <sup>3</sup>	49.39	7.21	42.18	3,600	18	4	14	2	2
08/07/09 <sup>3</sup>	49.39	9.60	39.79	520	0.7	<0.5	<0.5	<0.5	2
11/05/09 <sup>3</sup>	49.39	7.08	42.31	7,400	16	5	18	4	0.9
05/06/10 <sup>3</sup>	49.39	6.08	43.31	3,500	4	2	3	0.9	0.9
11/03/10 <sup>5</sup>	49.39	9.05	40.34	5,000	13	4	8	3	0.9
05/10/11 <sup>5</sup>	49.39	7.26	42.13	3,200	6	4	7	0.9	< 0.5
11/10/11 <sup>5</sup>	49.39	7.60	41.79	2,600	6	3	10	2	<0.5
05/11/12 <sup>5</sup>	49.39	6.48	42.91	3,300	<3	<3	<3	<3	<3
11/14/12 <sup>3</sup>	49.39	8.89	40.50	2,100	3	2	3	0.6	< 0.5
05/08/13 <sup>3</sup>	49.39	8.41	40.98	2,100	2	0.9	2	<0.5	< 0.5
11/06/13 <sup>3</sup>	49.39	9.81	39.58	160	<0.5	<0.5	<0.5	< 0.5	< 0.5
05/14/14 <sup>3</sup>	49.39	6.74	42.65	3,500	1	2	4	<0.5	< 0.5
11/19/14	49.39	INACCESSIBLE	; FLOODED WI	TH SURFACE WATER					
05/07/15 <sup>3</sup>	49.39	7.08	42.31	2,800	1	1	2	<0.5	<0.5
MW-6									
08/22/08 <sup>1</sup>	49.07	8.98	40.09						
08/27/08 <sup>3</sup>	49.07	8.98	40.09	6,000	990	4	350	530	440
11/21/08 <sup>3</sup>	49.07	8.12	40.95	14,000	1,000	15	1,300	550	300
02/13/09 <sup>3</sup>	49.07	5.84	43.23	9,700	630	4	510	36	180
05/08/09 <sup>3</sup>	49.07	5.77	43.30	7,600	240	4	470	67	38
08/07/09 <sup>3</sup>	49.07	8.49	40.58	14,000	1,500	12	1,400	180	330
11/05/09 <sup>3</sup>	49.07	6.72	42.35	22,000	870	8	1,300	130	160
05/06/10 <sup>3</sup>	49.07	4.89	44.18	5,200	110	2	160	23	9
11/03/10 <sup>5</sup>	49.07	8.05	41.02	13,000	1,100	8	670	58	160
05/10/11 <sup>4,5</sup>	49.07	8.56	40.51	<50	0.6	<0.5	<0.5	<0.5	<0.5
11/10/11 <sup>5</sup>	49.07	7.59	41.48	5,700	260	7	180	13	37
05/11/12 <sup>5</sup>	49.07	5.68	43.39	1,200	36	0.6	0.8	<0.5	1
11/14/12 <sup>3</sup>	49.07	9.83	39.24	6,400	290	9	180	6	36
05/08/13 <sup>3</sup>	49.07	7.21	41.86	2,000	77	1	9	<0.5	6
11/06/13 <sup>3</sup>	49.07	9.27	39.80	5,300	330 <sup>6</sup>	3 <sup>6</sup>	86	16	78 <sup>6</sup>

WELL ID/ DATE	TOC* (ft.)	DTW (ff.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	Τ (μg/L)	Ε (μg/L)	Χ (μg/L)	MtBE (μg/L)
VAIE		dwater ESL	(11131)	100	<u>μ</u> 9/ <i>ι</i> )	(μg/L) 40	30	<u>(μg/L)</u> 20	(μg/t) 5
					•				
MW-6 (cont)	40.07	4.00	40.70	F 000	1.40	,	47	0	10
05/14/14 <sup>3</sup> 11/19/14	49.07 49.07	6.29	42.78 E: ELOODED W	5,000 TH SURFACE WATER	140	6	46	2 	10
05/07/15 <sup>3</sup>	49.07 <b>49.07</b>	7.20	41.87	3,600	19	2	 7	<0.5	2
J5/U// I5*	47.07	7.20	41.07	3,600	17	2	,	<b>\0.5</b>	2
MW-7									
08/22/08 <sup>1</sup>	48.74	10.20	38.54						
08/27/08 <sup>3</sup>	48.74	10.19	38.55	<50	<0.5	0.6	<0.5	0.7	6
11/21/08 <sup>3</sup>	48.74	9.51	39.23	1,100	80	<0.5	65	0.7	6
02/13/09 <sup>3</sup>	48.74	7.95	40.79	630	30	<0.5	38	0.9	7
05/08/09 <sup>3</sup>	48.74	8.04	40.70	1,200	83	<0.5	190	2	8
08/07/09 <sup>3</sup>	48.74	9.88	38.86	8,900	240	0.7	770	5	5
11/05/09 <sup>3</sup>	48.74	9.03	39.71	12,000	630	<1	1,300	420	5
05/06/10 <sup>3</sup>	48.74	7.88	40.86	4,000	190	<0.5	270	7	6
11/03/10 <sup>5</sup>	48.74	9.48	39.26	5,700	150	0.7	45	2	4
05/10/11 <sup>5</sup>	48.74	8.82	39.92	3,500	180	<0.5	150	2	5
11/10/11 <sup>5</sup>	48.74	9.68	39.06	1,500	2	<0.5	2	<0.5	5
05/11/12 <sup>5</sup>	48.74	8.37	40.37	9,200	440	<5	1,000	33	<5
11/14/12 <sup>3</sup>	48.74	9.79	38.95	5,000	<3	<3	6	<3	4
05/08/13 <sup>3</sup>	48.74	9.54	39.20	2,200	10	<0.5	2	<0.5	5
11/06/13 <sup>3</sup>	48.74	10.60	38.14	790	<0.5	< 0.5	<0.5	< 0.5	4
05/14/14 <sup>3</sup>	48.74	8.73	40.01	8,200	380 <sup>6</sup>	<16	460 <sup>6</sup>	34 <sup>6</sup>	4 <sup>6</sup>
11/19/14 <sup>3</sup>	48.74	10.33	38.41	1,200	0.6	<0.5	1	<0.5	5
05/07/15 <sup>3</sup>	48.74	9.33	39.41	5,000	24	0.8	19	1	3
MW-8	47 /1	10.41	25.00						
08/22/08 <sup>1</sup>	47.61	12.41	35.20		 -0 F		 -0 F		 -0 F
08/27/08 <sup>3</sup> 11/21/08 <sup>3</sup>	47.61 47.61	12.42 11.42	35.19 36.19	<50	<0.5 <0.5	0.7 <0.5	<0.5 <0.5	0.6 <0.5	<0.5 <0.5
			36.19	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
02/13/09 <sup>3</sup> 05/08/09 <sup>3</sup>	47.61 47.61	8.87 10.79	36.82	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
08/07/09 <sup>3</sup>	47.61 47.61	10.79	36.62 35.28	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
08/07/09 <sup>3</sup> 11/05/09 <sup>3</sup>	47.61 47.61	12.33	35.28 36.38	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
05/06/10 <sup>3</sup>	47.61 47.61	10.28	36.36 37.33	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
11/03/10 <sup>5</sup>	47.61 47.61	11.37	37.33 36.24	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
05/10/11 <sup>5</sup>	47.61 47.61	11.55	36.24 36.06	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
11/10/11 <sup>5</sup>	47.61	11.33	36.12	<50 <50	<0.5	<0.5	<0.5 <0.5	<0.5	<0.5
	47.61 47.61	10.89	36.12 36.72	<50 <50	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
05/11/12 <sup>5</sup>	4/.01	10.07	30./2	<b>\50</b>	<b>~</b> 0.5	<b>\U.</b> 5	<b>~U.</b> 3	<b>\U.</b> 5	<0.5

WELL ID/	TOC*	DTW	GWE	TPH-GRO	B (ug/l)	T (va/t)	E (10 //)	X (ug/1)	M†BE
DATE	(ft.)	(ft.)	(msl)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
	Groundy	vater ESL		100	1	40	30	20	5
MW-8 (cont)									
11/14/12 <sup>3</sup>	47.61	11.73	35.88	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/08/13 <sup>3</sup>	47.61	12.03	35.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/06/13 <sup>3</sup>	47.61	12.63	34.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/14/14 <sup>3</sup>	47.61	11.69	35.92	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/14 <sup>3</sup>	47.61	12.33	35.28	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/07/15 <sup>3</sup>	47.61	11.79	35.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1									
03/12/02 <sup>1</sup>	50.71	6.50	44.21	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2 <sup>2</sup>
06/07/02	50.71	8.69	42.02	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2 <sup>2</sup>
09/13/02	50.71	9.28	41.43	<50	<0.50	<0.50	<0.50	<1.5	$<2.5/<2^2$
12/13/02	50.71	8.48	42.23	<50	<0.50	<0.50	<0.50	<1.5	$<2.5/<2^2$
03/01/03	50.71	7.34	43.37	<50	<0.50	<0.50	<0.50	<1.5	$<2.5/<0.5^2$
06/27/03 <sup>3</sup>	50.71	9.29	41.42	<50	<0.5	0.6	<0.5	<0.5	<0.5
09/30/03 <sup>3</sup>	50.71	10.17	40.54	<50	<0.5	0.6	<0.5	<0.5	<0.5
12/03/03 <sup>3</sup>	50.71	7.82	42.89	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04 <sup>3</sup>	50.71	6.57	44.14	<50	< 0.5	<0.5	<0.5	<0.5	<0.5
06/30/04 <sup>3</sup>	50.71	9.78	40.93	<50	< 0.5	<0.5	<0.5	<0.5	< 0.5
09/30/04 <sup>3</sup>	50.71	9.91	40.80	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/04 <sup>3</sup>	50.71	2.90	47.81	<50	< 0.5	<0.5	<0.5	<0.5	<0.5
03/23/05 <sup>3</sup>	50.71	2.90	47.81	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/22/05 <sup>3</sup>	50.71	8.59	42.12	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/02/05 <sup>3</sup>	50.71	9.38	41.33	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/02/05	50.71	8.44	42.27						
03/20/06	50.71	3.05	47.66						
06/01/06	50.71	6.77	43.94						
09/11/06 DESTROYED	50.71	9.18	41.53					-	-
MW-2									
03/12/021	52.57	6.09	46.48	<50	< 0.50	<0.50	<0.50	<1.5	<2.5/3 <sup>2</sup>
06/07/02	52.57	8.65	43.92	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2 <sup>2</sup>
09/13/02	52.57	9.58	42.99	<50	< 0.50	<0.50	<0.50	<1.5	<2.5/<2 <sup>2</sup>
12/13/02	52.57	8.50	44.07	<50	< 0.50	<0.50	<0.50	<1.5	<2.5/<2 <sup>2</sup>
03/01/03	52.57	7.00	45.57	<50	< 0.50	<0.50	<0.50	<1.5	<2.5/<0.5 <sup>2</sup>
06/27/03 <sup>3</sup>	52.57	9.59	42.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/03 <sup>3</sup>	52.57	10.64	41.93	<50	<0.5	<0.5	<0.5	<0.5	0.7

