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Fourth Quarter 2014 Semi-Annual Groundwater Monitoring Report

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

Stantec

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
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January 8, 2015

Carryl MacLeod
Project Manager
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January 8, 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 *Fourth Quarter 2014 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 travis.flora@stantec.com.

Sincerely,

Carryl MacLeod

Carryl MacLeod
Project Manager

January 8, 2015

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

Reference: **Fourth Quarter 2014 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 *Fourth Quarter 2014 Semi-Annual Groundwater Monitoring Report* for former Chevron-branded service station 92029, located at 890 West MacArthur Boulevard, Oakland, Alameda County, California (the Site - shown on **Figure 1**). This report is presented in three sections: Site Background, Fourth Quarter 2014 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.

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 small hotel.

FOURTH QUARTER 2014 GROUNDWATER MONITORING AND SAMPLING PROGRAM

Gettler-Ryan Inc. (G-R) performed the Fourth Quarter 2014 groundwater monitoring and sampling event on November 19, 2014. G-R's standard operating procedures (SOPs) and field data sheets are included in **Attachment A**. G-R gauged depth-to-groundwater (DTW) in two Site wells (MW-7 and MW-8) prior to collecting groundwater samples for laboratory analysis. Only these two wells, which are located down-gradient of the Site, were sampled this quarter. Wells MW-5 and MW-6 could not be gauged or sampled because they are located in roads near gutters, which were flooded with surface water.

Investigation-derived waste (IDW) generated during the Fourth Quarter 2014 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**. Wells MW-7 and MW-8 are currently screened across the prevailing groundwater table. Current and historical groundwater elevation data are presented in **Table 2**. A Fourth Quarter 2014 groundwater elevation contour map was not prepared because only two Site wells were monitored this quarter, resulting in an insufficient number of data points for contouring. A historical groundwater flow direction rose diagram illustrating the generally southwest direction of groundwater flow from Second Quarter 2011 to Second Quarter 2014 is shown on **Figure 2**.

Schedule of Laboratory Analysis

Groundwater samples were collected and 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 including 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 Fourth Quarter 2014, groundwater samples were collected from two Site wells (MW-7 and 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 3**. Isoconcentration maps were not prepared because concentrations above 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 were only observed in one well (MW-7) this quarter.

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 were prepared for wells that were sampled this quarter and are included in **Attachment C**. A summary of Fourth Quarter 2014 groundwater analytical results follows.

- **TPH-GRO** was detected in one Site well this quarter, at a concentration of 1,200 micrograms per liter (µg/L; well MW-7), which is within historical limits for this well.
- **Benzene** was detected in one Site well this quarter, at a concentration of 0.6 µg/L (well MW-7), which is within historical limits for this well.
- **Toluene** was not detected above the method detection limit (MDL; 0.5 µg/L) in either Site well sampled this quarter.
- **Ethylbenzene** was detected in one Site well this quarter, at a concentration of 1 µg/L (well MW-7), which is within historical limits for this well.
- **Total Xylenes** were not detected above the MDL (0.5 µg/L) in either Site well sampled this quarter.
- **MtBE** was detected in one Site well this quarter, at a concentration of 5 µg/L (well MW-7), which is within historical limits for this well.
- **DIPE** was not detected above the MDL (0.5 µg/L) in either Site well sampled this quarter.
- **EtBE** was not detected above the MDL (0.5 µg/L) in either Site well sampled this quarter.
- **TAME** was not detected above the MDL (0.5 µg/L) in either Site well sampled this quarter.
- **TBA** was not detected above the MDL (2 µg/L) in either Site well sampled this quarter.

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 MtBE were observed equal to or above ESLs as follows:

- The TPH-GRO concentration exceeds the ESL of 100 µg/L in well MW-7; and
- The MtBE concentration equals the ESL of 5 µg/L in well MW-7.

Wells MW-5 and MW-6 were unable to be sampled during Fourth Quarter 2014 because they were flooded with surface water; however, maximum concentrations of petroleum hydrocarbons are generally 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 well MW-7, which is located approximately 95 feet down-gradient of well MW-6. In addition, TPH-GRO and benzene concentrations are generally 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.