 Table 2

 Groundwater Monitoring Data and Analytical Results

WELL ID/ DATE	TOC* (ff.)	DTW (ff.)	GWE (msl)	TPH-GRO (µg/L)	Β (μg/L)	Τ (μg/L)	E (µg/L)	Χ (μg/L)	MtBE (μg/L)
	Groundy	water ESL		100	1	40	30	20	5
MW-2 (cont)							_		
12/03/03 <sup>3</sup>	52.57	7.54	45.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04 <sup>3</sup>	52.57	6.05	46.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/30/04 <sup>3</sup>	52.57	10.15	42.42	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/04 <sup>3</sup>	52.57	10.14	42.43	<50	<0.5	<0.5	<0.5	< 0.5	<0.5
12/29/04 <sup>3</sup>	52.57	2.29	50.28	<50	<0.5	<0.5	<0.5	< 0.5	<0.5
03/23/05 <sup>3</sup>	52.57	2.44	50.13	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/22/05 <sup>3</sup>	52.57	8.99	43.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/02/05 <sup>3</sup>	52.57	10.17	42.40	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/02/05	52.57	8.99	43.58						
03/20/06	52.57	2.70	49.87						
06/01/06	51.57	6.51	45.06						
09/11/06	51.57	10.06	41.51						
DESTROYED									
MW-3									
03/12/02 <sup>1</sup>	50.31	6.50	43.81	12,000	600	8.5	1,100	370	700/650 <sup>2</sup>
06/07/02	50.31	7.74	42.57	14,000	630	8.8	1,200	160	520/490 <sup>2</sup>
09/13/02	50.31	9.73	40.58	3,000	270	3.2	200	11	600/640 <sup>2</sup>
12/13/02	50.31	8.60	41.71	24,000	1,100	14	2,400	220	650/540 <sup>2</sup>
03/01/03	50.31	6.75	43.56	16,000	500	9.0	1,200	130	460/330 <sup>2</sup>
06/27/03 <sup>3</sup>	50.31	9.25	41.06	9,500	390	6	450	30	470
09/30/03 <sup>3</sup>	50.31	10.31	40.00	2,000	110	1	100	3	710
12/03/03 <sup>3</sup>	50.31	8.18	42.13	19,000	970	8	2,100	85	420
03/10/04 <sup>3</sup>	50.31	6.10	44.21	15,000	550	6	960	95	220
06/30/04 <sup>3</sup>	50.31	9.80	40.51	3,200	150	1	100	3	660
09/30/04 <sup>3</sup>	50.31	10.18	40.13	1,900	66	0.8	84	4	690
12/29/04 <sup>3</sup>	50.31	4.58	45.73	16,000	470	7	820	47	170
03/23/05 <sup>3</sup>	50.31	5.07	45.24	18,000	380	6	960	58	140
06/22/05 <sup>3</sup>	50.31	8.12	42.19	16,000	700	6	950	62	300
09/02/05 <sup>3</sup>	50.31	9.41	40.90	8,400	380	4	510	41	440
12/02/05 <sup>3</sup>	50.31	7.97	42.34	16,000	490	6	1,200	32	170
03/20/06 <sup>3</sup>	50.31	5.32	44.99	4,200	79	0.8	2	10	34
06/01/06 <sup>3</sup>	50.31	7.07	43.24	5,400	67	1	26	3	28
09/11/06 <sup>3</sup>	50.31	9.07	41.24	14,000	270	5	240	38	97
DESTROYED	00.01	,,	11.21	1 1,000	2, 0	Ü	210	00	,,

WELL ID/ DATE	TOC*	DTW	GWE	TPH-GRO (μg/L)	B (µg/L)	Τ (μg/L)	E (µg/L)	Χ (μg/L)	MtBE
DAIE	(ft.)	(ft.)	(msl)						(µg/L)
	Groundy	vater ESL		100	1	40	30	20	5
MW-4									
03/12/02 <sup>1</sup>	49.93	5.34	44.59	9,700	360	5.3	1,100	150	170/170 <sup>2</sup>
06/07/02	49.93	8.52	41.41	7,300	170	2.7	280	21	200/120 <sup>2</sup>
09/13/02	49.93	9.86	40.07	5,800	92	4.5	80	14	190/160 <sup>2</sup>
12/13/02	49.93	9.42	40.51	10,000	250	2.2	330	19	170/200 <sup>2</sup>
03/01/03	49.93	7.33	42.60	12,000	300	4.6	900	110	160/100 <sup>2</sup>
06/27/03 <sup>3</sup>	49.93	9.62	40.31	7,500	110	2	200	58	130
09/30/03 <sup>3</sup>	49.93	11.13	38.80	3,600	18	<1	16	7	520
2/03/03 <sup>3</sup>	49.93	7.80	42.13	16,000	1,000	6	720	52	73
03/10/04 <sup>3</sup>	49.93	6.69	43.24	2,200	230	3	610	71	55
06/30/04 <sup>3</sup>	49.93	10.33	39.60	7,700	59	<1	78	17	110
09/30/04 <sup>3</sup>	49.93	10.75	39.18	4,800	100	1	33	10	400
12/29/04 <sup>3</sup>	49.93	3.34	46.59	13,000	250	3	480	27	42
03/23/05 <sup>3</sup>	49.93	4.24	45.69	12,000	130	2	280	16	24
06/22/05 <sup>3</sup>	49.93	7.95	41.98	6,400	290	2	11	11	18
09/02/05 <sup>3</sup>	49.93	9.46	40.47	3,700	180	1	13	7	18
12/02/05 <sup>3</sup>	49.93	7.60	42.33	11,000	840	5	480	24	34
03/20/06 <sup>3</sup>	49.93	4.50	45.43	790	14	<0.5	1	0.6	2
06/01/06 <sup>3</sup>	49.93	7.30	42.63	5,100	48	0.8	42	4	2
09/11/06 <sup>3</sup>	49.93	9.38	40.55	6,700	64	3	44	3	4
DESTROYED	.,,,,	7.00	10.00	<i>5,</i> , <i>55</i>	0.	v		· ·	·
TRIP BLANK QA									
3A 03/12/02				<50	<0.50	<0.50	<0.50	<1.5	<2.5
06/07/02				<50	<0.50	<0.50	<0.50	<1.5	<2.5
09/13/02				<50	<0.50	<0.50	<0.50	<1.5	<2.5
12/13/02				<50	<0.50	<0.50	<0.50	<1.5	<2.5
03/01/03				<50	<0.50	<0.50	<0.50	<1.5	<2.5
06/27/03 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/03 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/03/03 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/30/04 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/04 <sup>3</sup>				<50	<0.5	<0.7	<0.8	<0.8	<0.5
12/29/04 <sup>3</sup>		<del></del>		<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/23/05 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
				-50	-0.0			٠٠.٠	
03/23/05 06/22/05 <sup>3</sup>				<50	<0.5	<0.5	<0.5	< 0.5	< 0.5

WELL ID/ DATE	TOC* (ff.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	Τ (μg/L)	E (µg/L)	Χ (μg/L)	MtBE (µg/L)
	Groundw	rater ESL		100	1	40	30	20	5
QA (cont)									
12/02/05 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/20/06 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/01/06 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/11/06 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
08/27/08 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08 <sup>5</sup>				<50	<0.5	<0.5	<0.5	<0.5	
02/13/09 <sup>5</sup>				<50	<0.5	<0.5	<0.5	<0.5	
05/08/09 <sup>5</sup>				<50	<0.5	<0.5	<0.5	<0.5	
08/07/09 <sup>5</sup>				<50	<0.5	<0.5	<0.5	<0.5	
11/14/12 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	< 0.5
05/08/13 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	< 0.5
11/06/13 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/14/14 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/14 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	< 0.5
05/07/15 <sup>3</sup>				<50	<0.5	<0.5	<0.5	<0.5	<0.5

#### Table 2

#### **Groundwater Monitoring Data and Analytical Results**

Former Chevron-Branded Service Station 92029 890 West MacArthur Boulevard, Oakland, California

#### **EXPLANATIONS:**

Current groundwater monitoring data was provided by Gettler-Ryan Inc. Current laboratory analytical results were provided by Eurofins Lancaster Laboratories.

TOC = Top of Casing

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics

-- = Not Measured/Not Analyzed

(ft.) = FeetB = BenzeneQA = Quality Assurance/Trip BlankDTW = Depth to WaterT = TolueneEPA = Environmental Protection Agency

GWE = Groundwater Elevation E = Ethylbenzene (msl) = Mean sea level X = Xylenes

(µg/L) = Micrograms per liter MtBE = Methyl tertiary-butyl ether

ESL = California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Level for groundwater that is a current or potential source of drinking water

- \* Current TOC elevations were surveyed on October 1, 2008, by CRA. The benchmark for this survey was a USGS bronze disk located near the north end of the curb return at the Northwest corner of 38th Street and Broadway, (Benchmark Elevation = 85.41 feet, NGVD29).
- Well development performed.
- <sup>2</sup> MtBE by EPA Method 8260.
- BTEX and MtBE by EPA Method 8260.
- <sup>4</sup> Laboratory confirmed analytical result.
- <sup>5</sup> BTEX by EPA Method 8260.
- <sup>6</sup> Laboratory report indicates reporting limits were raised due to interference from the sample matrix.

Table 3
Groundwater Analytical Results - Oxygenate Compounds

WELL ID/	ETHANOL	TBA	MtBE	DIPE	E†BE	TAME	1,2-DCA	1,2-DBA	PCE
DATE	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Groundwater ESL	NE	12	5	NE	NE	NE	0.5	0.05	5
MW-5									
08/27/08		2	10	<0.5	<0.5	<0.5			
11/21/08		4	8	<0.5	<0.5	<0.5			
02/13/09		3	6	<0.5	<0.5	<0.5			
05/08/09		7	2	<0.5	<0.5	<0.5			
08/07/09		<2	2	<0.5	<0.5	<0.5			
11/05/09		2	0.9	<0.5	<0.5	<0.5			
05/06/10		<2	0.9	<0.5	<0.5	<0.5			
11/03/10		<2	0.9	<0.5	<0.5	<0.5			
05/10/11		<2	<0.5	<0.5	<0.5	<0.5			
11/10/11		<2	<0.5	<0.5	<0.5	<0.5			
05/11/12		<10	<3	<3	<3	<3			
11/14/12		<2	<0.5	<0.5	<0.5	<0.5			
05/08/13		<2	<0.5	<0.5	<0.5	<0.5			
11/06/13		<2	<0.5	<0.5	<0.5	<0.5			
05/14/14		<5	<0.5	<0.5	<0.5	<0.5			< 0.5
05/07/15		<2	<0.5	<0.5	<0.5	<0.5			
AANA/ /									
MW-6		390	440	<0.5	<0.5	6			
08/27/08		320	300	<13	<13	<13			
11/21/08		100	180	<1	<1	4			
02/13/09		16	38		<0.5	0.9			<del></del>
05/08/09		190	330	<0.5 <3	<3	5			
08/07/09		86	160	<1	<1	4			
11/05/09			9	<0.5	<0.5	<0.5			
05/06/10		2							
11/03/10		98	160	<3	<3	3			
05/10/11		<2	< 0.5	<0.5	<0.5	<0.5			
11/10/11		19	37	<1	<1	<1			
05/11/12		<2	1	<0.5	<0.5	<0.5			
11/14/12		16	36	<0.5	<0.5	0.7			
05/08/13		5	6	<0.5	<0.5	<0.5			
11/06/13 <sup>2</sup>		60	78	<1	<1	2			
05/14/14		8	10	<0.5	<0.5	<0.5			<0.5
05/07/15		3	2	<0.5	<0.5	<0.5			

## Table 3 Groundwater Analytical Results - Oxygenate Compounds

WELL ID/	ETHANOL	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	1,2-DBA	PCE
DATE	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)
Groundwater ESL	NE	12	5	NE	NE	NE	0.5	0.05	5
MW-7									
08/27/08		<2	6	<0.5	<0.5	<0.5			
11/21/08		5	6	<0.5	<0.5	<0.5			
02/13/09		<2	7	<0.5	<0.5	<0.5			
05/08/09		<2	8	<0.5	<0.5	<0.5			
08/07/09		4	5	<0.5	<0.5	<0.5			
11/05/09		9	5	<1	<1	<1			
05/06/10		3	6	<0.5	<0.5	<0.5			
11/03/10		6	4	<0.5	<0.5	<0.5			
05/10/11		3	5	<0.5	<0.5	<0.5			
11/10/11		4	5	<0.5	<0.5	<0.5			
05/11/12		<20	<5	<5	<5	<5			
11/14/12		<10	4	<3	<3	<3			
05/08/13		<2	5	<0.5	<0.5	<0.5			
11/06/13		<2	4	<0.5	<0.5	<0.5			
05/14/14 <sup>2</sup>		<10	4	<1	<1	<1			<1
11/19/14		<2	5	<0.5	<0.5	<0.5			
05/07/15		2	3	<0.5	<0.5	<0.5			
MW-8									
08/27/08		<2	<0.5	<0.5	<0.5	<0.5			
11/21/08		<2	< 0.5	<0.5	<0.5	<0.5			
02/13/09		<2	< 0.5	<0.5	<0.5	<0.5			
05/08/09		<2	<0.5	<0.5	<0.5	<0.5			
08/07/09		<2	< 0.5	<0.5	<0.5	<0.5			
11/05/09		<2	<0.5	<0.5	<0.5	<0.5			
05/06/10		<2	< 0.5	<0.5	< 0.5	<0.5			
11/03/10		<2	<0.5	<0.5	<0.5	<0.5			
05/10/11		<2	<0.5	<0.5	<0.5	<0.5			
11/10/11		<2	<0.5	<0.5	<0.5	<0.5			
05/11/12		<2	<0.5	<0.5	<0.5	<0.5			
11/14/12		<2	<0.5	<0.5	<0.5	<0.5			
05/08/13		<2	<0.5	<0.5	<0.5	<0.5			
11/06/13		<2	<0.5	<0.5	<0.5	<0.5			
05/14/14		<5	<0.5	<0.5	<0.5	<0.5			<0.5
11/19/14		<2	<0.5	<0.5	<0.5	<0.5			
05/07/15		<2	<0.5	<0.5	<0.5	<0.5			

Table 3
Groundwater Analytical Results - Oxygenate Compounds

WELL ID/	ETHANOL	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	1,2-DBA	PCE
DATE	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Groundwater ESL	NE	12	5	NE	NE	NE	0.5	0.05	5
MW-1									
03/12/02		<100	<2	<2	<2	<2	<2	<2	
06/07/02		<100	<2	<2	<2	<2	<2	<2	
09/13/02		<100	<2	<2	<2	<2	<2	<2	
12/13/02		<100	<2	<2	<2	<2	<2	<2	
03/01/03		<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
06/27/03		<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
09/30/03	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/03/03	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
03/10/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
06/30/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
09/30/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/31/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
03/23/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
06/22/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
09/02/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
DESTROYED									
MW-2		-100	0	-0	.0	-0	.0	-0	
03/12/02		<100	3	<2	<2	<2	<2	<2	
06/07/02		<100	<2	<2	<2	<2	<2	<2	
09/13/02		<100	<2	<2	<2	<2	<2	<2	
12/13/02		<100	<2	<2	<2	<2	<2	<2	
03/01/03		<5	<0.5 <0.5	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	
06/27/03		<5		<0.5				<0.5	
09/30/03	<50	<5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	
12/03/03	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
03/10/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
06/30/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
09/30/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/31/04	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
03/23/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
06/22/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
09/02/05	<50	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
DESTROYED									

## Table 3 Groundwater Analytical Results - Oxygenate Compounds

WELL ID/	ETHANOL	TBA	MtBE	DIPE	E†BE	TAME	1,2-DCA	1,2-DBA	PCE
DATE	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)
Groundwater ESL	NE	12	5	NE	NE	NE	0.5	0.05	5
MW-3									
03/12/02		<100	650	<2	<2	18	<2	<2	
06/07/02		230	490	<5.0	<5.0	11	<5.0	<5.0	
09/13/02		170	640	<2	<2	8	<2	<2	
12/13/02		240	540	<2	<2	29	31	<2	
03/01/03		160	330	<0.5	<0.5	10	<0.5	<0.5	
06/27/03		200	470	<0.5	<0.5	11	<0.5	<0.5	
09/30/03	<50	120	710	<0.5	<0.5	6	0.7	<0.5	
12/03/03	<250	200	420	<3	<3	14	<3	<3	
03/10/04	<50	140	220	<0.5	<0.5	5	<0.5	<0.5	
06/30/04	<50	100	660	<0.5	<0.5	5	<0.5	<0.5	
09/30/04	<50	72	690	<0.5	<0.5	4	0.5	<0.5	
12/31/04	<50	77	170	<0.5	<0.5	5	<0.5	<0.5	
03/23/05	<50	<5	140	<0.5	<0.5	4	<0.5	3	
06/22/05	<250	150	300	<3	<3	6	<3	<3	
09/02/05	<100	99	440	<1	<1	<1	<1	<1	
12/02/05	<100	66	170	<1	<1	5	<1	<1	
03/20/06	<50	14	34	<0.5	<0.5	<0.5	<0.5	<0.5	
06/01/06	<50	12	28	<0.5	<0.5	0.8	<0.5	<0.5	
09/11/06	<50	47	97	<0.5	<0.5	2	<0.5	<0.5	
DESTROYED									
MW-4									
03/12/02		<100	170	<2	<2	13	<2	<2	
06/07/02		<100	120	<2	<2	14	<2	<2	
09/13/02		<100	160	<2	<2	14	<2	<2	
12/13/02		<100	200	<2	<2	17	<2	<2	
03/01/03		19	100	<0.5	<0.5	8	<0.5	<0.5	
06/27/03		22	130	<0.5	<0.5	11	<0.5	<0.5	
09/30/03	<100	<10	520	<1	<1	9	<1	<1	
12/03/03	<50	18	73	<0.5	<0.5	5	<0.5	<0.5	
03/10/04	<50	11	55	<0.5	<0.5	4	<0.5	<0.5	
06/30/04	<100	<10	110	<1	<1	6	<1	<1	
09/30/04	<50	17	400	<0.5	<0.5	7	<0.5	<0.5	
12/31/04	<50	11	42	<0.5	<0.5	2	<0.5	<0.5	
03/23/05	<50	<5	24	<0.5	<0.5	1	<0.5	0.9	
06/22/05	<50	15	18	<0.5	<0.5	1	<0.5	<0.5	
09/02/05	<50	6	18	<0.5	<0.5	<0.5	<0.5	<0.5	
07/02/00	<50	11	34	<0.5	<0.5	٠٠.٥	<0.5	<0.5	

### Table 3

### **Groundwater Analytical Results - Oxygenate Compounds**Former Chevron-Branded Service Station 92029

890 West MacArthur Boulevard, Oakland, California

WELL ID/ DATE	ETHANOL (µg/L)	TBA (μg/L)	MtBE (µg/L)	DIPE (µg/L)	EtBE (µg/L)	TAME (µg/L)	1,2-DCA (μg/L)	1,2-DBA (µg/L)	PCE (µg/L)
Groundwater ESL	NE	12	5	NE	NE	NE	0.5	0.05	5
MW-4 (cont)									
03/20/06	<50	<5	2	<0.5	<0.5	<0.5	<0.5	< 0.5	
06/01/06	<50	<5	2	< 0.5	< 0.5	<0.5	<0.5	<0.5	
09/11/06	<50	<5	4	<0.5	<0.5	<0.5	<0.5	<0.5	
DESTROYED									

#### Table 3

#### Groundwater Analytical Results - Oxygenate Compounds

Former Chevron-Branded Service Station 92029 890 West MacArthur Boulevard, Oakland, California

#### **EXPLANATIONS:**

Current groundwater monitoring data was provided by Gettler-Ryan Inc. Current laboratory analytical results were provided by Eurofins Lancaster Laboratories

TBA = Tertiary-Butyl Alcohol

MtBE = Methyl tertiary-butyl ether

DIPE = Di-Isopropyl Ether

EtBE = Ethyl Tertiary-Butyl Ether

TAME = Tertiary-Amyl Methyl Ether

1,2-DCA = 1,2-Dichloroethane

1,2-DBA = 1,2-Dibromoethane

PCE = Tetrachloroethene

I CE - ICII aci iloi oci il ciic

(µg/L) = Micrograms per liter --= Not Analyzed

EPA = Environmental Protection Agency

ESL = California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Level for groundwater that is a current or potential source of drinking water