Current and historical groundwater quality data indicate that the dissolved-phase petroleum hydrocarbon plume is generally stable or decreasing in overall size and concentration. However,

the dissolved-phase petroleum hydrocarbon plume remains undefined off Site and the plume length is unknown; therefore, current Site conditions do not satisfy any of the groundwater-specific criteria scenarios set forth in the Low-Threat UST Case Closure Policy (LTCP).

Based on concentrations of TPH-GRO and MtBE 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 December 18, 2013, ACEH responded to the *Site Conceptual Model and Data Gap Work Plan*, dated August 16, 2013, with technical comments and requested a meeting to discuss an efficient strategy for collecting data at the Site in an effort to progress the Site towards closure and redevelopment as residential. The correspondence requested a work plan addendum based on the strategy decided upon during the meeting and that addressed ACEH's technical comments. The strategy meeting was held on May 8, 2014, a summary of the conclusions from that meeting was provided by ACEH in a letter dated May 14, 2014, and the *Work Plan Addendum* was submitted on June 11, 2014. The scope of the work plan addendum includes the advancement of five on-site soil borings (SB-11 through SB-15) and six off-site soil borings (SB-16 through SB-21) and collection of shallow soil and groundwater samples to evaluate the lateral extent of petroleum hydrocarbons in soil and groundwater and determine if the Site meets the groundwater-specific and vapor intrusion to indoor air criteria set forth in the LTCP. Should soil and groundwater results from sampling of the on- and off-site soil borings indicate potential vapor intrusion risk, soil vapor probes may be installed and sampled. In addition, updated sensitive receptor and water supply well surveys were proposed. ACEH approved the *Work Plan Addendum* in a letter dated July 9, 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. ACEH approved the latest extension request in an email dated November 7, 2014, and the new due date for the Site Investigation Report is March 13, 2015.

If you have any questions, please feel free to contact Stantec Project Manager, Travis Flora, at (408) 356-6124 or Travis.Flora@stantec.com.

LIMITATIONS

This document entitled Fourth Quarter 2014 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.

Prepared by Erin O'Malley
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Attachments:

Table 1 – Well Details / Screen Interval Assessment – Fourth Quarter 2014
Table 2 – Groundwater Monitoring Data and Analytical Results
Table 3 – Groundwater Analytical Results – Oxygenate Compounds

Figure 1 – Site Location Map
Figure 2 – Groundwater Flow Direction Rose Diagram – Historical
Figure 3 – Site Plan Showing Groundwater Concentrations – Fourth Quarter 2014

Attachment A – Gettler-Ryan Inc. Field Data Sheets and Standard Operating Procedures – Fourth Quarter 2014
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

TABLES

Table 1
Well Details / Screen Interval Assessment
Fourth Quarter 2014
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[1] (feet below TOC)	Current Depth to Groundwater[1] (feet below TOC)	Screen Interval (feet bgs)	Screen Interval Assessment
MW-5	07/24/08	Monitoring	2	49.39	25.00	--[2]	--[2]	5-25	Insufficient data to assess.
MW-6	07/24/08	Monitoring	2	49.07	25.00	--[2]	--[2]	5-25	Insufficient data to assess.
MW-7	07/24/08	Monitoring	2	48.74	25.00	24.89	10.33	5-25	Depth-to-groundwater within screen interval.
MW-8	07/24/08	Monitoring	2	47.61	25.00	24.99	12.33	5-25	Depth-to-groundwater within screen interval.

Notes:
bgs = below ground surface
msl = mean sea level
TOC = top of casing
[1] = As measured prior to groundwater sampling on November 19, 2014.
[2] = Well inaccessible; flooded with surface water.