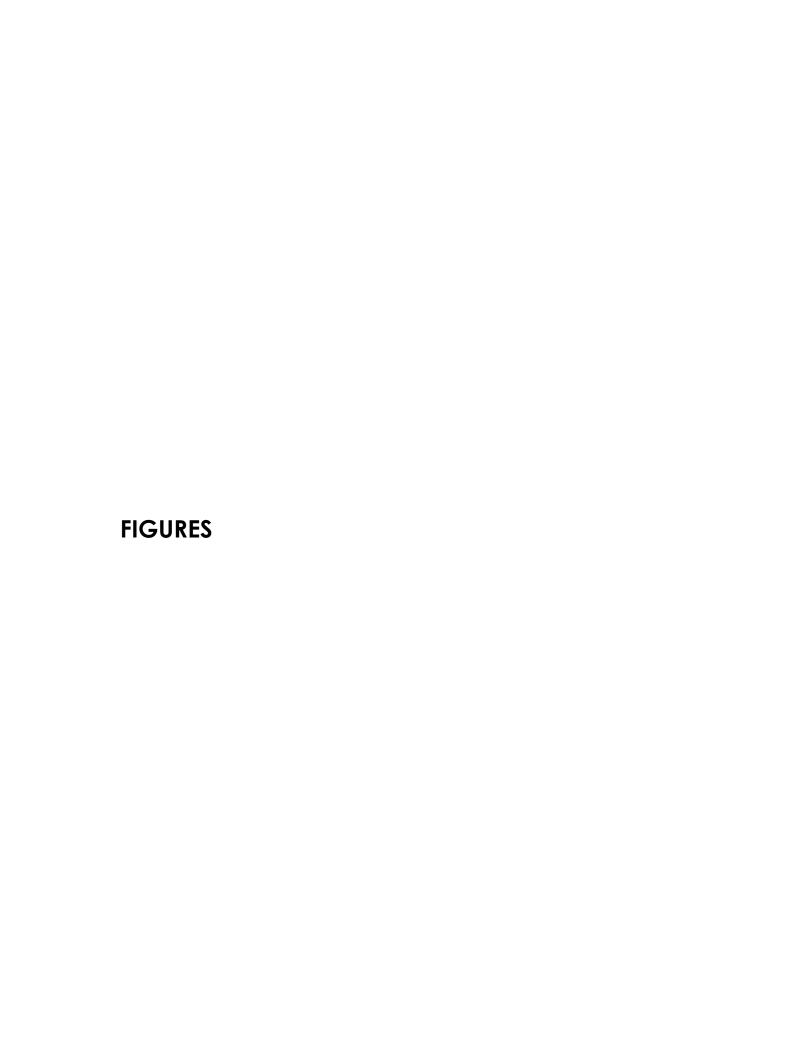
NE = ESL not established

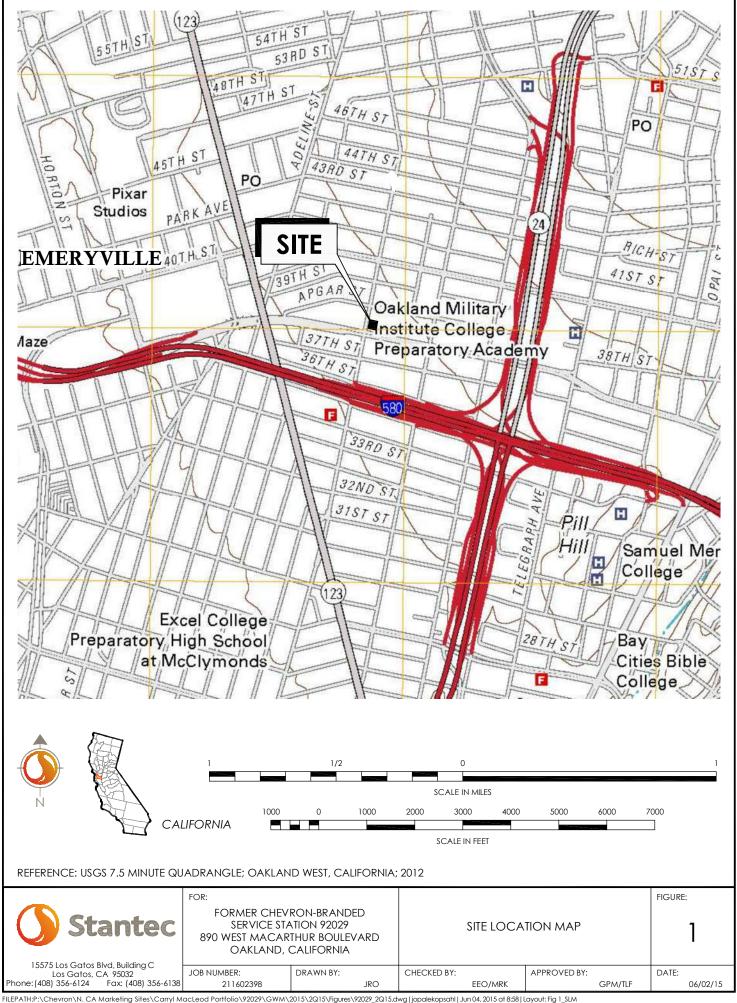
#### **ANALYTICAL METHOD:**

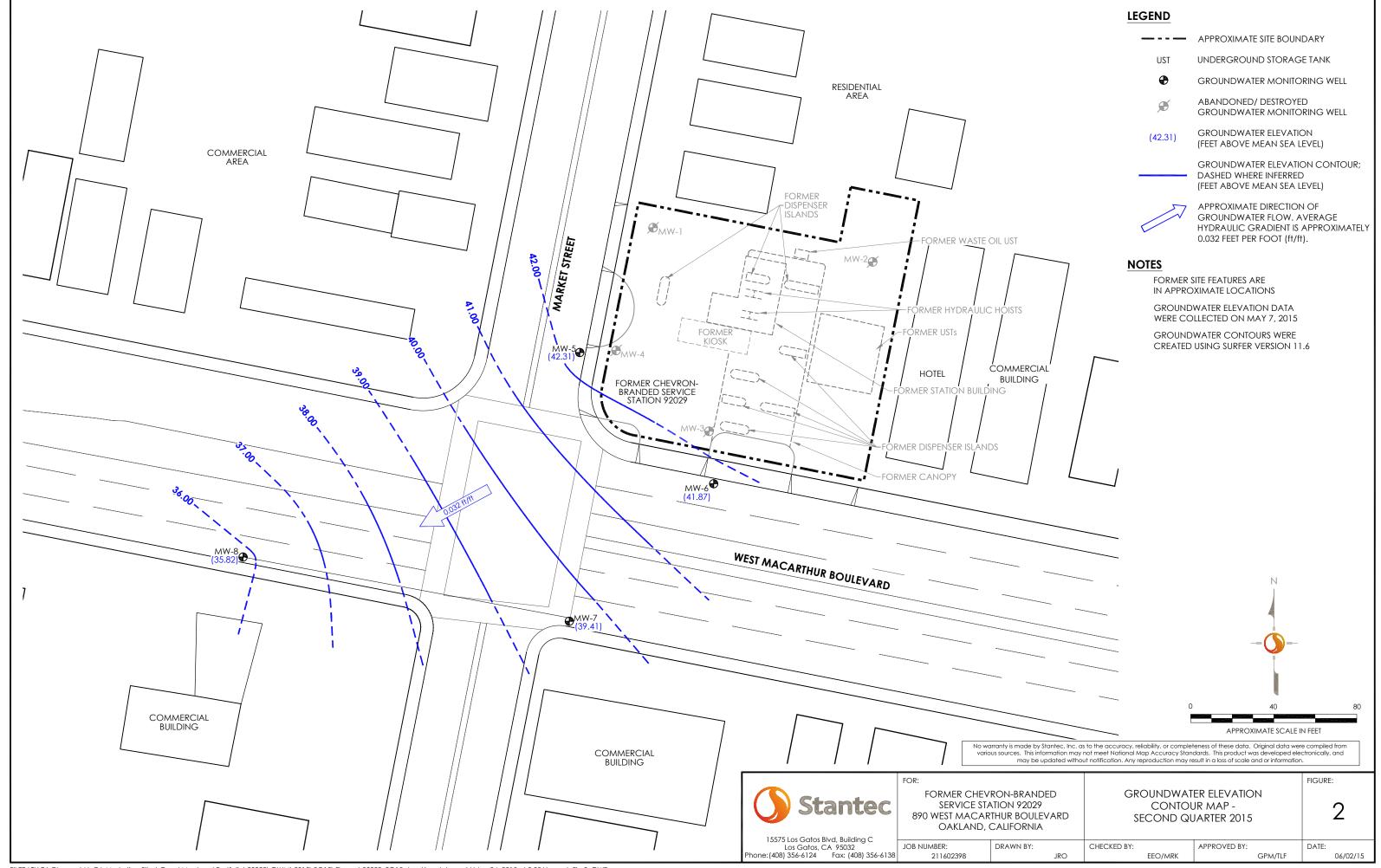
EPA Method 8260 for Oxygenate Compounds

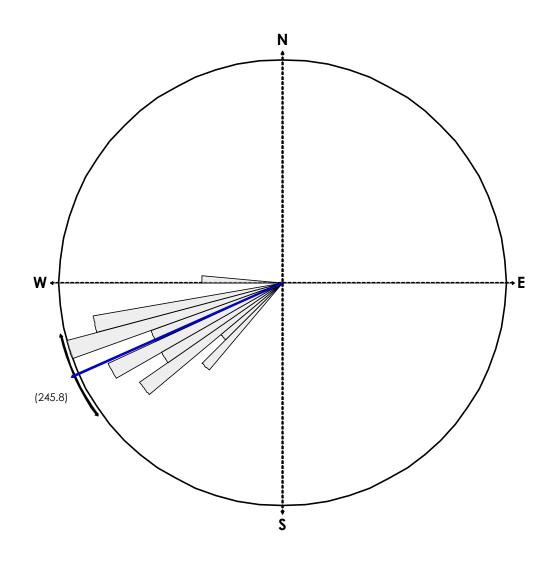
Laboratory confirmed analytical result.

<sup>&</sup>lt;sup>2</sup> Laboratory report indicates reporting limits were raised due to interference from the sample matrix.









### **EQUAL AREA PLOT**

Number of Points

Class Size

Vector Mean 245.75

Vector Magnitude 34.32

Consistency Ratio 0.98

#### NOTE: ROSE DIAGRAM IS BASED ON THE DIRECTION OF GROUNDWATER FLOW BEGINNING FIRST QUARTER 2002.



15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138

FORMER CHEVRON-BRANDED SERVICE STATION 92029 890 WEST MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

**GROUNDWATER FLOW DIRECTION ROSE DIAGRAM -SECOND QUARTER 2015** 

CHECKED BY:

FIGURE:

DATE:

06/15/15

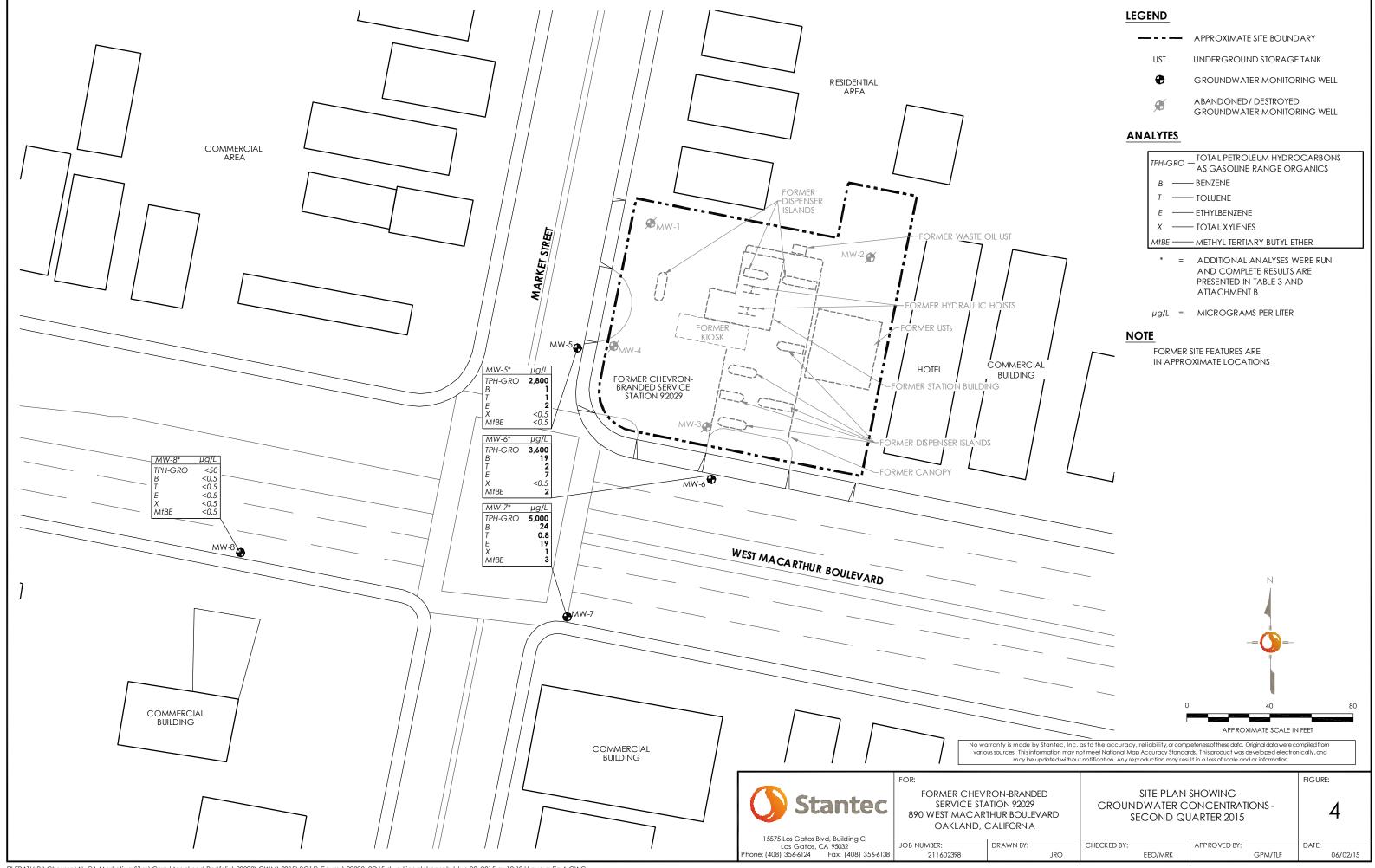
GPM/TLF

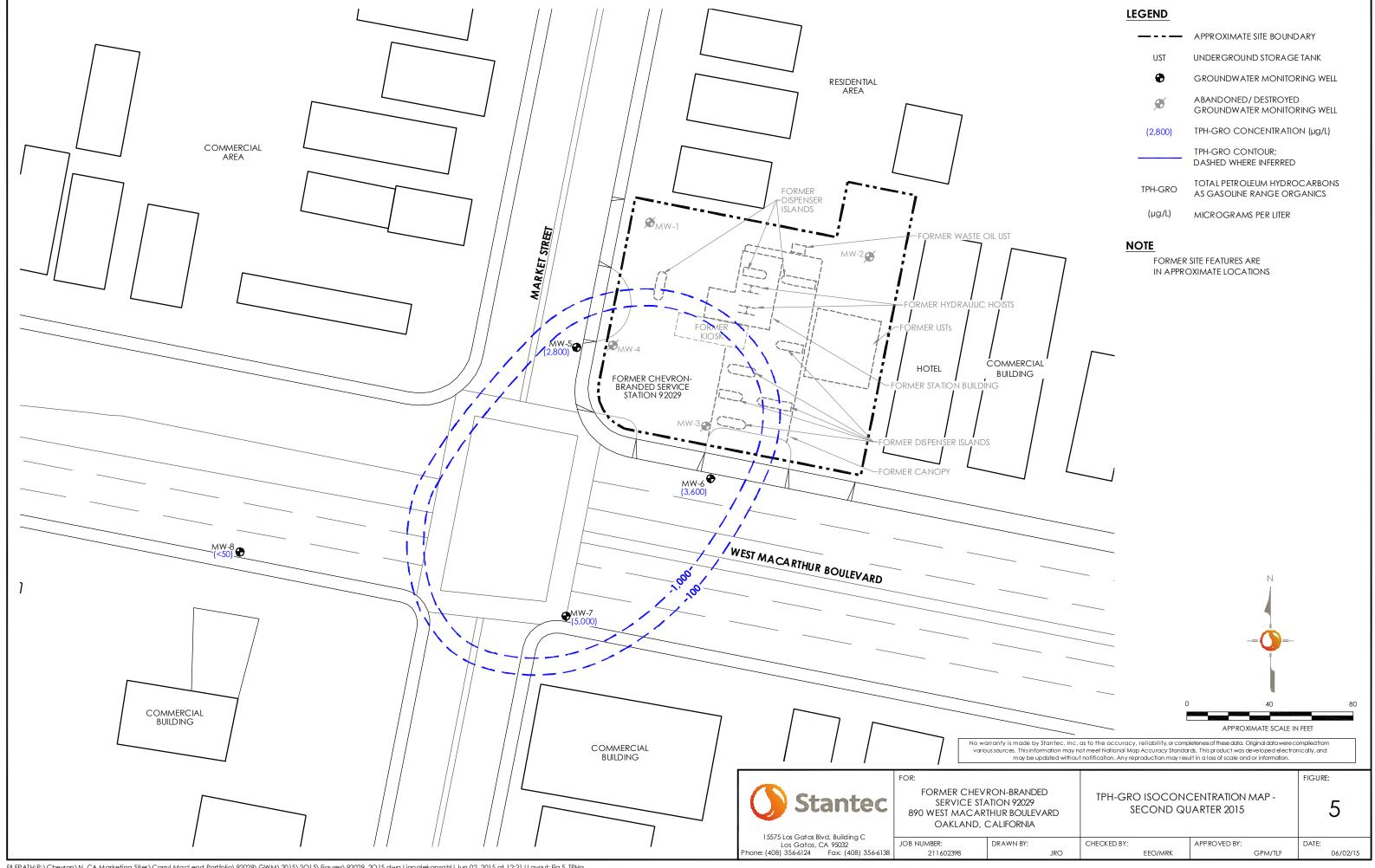
APPROVED BY:

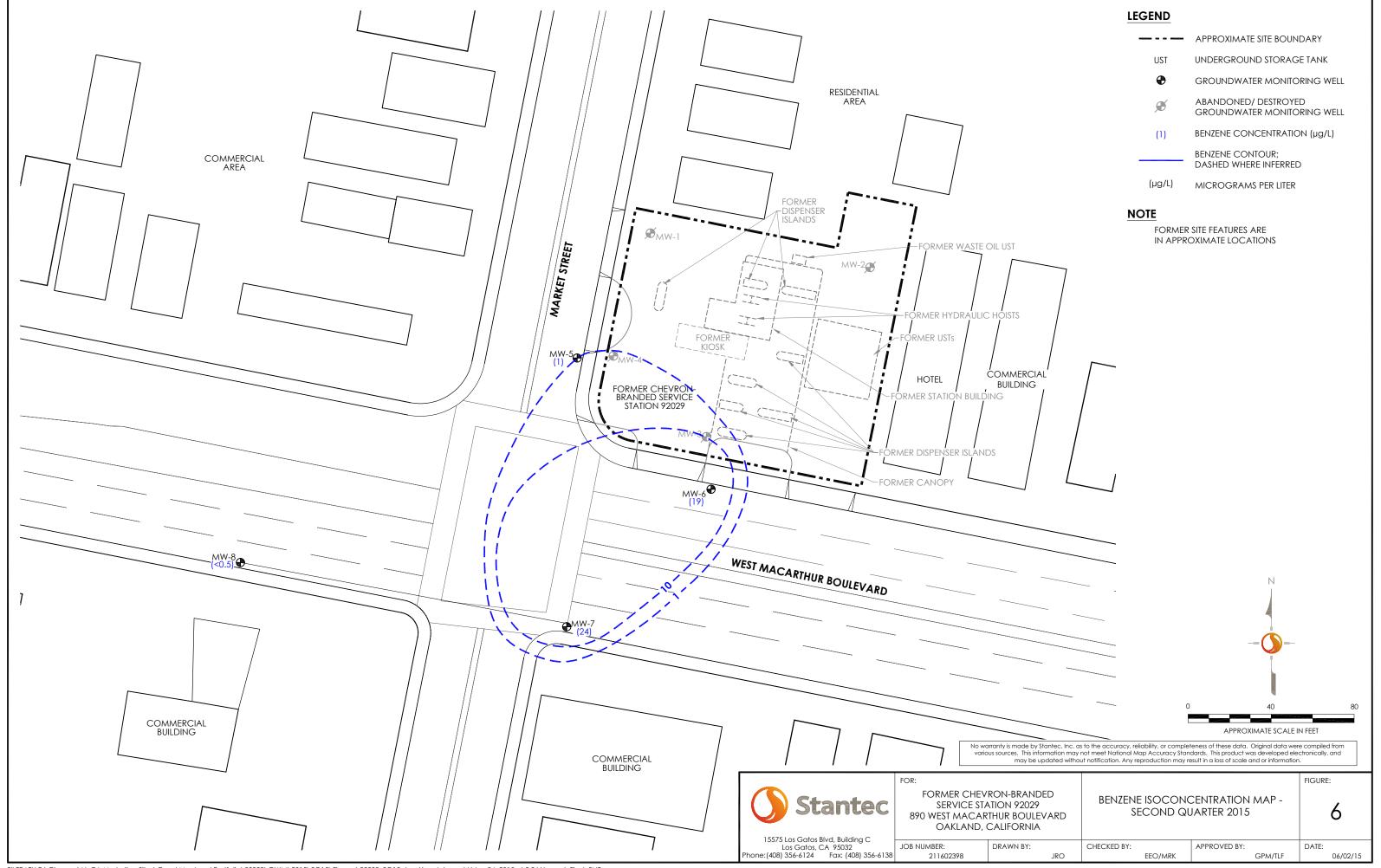
JOB NUMBER:

211602398

DRAWN BY:







ATTACHMENT A
Gettler-Ryan Inc. Field Data Sheets and Standard
Operating Procedures – Second Quarter 2015

### 40

### TRANSMITTAL

May 15, 2015 G-R #386911

TO:

Mr. Travis Flora

Stantec

15575 Los Gatos Blvd., Building C Los Gatos, California 95032

FROM:

Deanna L. Harding

Project Coordinator Gettler-Ryan Inc.

6805 Sierra Court, Suite G Dublin, California 94568 **RE:** Former Chevron Service Station

#9-2029

890 West MacArthur Blvd.

Oakland, California

RO 0002438

#### WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION				
VIA PDF	Groundwater Monitoring and Sampling Data Package First Semi-Annual Event of May 7, 2015				

#### **COMMENTS:**

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

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

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

trans/9-2029

### **WELL CONDITION STATUS SHEFT**

							II OIA	00 01	I from the R		
Client/ Facility #:	Chevror	ı #9-2029					Job#:	386911			
				-	Event Date:	300911	5 -	) .6			
City:			_	Sampler:	5.7.15 FT			····			
WELL ID	Vault Frame Condition	Gasket/ O-Ring (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Bolt Flanges B=Broken S=Stripped R=Retaped	Apron Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) Inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y/N	REPLACE CAP Y/N		Pictures Taken
Mw-5	OL	OL	R=2	OL			>	N	Ŋ		
MW-5 MW-L	BV.						<b>→</b>	V	Y	Monusay 6"/2	
Mw-7	BIL						->	N	N		
MW-8	OL	-					<del>\</del>	h	Ŋ		
									_		
Comments											
				<del> </del>							

#### STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

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

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

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

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

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

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

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



### WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Site Address:	Chevron #9-202		Job Number: Event Date:	386911 ち・ヿ・ <i>\</i> ら	(inclusive)
City:	Oakland, CA		Sampler:	FT	(
Well ID Well Diameter Total Depth Depth to Water  Depth to Water v  Purge Equipment: Disposable Bailer Stainless Steel Bailer Stack Pump Peristaltic Pump QED Bladder Pump Other:	MW- 5 2 in. 24.98 ft. 7.05 ft. 7.90 xVF w/ 80% Recharge [(Height	Check if water colu	x3 case volume = ) + DTW]: <u>\ \ O \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ </u>	0.66 5"= 1.02 6"= 1.50 Oft. = Estimated Purge Volume:	(2400 hrs)
Start Time (purge Sample Time/Dat Approx. Flow Rat Did well de-water Time (2400 hr.)	te: 1013 / 5.7. te: gpm ?? If ye  Volume (gal.) ph	Sediment Des, Time:\ Conductivity (µ3)/ mS µmhos/cm)	r: <u>CLEAN</u> Description:	Odor: Ø / N	P
		LABORATORY I	NFORMATION		
SAMPLE ID	· · · · · · · · · · · · · · · · · · ·	RIG. PRESERV. TYPE	LABORATORY	ANALY	
MW- S	( x voa vial Y	ES HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTBE	(8260)/5 OXYS(8260)
COMMENTS:	1				
Add/Replaced Gas	ket: Add/R	eplaced Bolt: 2	Add/Replaced Loc	k: Add/Replaced	d Plug:



# WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:				Job Number: 386911			
Site Address:				5.7.15	(inclusive)		
City: Oakland, CA			Sampler:	FT	`		
Well ID	MW- <u>(</u>		Date Monitored:	5.7.15			
Well Diameter	<b>2</b> in.	Tv.	olume 3/4"= 0.0	02 1"= 0.04 2"= 0.17	3"= 0.38		
Total Depth	24.95 ft.		actor (VF) 4"= 0.6		12"= 5.80		
Depth to Water	7.20 ft.	Check if water colu	mn is less then 0.50	ft.			
	17.75 xVF	17 = 3.01	x3 case volume =	Estimated Purge Volume:	1.0 gal.		
Depth to Water	w/ 80% Recharge [(Heig	ht of Water Column x 0.20	) + DTW]: 10.75				
	_		•		(2400 hrs)		
Purge Equipment:		Sampling Equipmen	t:	Time Completed: Depth to Product:	`		
Disposable Bailer		Disposable Bailer		Depth to Water:			
Stainless Steel Baile	PF	Pressure Bailer		Hydrocarbon Thickne			
Stack Pump		Metal Filters		Visual Confirmation/D			
Peristaltic Pump QED Bladder Pump		Peristaltic Pump					
Other:		QED Bladder Pump Other:	<del></del>	Skimmer / Absorbant	Sock (circle one)		
Outer.		Otrier		Amt Removed from S			
				Amt Removed from W Water Removed:			
				vvaler Removed:	ltr		
Chart Times (							
Start Time (purge		Weather C		CLOYDY			
	te: 1100 / 5.7.1		or: <u>Clean</u>	Odor: 🕜 / N	Steach		
Approx. Flow Ra				NONE			
Did well de-water	r? <u>No</u> If ye	s, Time:\	/olume:	_gal. DTW @ Samplin	g: 10.52		
Time		Conductivity	Temperature	D.O. O	RP		
(2400 hr.)	Volume (gal.) pH		(C) / F)		nV)		
1036	3.0 7.19	μmhos/cm) 3 1151			,		
1042	<u> </u>		19.5				
1048	9.0 7.17		19.9 20.1	<del>/-</del>	<del>/</del>		
	7.10		20	<del>-//</del>			
		LABORATORY	INFORMATION				
SAMPLE ID	(#) CONTAINER REF	RIG. PRESERV. TYPI		ANA	LYSES		
MW- 6	x voa vial YE	S HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTE	3E(8260)/5 OXYS(8260)		
COMMENTS:		Chee P	PARSENT IN	WATS			
-							
	······································						
Add/Danias - d C - :	A July	placed Delt	A JUID 1		red Plug: (2)		
Add/Replaced Gas	ikel Add/Re	placed Bolt:	Add/Replaced Lock	: V Add/Replac	ed Plug: / / 1		



## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:	Chevron #9-2	2029		Job Number:	386911	
Site Address:	890 West Ma	carthur	Blvd.	Event Date:	5.7.16	(inclusive)
City:	Oakland, CA			Sampler:	FT	()
Well iD	MW- 7			Date Monitored:	5.7.15	
Well Diameter	<b>2</b> in.		[vo	lume 3/4"= (	0.02 1"= 0.04 2"= 0.17	3"= 0.38
Total Depth	14.88 ft.			ctor (VF) 4"= (		
Depth to Water	9.33 ft.	C	heck if water colur	nn is less then 0.5	0 ft.	***************************************
					= Estimated Purge Volume:	<b>Q.0</b> gal.
Depth to Water w	// 80% Recharge [	(Height of W	/ater Column x 0.20)	+ DTW]: 12.44		
Purge Equipment:		0.				(2400 hrs) (2400 hrs)
Disposable Bailer			ampling Equipment	. /		
Stainless Steel Bailer			isposable Bailer ressure Bailer		Depth to Water:	
Stack Pump			etal Filters		Hydrocarbon Thick	
Peristaltic Pump			eristaltic Pump		Visual Confirmation	Description:
QED Bladder Pump			ED Bladder Pump			
Other:			ther:		Skimmer / Absorba	
					Amt Removed from	Skimmer: Itr Well: Itr
					Water Removed:	
Start Time (purge)	. 1120		Weather Co	anditions:	4	
		716		_	CLOUDY	
	e: 1145 /5.			CLEAN		MODERNIE
Approx. Flow Rate		gpm.	Sediment D	· -	NOHE	
Did well de-water	? //6	it yes, Tin	ne: V	olume:	gal. DTW @ Sampl	ing: 11. 21
Time			Conductivity	Temperature	D.O.	ORP
(2400 hr.)	Volume (gal.)	pН	μS/ mS μmhos/cm)	(6/F)		(mV)
1125	2.5	7.31	872	19.7		
11 30		7.28	880	Zo. \		
1134		.25	889	20.7		
			ABORATORY I			
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE			ALYSES
MW- 7	💪 x voa vial	YES	HCL	LANCASTER	TPH-GRO(8015)/BTEX+M	TBE(8260)/5 OXYS(8260)
			e2.			
					1	
					<u> </u>	
COMMENTS:						



## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Site Address:	Chevron #9-		Blvd	Job Number: Event Date:	386911	(inclusive)
City:	Oakland, CA			Sampler:	5.7.15 FT	(inclusive)
Well ID Well Diameter Total Depth Depth to Water  Depth to Water  Purge Equipment: Disposable Bailer Stainless Steel Bailer Stack Pump Peristaltic Pump QED Bladder Pump Other:	MW- 8  2 in  25.00 ft  11.79 ft  13.21  W/ 80% Recharge	XVF C XVF N E ((Height of W Di Pr Me Pe	Volu Fac heck if water colum = 2.24	n is less then 0.50 x3 case volume =	7 Time Started: Time Completed: Depth to Product: Depth to Water: Hydrocarbon Thic Visual Confirmation Skimmer / Absorb Amt Removed from	gal.  (2400 hrs) (2400 hrs) ft ft ft kness: ft on/Description: ant Sock (circle one) m Skimmer: tr m Well: tr
Start Time (purge Sample Time/Dar Approx. Flow Rat Did well de-water Time (2400 hr.)	te: 1230 / 5	gpm.	Weather Color: Water Color: Sediment Determine: Conductivity (AS) mS pmhos/cm) LSo L46	LT. Bev	8. SILTY	ORP (mV)
		L	ABORATORY IN	IFORMATION		
SAMPLE ID MW- 8	(#) CONTAINER	REFRIG. YES	PRESERV. TYPE HCL	LABORATORY		NALYSES MTBE(8260)/5 OXYS(8260)
COMMENTS:			Water and the second			
Add/Replaced Gas	ket:	Add/Replaced	Bolt:	Add/Replaced Loc	k: Add/Rej	placed Plug:

# Chevron California Region Analysis Request/Chain of Custody

<b>Control</b> Lancaster Laboratories Acct. # _	#		G	roup:	#				San	atories nple # I with circ	ļ.			52404	4-10-10-10-10-10-10-10-10-10-10-10-10-10-				1
1) Client Information	4	) M	/latrix			(5)			An	alyse	es R	equ	este	ed .				SCR #:	/
Facility \$5#9-2029-OML G-R#386911 Glob#/PfD#T0600173887	/			e e														50n #	•
Site Ad <b>999</b> WEST MACARTHUR BLVD., OAKLAND, CA			`			-4.07												Results in Dry We	Ť
Chevro CAM STANTECTF Lead (Propulant	diment	≂।ੲ	Surface		<b>"</b>	000	8	Gel Cleanup	annb		(09							Must meet lowest limits possible for	t detection
Consu <b>tgetter-</b> Ryan, Inc., 6805 Sierra Court, Suite G, Dublin, CA	A 9456	نّ	, on		Containers	8260	8260		Gel Cleanup		2		g	(0)				compounds  8021 MTBE Confi	
Consultent Project Mgr. Harding, deanna@grinc.com							8015/1	out Silli	Silica		88	Method	Method	8260				Confirm highest h	nit by 8260
Consultant Phone #1-7444 x180				Ą	ber of	E 8021	80,	15 with	5 with	c	Oxygenates	1		4	6			Runoxy's	on highest hit
Sampler FAAJK TENNINON,	ğ			미	Number	+ MTBE	. B	TPH-DRO 8015 without Silica	TPH-DRO 8015	8260 Full Scan	ő	ead	Dissolved Lead	(F)					
2 Soil Collected Purple Identification Depth Date Time	Com Soil	5	Water	ö	Total	втех	трн-сво	TPH-D	TPH-D	8260	101	Total Lead	Dissolv	\$				6 Remai	rks
QA 5.7.15	$\bot$		W		2	X	X		$\Box$	$\Box$									
1013	#	+	+	$\dashv$	/			$\rightarrow$	$\dashv$	+	$\exists$	+	- 1	$\rightarrow$		$\mid - \mid$		-	
MW-5 1013 X	+	+	+++	$\dashv$	<i>ها</i>	$\vdash \vdash$	T	+	+	+	7	+	+	$\stackrel{\sim}{\leftarrow}$	-	$\vdash\vdash$		1	
Mw. 7 1145 X	1	+	+	1	6	H	+		$\top$	$\top$	++	$\top$	$\dashv$	-2185	_			1	1
MW-8 & 1230 X		工	1		6		4			1	4	$\Box$	$\Box$	4	en. No.			1	
	1	1		_		$\Box$		$\dashv$	$\Box$		1	4	$\rightarrow$					]	
i	++	+		$\dashv$	H	$\vdash$	$\dashv$	$\rightarrow$	$\dashv$	+	+	+	$\dashv$	$\dashv$	$\dashv$	$\square$		-	
	++	+	-	+	$\dashv$	$\vdash$	$\dashv$	$\dashv$	+	+	+	+	$\dashv$	$\dashv$	$\dashv$	$\vdash\vdash$	$\vdash$	-	- 1
			$\Box$	$\exists$					二	士	士	士		$\Box$				]	
	1	+		-		$\vdash$	$\dashv$	$\dashv$	$\dashv$	_	$\dashv$	+	4	$\dashv$	$\exists$			]	
7) Turnaround Time Requested (TAT) (please circle) Reling	linquished by			_		Date		7	Time		F	Receive	ed by					Date	Time 9
Standard 5 day 4 day	LOT					5,-	7.15	-		<del>b</del> Şb	(	a		fer	Lu	س		STMAY 15	1466
72 hour 48 hour 24 hou <b>EDF/EDD</b>	linquished by		7, T. C.	incert i il per		Date	10.00		Time		R	Receive	∍d by						Time
8 Data Package (circle if required) EDD (circle if required) Relin	elinquished by	by Cor	mmercia'	l Carı	rier:						R	Receive	ad by			-		Date	Time
	UPS			dEx _			Oth	ier_			4								
Type VI (Raw Data) Other:	Temp	perat	ture Up	on f	Rec	eipt_			°(	С		Cus	stod	y Se	als I	Intac	ct?	Yes	No

ATTACHMENT B
Certified Laboratory Analysis Reports and
Chain-of-Custody Documents

## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

#### ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 Chevron 6001 Bollinger Canyon Rd L4310 San Ramon CA 94583

May 21, 2015

Project: 92029

Submittal Date: 05/08/2015 Group Number: 1559686 PO Number: 0015167993 Release Number: CMACLEOD State of Sample Origin: CA

Client Sample Description	<u>Lancaster Labs (LL) #</u>
QA-T-150507 NA Water	7879615
MW-5-W-150507 Grab Groundwater	7879616
MW-6-W-150507 Grab Groundwater	7879617
MW-7-W-150507 Grab Groundwater	7879618
MW-8-W-150507 Grab Groundwater	7879619

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <a href="http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/">http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/</a>.