Table 2

Groundwater Monitoring Data and Analytical Results

Former Chevron-Branded Service Station 92029

890 West MacArthur Boulevard,

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
MW-5									
08/22/08[1]	49.39	9.97	39.42	--	--	--	--	--	--
08/27/08[3]	49.39	10.03	39.36	54	0.5	0.8	<0.5	0.7	10
11/21/08[3]	49.39	8.42	40.97	6,000	93	6	37	6	8
02/13/09[3]	49.39	7.11	42.28	5,100	31	5	20	3	6
05/08/09[3]	49.39	7.21	42.18	3,600	18	4	14	2	2
08/07/09[3]	49.39	9.60	39.79	520	0.7	<0.5	<0.5	<0.5	2
11/05/09[3]	49.39	7.08	42.31	7,400	16	5	18	4	0.9
05/06/10[3]	49.39	6.08	43.31	3,500	4	2	3	0.9	0.9
11/03/10[5]	49.39	9.05	40.34	5,000	13	4	8	3	0.9
05/10/11[5]	49.39	7.26	42.13	3,200	6	4	7	0.9	<0.5
11/10/11[5]	49.39	7.60	41.79	2,600	6	3	10	2	<0.5
05/11/12[5]	49.39	6.48	42.91	3,300	<3	<3	<3	<3	<3
11/14/12[3]	49.39	8.89	40.50	2,100	3	2	3	0.6	<0.5
05/08/13[3]	49.39	8.41	40.98	2,100	2	0.9	2	<0.5	<0.5
11/06/13[3]	49.39	9.81	39.58	160	<0.5	<0.5	<0.5	<0.5	<0.5
05/14/14[3]	49.39	6.74	42.65	3,500	1	2	4	<0.5	<0.5
11/19/14	**49.39**	**INACCESSIBLE; FLOODED WITH SURFACE WATER**				**--**	**--**	**--**	**--**
MW-6									
08/22/08[1]	49.07	8.98	40.09	--	--	--	--	--	--
08/27/08[3]	49.07	8.98	40.09	6,000	990	4	350	530	440
11/21/08[3]	49.07	8.12	40.95	14,000	1,000	15	1,300	550	300
02/13/09[3]	49.07	5.84	43.23	9,700	630	4	510	36	180
05/08/09[3]	49.07	5.77	43.30	7,600	240	4	470	67	38
08/07/09[3]	49.07	8.49	40.58	14,000	1,500	12	1,400	180	330
11/05/09[3]	49.07	6.72	42.35	22,000	870	8	1,300	130	160
05/06/10[3]	49.07	4.89	44.18	5,200	110	2	160	23	9
11/03/10[5]	49.07	8.05	41.02	13,000	1,100	8	670	58	160
05/10/11[4,5]	49.07	8.56	40.51	<50	0.6	<0.5	<0.5	<0.5	<0.5
11/10/11[5]	49.07	7.59	41.48	5,700	260	7	180	13	37
05/11/12[5]	49.07	5.68	43.39	1,200	36	0.6	0.8	<0.5	1
11/14/12[3]	49.07	9.83	39.24	6,400	290	9	180	6	36
05/08/13[3]	49.07	7.21	41.86	2,000	77	1	9	<0.5	6
11/06/13[3]	49.07	9.27	39.80	5,300	330[6]	3[6]	8[6]	1[6]	78[6]
05/14/14[3]	49.07	6.29	42.78	5,000	140	6	46	2	10
11/19/14	**49.07**	**INACCESSIBLE; FLOODED WITH SURFACE WATER**				**--**	**--**	**--**	**--**