ELECTRONIC	Stantec	Attn: Marisa Kaffenberger
COPY TO		
ELECTRONIC	Stantec	Attn: Erin O'Malley
COPY TO		
ELECTRONIC	Stantec International	Attn: Travis Flora
COPY TO		
ELECTRONIC	Stantec	Attn: Laura Viesselman
COPY TO		
ELECTRONIC	Gettler-Ryan Inc.	Attn: Gettler Ryan
COPY TO	·	·

## Analysis Report

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Respectfully Submitted,

Amek Carter Specialist

(717) 556-7252



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: QA-T-150507 NA Water

LL Sample # WW 7879615 Facility# 92029 Job# 386911 GRD LL Group # 1559686 890 W MacArthur-Oakland T0600173887 Account # 10906

Project Name: 92029

Collected: 05/07/2015 Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

Submitted: 05/08/2015 09:25 Reported: 05/21/2015 18:45

WMOQA

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

#### General 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	D151381AA	05/18/2015 11:22	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151381AA	05/18/2015 11:22	Daniel H Heller	1
01728	TPH-GRO N. CA water	SW-846 8015B	1	15133A20A	05/13/2015 10:23	Jeremy C Giffin	1
	C6-C12				/ /		_
01146	GC VOA Water Prep	SW-846 5030B	1	15133A20A	05/13/2015 10:23	Jeremy C Giffin	1



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-5-W-150507 Grab Groundwater

Facility# 92029 Job# 386911 GRD 890 W MacArthur-Oakland T0600173887

LL Group # 1559686 Account # 10906

LL Sample # WW 7879616

Project Name: 92029

Collected: 05/07/2015 10:13 by FT Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

Submitted: 05/08/2015 09:25 Reported: 05/21/2015 18:45

#### WMOM5

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor			
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l				
10945	t-Amyl methyl ether	994-05-8	N.D.	0.5	1			
10945	Benzene	71-43-2	1	0.5	1			
10945	t-Butyl alcohol	75-65-0	N.D.	2	1			
10945	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1			
10945	Ethylbenzene	100-41-4	2	0.5	1			
10945	di-Isopropyl ether	108-20-3	N.D.	0.5	1			
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1			
10945	Toluene	108-88-3	1	0.5	1			
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1			
GC Vo	GC Volatiles SW-846 8015B ug/l ug/l							
01728	TPH-GRO N. CA water C6-C12	n.a.	2,800	50	1			

## General 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	D151391AA	05/19/2015 21:57	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151391AA	05/19/2015 21:57	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15133A20A	05/13/2015 12:14	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15133A20A	05/13/2015 12:14	Jeremy C Giffin	1



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-6-W-150507 Grab Groundwater

Facility# 92029 Job# 386911 GRD 890 W MacArthur-Oakland T0600173887

LL Group # 1559686 Account # 10906

LL Sample # WW 7879617

Project Name: 92029

Collected: 05/07/2015 11:00 by FT Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

Submitted: 05/08/2015 09:25 Reported: 05/21/2015 18:45

#### WMOM6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor				
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l					
10945	t-Amyl methyl ether	994-05-8	N.D.	0.5	1				
10945	Benzene	71-43-2	19	0.5	1				
10945	t-Butyl alcohol	75-65-0	3	2	1				
10945	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1				
10945	Ethylbenzene	100-41-4	7	0.5	1				
10945	di-Isopropyl ether	108-20-3	N.D.	0.5	1				
10945	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1				
10945	Toluene	108-88-3	2	0.5	1				
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1				
GC Vol	GC Volatiles SW-846 8015B ug/l ug/l								
01728	TPH-GRO N. CA water C6-C12	n.a.	3,600	50	1				

## General 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	D151401AA	05/20/2015 11:18	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151401AA	05/20/2015 11:18	Amanda K Richards	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15133A20A	05/13/2015 12:36	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15133A20A	05/13/2015 12:36	Jeremy C Giffin	1



## **Analysis Report**

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-7-W-150507 Grab Groundwater

Facility# 92029 Job# 386911 GRD 890 W MacArthur-Oakland T0600173887

LL Group # 1559686 Account # 10906

LL Sample # WW 7879618

Project Name: 92029

Collected: 05/07/2015 11:45 by FT Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

Submitted: 05/08/2015 09:25 Reported: 05/21/2015 18:45

#### WMOM7

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor				
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l					
10945	t-Amyl methyl ether	994-05-8	N.D.	0.5	1				
10945	Benzene	71-43-2	24	0.5	1				
10945	t-Butyl alcohol	75-65-0	2	2	1				
10945	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1				
10945	Ethylbenzene	100-41-4	19	0.5	1				
10945	di-Isopropyl ether	108-20-3	N.D.	0.5	1				
10945	Methyl Tertiary Butyl Ether	1634-04-4	3	0.5	1				
10945	Toluene	108-88-3	0.8	0.5	1				
10945	Xylene (Total)	1330-20-7	1	0.5	1				
GC Vo	GC Volatiles SW-846 8015B ug/l ug/l								
01728	TPH-GRO N. CA water C6-C12	n.a.	5,000	250	5				

## General 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	D151401AA	05/20/2015 11:41	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151401AA	05/20/2015 11:41	Amanda K Richards	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15133A20A	05/13/2015 14:26	Jeremy C Giffin	5
01146	GC VOA Water Prep	SW-846 5030B	1	15133A20A	05/13/2015 14:26	Jeremv C Giffin	5



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-8-W-150507 Grab Groundwater

Facility# 92029 Job# 386911 GRD 890 W MacArthur-Oakland T0600173887

LL Group # 1559686 Account # 10906

LL Sample # WW 7879619

Project Name: 92029

Collected: 05/07/2015 12:30 by FT Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

Submitted: 05/08/2015 09:25 Reported: 05/21/2015 18:45

#### M8WM0

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l	
10945	t-Amyl methyl ether	994-05-8	N.D.	0.5	1
10945	Benzene	71-43-2	N.D.	0.5	1
10945	t-Butyl alcohol	75-65-0	N.D.	2	1
10945	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	di-Isopropyl ether	108-20-3	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Vol	latiles SW-846	8015B	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1

## General 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	D151391AA	05/19/2015 23:06	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151391AA	05/19/2015 23:06	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	15133A20A	05/13/2015 13:20	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15133A20A	05/13/2015 13:20	Jeremy C Giffin	1



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## Quality Control Summary

Client Name: Chevron Group Number: 1559686

Reported: 05/21/2015 18:45

eurofins

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.

#### Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD <u>Max</u>
Batch number: D151381AA Benzene Ethylbenzene Methyl Tertiary Butyl Ether Toluene Xylene (Total)	Sample number N.D. N.D. N.D. N.D. N.D. N.D. N.D.	er(s): 787 0.5 0.5 0.5 0.5 0.5	9615 ug/l ug/l ug/l ug/l ug/l	113 106 109 112 111		78-120 80-120 75-120 80-120 80-120		
Batch number: D151391AA t-Amyl methyl ether Benzene t-Butyl alcohol Ethyl t-butyl ether Ethylbenzene di-Isopropyl ether Methyl Tertiary Butyl Ether Toluene Xylene (Total)	Sample number N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D	er(s): 787 0.5 0.5 2. 0.5 0.5 0.5 0.5 0.5	9616,7879 ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	619 90 99 89 88 90 89 95 94		75-120 78-120 78-121 69-120 80-120 70-124 75-120 80-120 80-120		
Batch number: D151401AA t-Amyl methyl ether Benzene t-Butyl alcohol Ethyl t-butyl ether Ethylbenzene di-Isopropyl ether Methyl Tertiary Butyl Ether Toluene Xylene (Total)	Sample number N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D	0.5 0.5 2. 0.5 0.5 0.5 0.5	ug/1 ug/1 ug/1 ug/1 ug/1 ug/1 ug/1 ug/1	79 89 81 78 81 79 85 86 85	98 110 102 95 101 97 104 105	75-120 78-120 78-121 69-120 80-120 70-124 75-120 80-120 80-120	21 21 22 19 22 20 20 21 22	30 30 30 30 30 30 30 30 30
Batch number: 15133A20A TPH-GRO N. CA water C6-C12	Sample number N.D.	50.	ug/l	95 95	95	80-139	1	30

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS <u>%REC</u>	MSD <u>%REC</u>	MS/MSD <u>Limits</u>	RPD	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: D151381AA Benzene	Sample 94	number(s) 97	: 7879615 72-134	UNSPK:	P89205	56			

#### \*- Outside of specification

- (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.



Analysis Report

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### Quality Control Summary

Client Name: Chevron Group Number: 1559686

Reported: 05/21/2015 18:45

#### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike Background (BKG) = the sample used in conjunction with the duplicate

	MS	MSD	MS/MSD		RPD	BKG	DUP	DUP	Dup RPD
<u>Analysis Name</u>	%REC	%REC	<u>Limits</u>	RPD	<u>MAX</u>	Conc	Conc	RPD	Max
Ethylbenzene	88	91	71-134	3	30				
Methyl Tertiary Butyl Ether	87	89	72-126	2	30				
Toluene	92	95	80-125	4	30				
Xylene (Total)	90	94	79-125	4	30				
Batch number: D151391AA	Sample	number(s	3): 7879616	78796	19 UNSE	PK: P888394			
t-Amyl methyl ether	98	104	65-117	6	30				
Benzene	111	119	72-134	7	30				
t-Butyl alcohol	95	100	67-119	5	30				
Ethyl t-butyl ether	94	101	74-122	7	30				
Ethylbenzene	103	108	71-134	5	30				
di-Isopropyl ether	97	103	70-129	7	30				
Methyl Tertiary Butyl Ether	101	107	72-126	6	30				
Toluene	107	112	80-125	5	30				
Xylene (Total)	106	111	79-125	5	30				

#### 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/MTBE Batch number: D151381AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	
7879615	96	100	95	93	
Blank	97	98	97	97	
LCS	95	101	96	98	
MS	96	103	96	99	
MSD	94	103	95	97	
Limits:	80-116	77-113	80-113	78-113	

Analysis Name: BTEX + 5 Oxygenates 8260 Water

Batch number: D151391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	l oluene-d8	4-Bromotluorobenzene
7879616	95	98	96	100
7879619	98	101	95	93
Blank	97	100	96	95
LCS	96	103	95	98
MS	95	100	95	98
MSD	95	103	95	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxygenates 8260 Water Batch number: D151401AA

batti iiu	MDET: DISIAGINA				
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene	
7879617	95	98	95	98	
7879618	93	95	95	103	
Blank	97	101	96	94	

#### \*- Outside of specification

- (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.



## Analysis Report

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## Quality Control Summary

Client Name: Chevron Group Number: 1559686

Reported: 05/21/2015 18:45

## Surrogate Quality Control

				~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	00110101
LCS	97	102	94	98	
LCSD	95	101	95	99	
Limits:	80-116	77-113	80-113	78-113	
Analysis	s Name: TPH-GR	O N. CA water C6-C12	!		
	umber: 15133A2				
	Trifluorotoluene-F				
7879615	92				
7879616	130				
7879617	133				
7879618	98				
7879619	92				
Blank	91				
LCS	100				

<sup>\*-</sup> Outside of specification

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

<sup>(2)</sup> The unspiked result was more than four times the spike added.

# Chevron California Region Analysis Request/Chain of Custody

Client Inf			Ac	cct. # _	109	101	6	G	F iroup	or Eu # structio	rofins 55°	Lance 168 everse	aster 36 side cor	Labo Sa	ratorion mple d with c	es use # ircled n	e only 87 umbers	96	019	5 -	-10	1	105)
1 Client Inf						4	Matı	rix			(5)			Ar	nalys	ses l	Requ	.est	ed				SCR #:
Facility \$5#9-2029-OML G-R#3869	11 Glob	JäPfD#T	0600173	887	TANADI CINA																		
Site Ad <b>890 WEST MACARTHUR BL</b>				7		<u>=</u>	^						G G										☐ Results in Dry Weight ☐ J value reporting needed
Chevro STANTECTF		Lead Const	itant a			diment	Ground	Surface		0	8260 🕅	8260	Clean	annb		260)							Must meet lowest detection limits possible for 8260
Consulian/Office-Ryan, Inc., 6805 Sier	ra Court	, Suite (	3, Dublii	n, CA	945	68	قَ	Su		ainers	826	826	a Gel	sel Cle		326			3				compounds  8021 MTBE Confirmation
Consultant Project Mgr. Harding, deanna	@grinc.	com								Conta	8021	8015 🕅	ut Silic	Silica G		8	Method	Method	(0978)				Confirm highest hit by 8260
Consultant Phone # (925) 551-7444 x180	Market and the second s	PROPERTY AND CONTRACT OF THE PARTY.	Part	· I			Potable	NPDES	Air	er of (		801	5 witho	with §		_Oxygenates	_		S	'			Run oxy's on highest hit
Sampler	i			3	Composite		Pot	M		Total Number of Containers	+ MTBE		TPH-DRO 8015 without Silica Gel Cleanup	TPH-DRO 8015 with Silica Gel Cleanup	8260 Full Scan	Oxyg	g	Dissolved Lead	BTEK				oxy s on an time
EMAJE TENN	Soil	Coll	ected	<b>-</b>	mpo	_	ter			al N	(+ X	TPH-GRO	I-DR(	I-DR(	D Full	M	Total Lead	olvec	$\mathbb{X}$				
Sample Identification	Depth	<u> </u>	Time	Grab	Ö	Soil	Water		Ö	Tot	втех	됩	표	핕	826(	W-J	Tota	Diss					6 Remarks
QA		5.7.15					W			2	X	X											
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MW-5			1013	K		<u> </u>	$\vdash \vdash$	_		0		X				X	<b>  </b>		X	$\dashv$			
<u> </u>		<del>                                     </del>	1100	K			$\vdash \vdash$		-	6		H	<b>  </b>			H	<del>  </del>	-	+	$\dashv$			
Mu-7		<del>  _     _     _   _     _</del>	1145	X			-	$\dashv$	-	6		┼┼	$\vdash$	$\vdash$	$\vdash$	H	$\vdash$	$\dashv$	+	$\dashv$			
MW-8		4	1230				4	$\dashv$	_	6		4	$\vdash$	$\vdash$		4	$\vdash$	$\dashv$	4				
				$\blacksquare$				$\dashv$	-			-				$\vdash \vdash \vdash$		$\dashv$	$\dashv$	$\dashv$	-		
				H				$\dashv$					$\vdash$			$\Box$			$\dashv$	$\dashv$			
								$\dashv$										$\neg$		$\dashv$			
								$\exists$												$\neg$			
7 Turnaround Time Requested (T	AT) (pleas	se circle)		Relinq	uished	by					Date			Time		/	1	ved by	_	1		_	Date Time 9
Standard 5 day		4 day			ė	حل	_	<u> </u>	<u> </u>			7.15			\$\$				se.	<u>Sv</u>	<u>_</u>		Date Time (9)  JAMAY 5 14 45  Date Time
72 hour 48 hour		24 hou	DF/EDI	Relinq	uished	Tōy'	fal	] NC	_		Date	FMA	- 1	Time	39		Receiv	red by . F	-+				Date
Data Package (circle if required)	EDC	(circle if r	equired)	Relina	quishe	ed by	Comm	nercia	al Car	rrier:	<u> </u>		<u></u> -				Receiv	ed by		1	1		Date Time
Type I - Full	EDF	FLAT (defa	ault)	U	PS_			Fed	dEx	=	$\leq$	Oth	ner_			_	$\mathcal{L}$	-	M	-1/	44	M	5.8-15 425
Type VI (Raw Data)	Othe	r:			Τe	∍mp∈	eratur	e Ur	pon	Rec	eipt				°C		Cu	ıstod	ly Se	als I	intac	t?	Yes No



## **Explanation of Symbols and Abbreviations**

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
С	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
μg	microgram(s)	mg	milligram(s)
mĹ	milliliter(s)	Ĺ	liter(s)
m3	cubic meter(s)	μL	microliter(s)
		pg/L	picogram/liter

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

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight Dry weight basis

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

as-received basis.

#### Laboratory Data Qualifiers:

B - Analyte detected in the blank

C - Result confirmed by reanalysis

E - Concentration exceeds the calibration range

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.

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...

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.

#### Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) 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.

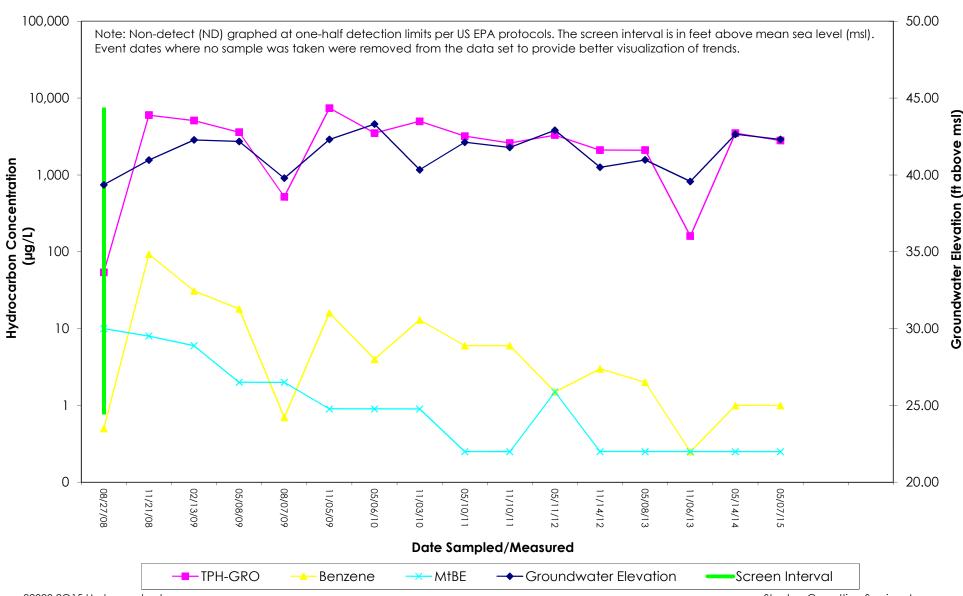
This report shall not be reproduced except in full, without the written approval of the laboratory.

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.

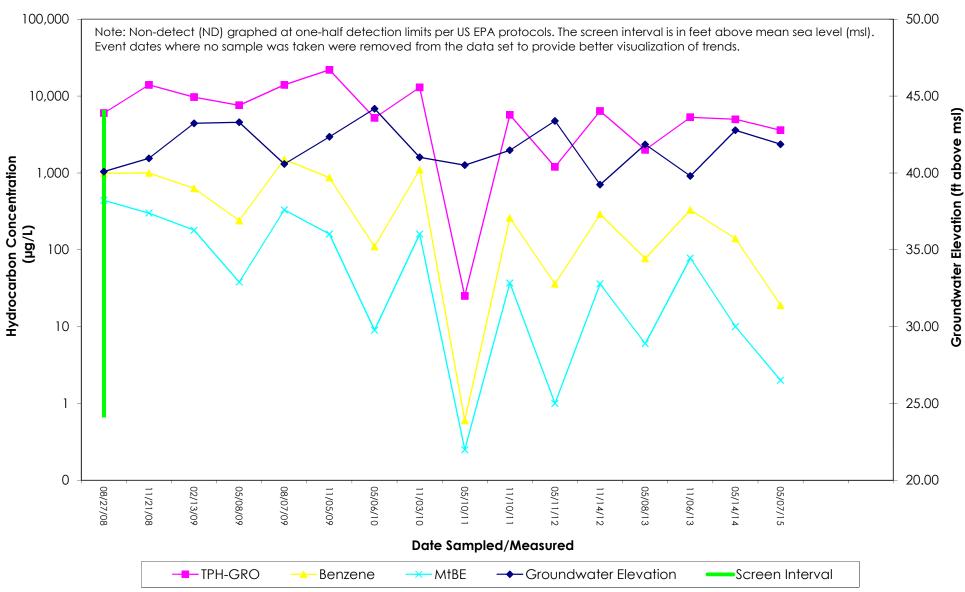
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ATTACHMENT C Hydrographs

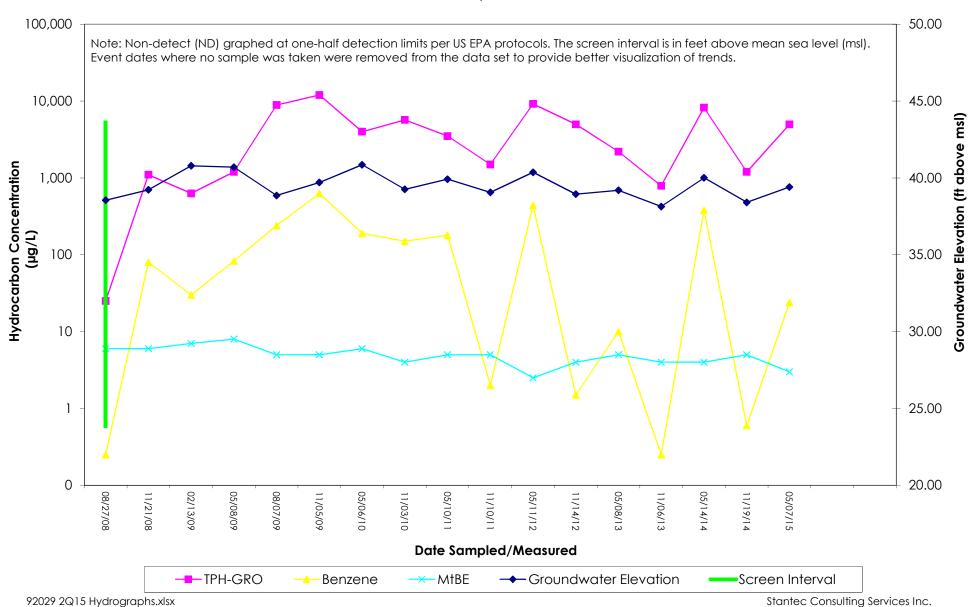
### MW-5 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time



### MW-6 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time



### MW-7 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time



### MW-8 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time