Table 2

Groundwater Monitoring Data and Analytical Results

Former Chevron-Branded Service Station 92029

890 West MacArthur Boulevard,

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
MW-7									
08/22/08[1]	48.74	10.20	38.54	--	--	--	--	--	--
08/27/08[3]	48.74	10.19	38.55	<50	<0.5	0.6	<0.5	0.7	6
11/21/08[3]	48.74	9.51	39.23	1,100	80	<0.5	65	0.7	6
02/13/09[3]	48.74	7.95	40.79	630	30	<0.5	38	0.9	7
05/08/09[3]	48.74	8.04	40.70	1,200	83	<0.5	190	2	8
08/07/09[3]	48.74	9.88	38.86	8,900	240	0.7	770	5	5
11/05/09[3]	48.74	9.03	39.71	12,000	630	<1	1,300	420	5
05/06/10[3]	48.74	7.88	40.86	4,000	190	<0.5	270	7	6
11/03/10[5]	48.74	9.48	39.26	5,700	150	0.7	45	2	4
05/10/11[5]	48.74	8.82	39.92	3,500	180	<0.5	150	2	5
11/10/11[5]	48.74	9.68	39.06	1,500	2	<0.5	2	<0.5	5
05/11/12[5]	48.74	8.37	40.37	9,200	440	<5	1,000	33	<5
11/14/12[3]	48.74	9.79	38.95	5,000	<3	<3	6	<3	4
05/08/13[3]	48.74	9.54	39.20	2,200	10	<0.5	2	<0.5	5
11/06/13[3]	48.74	10.60	38.14	790	<0.5	<0.5	<0.5	<0.5	4
05/14/14[3]	48.74	8.73	40.01	8,200	380[6]	<1[6]	460[6]	34[6]	4[6]
11/19/14[3]	**48.74**	**10.33**	**38.41**	**1,200**	**0.6**	**<0.5**	**1**	**<0.5**	**5**
MW-8									
08/22/08[1]	47.61	12.41	35.20	--	--	--	--	--	--
08/27/08[3]	47.61	12.42	35.19	<50	<0.5	0.7	<0.5	0.6	<0.5
11/21/08[3]	47.61	11.42	36.19	<50	<0.5	<0.5	<0.5	<0.5	<0.5
02/13/09[3]	47.61	8.87	38.74	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/08/09[3]	47.61	10.79	36.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5
08/07/09[3]	47.61	12.33	35.28	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/05/09[3]	47.61	11.23	36.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/06/10[3]	47.61	10.28	37.33	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/03/10[5]	47.61	11.37	36.24	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/10/11[5]	47.61	11.55	36.06	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/10/11[5]	47.61	11.49	36.12	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/11/12[5]	47.61	10.89	36.72	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/14/12[3]	47.61	11.73	35.88	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/08/13[3]	47.61	12.03	35.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/06/13[3]	47.61	12.63	34.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/14/14[3]	47.61	11.69	35.92	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/14[3]	**47.61**	**12.33**	**35.28**	**<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

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
MW-1									
03/12/02[1]	50.71	6.50	44.21	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2[2]
06/07/02	50.71	8.69	42.02	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2[2]
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[3]	50.71	9.29	41.42	<50	<0.5	0.6	<0.5	<0.5	<0.5
09/30/03[3]	50.71	10.17	40.54	<50	<0.5	0.6	<0.5	<0.5	<0.5
12/03/03[3]	50.71	7.82	42.89	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04[3]	50.71	6.57	44.14	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/30/04[3]	50.71	9.78	40.93	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/04[3]	50.71	9.91	40.80	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/04[3]	50.71	2.90	47.81	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/23/05[3]	50.71	2.90	47.81	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/22/05[3]	50.71	8.59	42.12	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/02/05[3]	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	50.71	9.18	41.53	--	--	--	--	--	--
DESTROYED									
MW-2									
03/12/02[1]	52.57	6.09	46.48	<50	<0.50	<0.50	<0.50	<1.5	<2.5/3[2]
06/07/02	52.57	8.65	43.92	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2[2]
09/13/02	52.57	9.58	42.99	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2[2]
12/13/02	52.57	8.50	44.07	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<2[2]
03/01/03	52.57	7.00	45.57	<50	<0.50	<0.50	<0.50	<1.5	<2.5/<0.5[2]
06/27/03[3]	52.57	9.59	42.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/03[3]	52.57	10.64	41.93	<50	<0.5	<0.5	<0.5	<0.5	0.7
12/03/03[3]	52.57	7.54	45.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04[3]	52.57	6.05	46.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/30/04[3]	52.57	10.15	42.42	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/04[3]	52.57	10.14	42.43	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/04[3]	52.57	2.29	50.28	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/23/05[3]	52.57	2.44	50.13	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/22/05[3]	52.57	8.99	43.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/02/05[3]	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	--	--	--	--	--	--

Table 2

Groundwater Monitoring Data and Analytical Results

Former Chevron-Branded Service Station 92029

890 West MacArthur Boulevard,

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
MW-2 (cont)									
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[1]	50.31	6.50	43.81	12,000	600	8.5	1,100	370	700/650[2]
06/07/02	50.31	7.74	42.57	14,000	630	8.8	1,200	160	520/490[2]
09/13/02	50.31	9.73	40.58	3,000	270	3.2	200	11	600/640[2]
12/13/02	50.31	8.60	41.71	24,000	1,100	14	2,400	220	650/540[2]
03/01/03	50.31	6.75	43.56	16,000	500	9.0	1,200	130	460/330[2]
06/27/03[3]	50.31	9.25	41.06	9,500	390	6	450	30	470
09/30/03[3]	50.31	10.31	40.00	2,000	110	1	100	3	710
12/03/03[3]	50.31	8.18	42.13	19,000	970	8	2,100	85	420
03/10/04[3]	50.31	6.10	44.21	15,000	550	6	960	95	220
06/30/04[3]	50.31	9.80	40.51	3,200	150	1	100	3	660
09/30/04[3]	50.31	10.18	40.13	1,900	66	0.8	84	4	690
12/29/04[3]	50.31	4.58	45.73	16,000	470	7	820	47	170
03/23/05[3]	50.31	5.07	45.24	18,000	380	6	960	58	140
06/22/05[3]	50.31	8.12	42.19	16,000	700	6	950	62	300
09/02/05[3]	50.31	9.41	40.90	8,400	380	4	510	41	440
12/02/05[3]	50.31	7.97	42.34	16,000	490	6	1,200	32	170
03/20/06[3]	50.31	5.32	44.99	4,200	79	0.8	2	10	34
06/01/06[3]	50.31	7.07	43.24	5,400	67	1	26	3	28
09/11/06[3]	50.31	9.07	41.24	14,000	270	5	240	38	97
DESTROYED									
MW-4									
03/12/02[1]	49.93	5.34	44.59	9,700	360	5.3	1,100	150	170/170[2]
06/07/02	49.93	8.52	41.41	7,300	170	2.7	280	21	200/120[2]
09/13/02	49.93	9.86	40.07	5,800	92	4.5	80	14	190/160[2]
12/13/02	49.93	9.42	40.51	10,000	250	2.2	330	19	170/200[2]
03/01/03	49.93	7.33	42.60	12,000	300	4.6	900	110	160/100[2]
06/27/03[3]	49.93	9.62	40.31	7,500	110	2	200	58	130
09/30/03[3]	49.93	11.13	38.80	3,600	18	<1	16	7	520
12/03/03[3]	49.93	7.80	42.13	16,000	1,000	6	720	52	73
03/10/04[3]	49.93	6.69	43.24	2,200	230	3	610	71	55

Table 2
Groundwater Monitoring Data and Analytical Results
Former Chevron-Branded Service Station 92029
890 West MacArthur Boulevard,
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
MW-4 (cont)									
06/30/04[3]	49.93	10.33	39.60	7,700	59	<1	78	17	110
09/30/04[3]	49.93	10.75	39.18	4,800	100	1	33	10	400
12/29/04[3]	49.93	3.34	46.59	13,000	250	3	480	27	42
03/23/05[3]	49.93	4.24	45.69	12,000	130	2	280	16	24
06/22/05[3]	49.93	7.95	41.98	6,400	290	2	11	11	18
09/02/05[3]	49.93	9.46	40.47	3,700	180	1	13	7	18
12/02/05[3]	49.93	7.60	42.33	11,000	840	5	480	24	34
03/20/06[3]	49.93	4.50	45.43	790	14	<0.5	1	0.6	2
06/01/06[3]	49.93	7.30	42.63	5,100	48	0.8	42	4	2
09/11/06[3]	49.93	9.38	40.55	6,700	64	3	44	3	4
DESTROYED									
TRIP BLANK									
QA									
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[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/03[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
12/03/03[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/10/04[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/30/04[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/30/04[3]	--	--	--	<50	<0.5	<0.7	<0.8	<0.8	<0.5
12/29/04[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/23/05[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/22/05[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/02/05[3]	--	--	--	<50	<0.5	1[4]	<0.5	1[4]	<0.5
12/02/05[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
03/20/06[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
06/01/06[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
09/11/06[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
08/27/08[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/08[5]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
02/13/09[5]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
05/08/09[5]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
08/07/09[5]	--	--	--	<50	<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

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			**100**	**5**	**40**	**30**	**20**	**5**
QA (cont)									
11/14/12[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/08/13[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/06/13[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/14/14[3]	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/14[3]	**--**	**--**	**--**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

Table 2
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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
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
(msl) = Mean sea level
(µg/L) = Micrograms per liter
TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MtBE = Methyl tertiary-butyl ether
-- = Not Measured/Not Analyzed
QA = Quality Assurance/Trip Blank
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

* 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).

[1] Well development performed.

[2] MtBE by EPA Method 8260.

[3] BTEX and MtBE by EPA Method 8260.

[4] Laboratory confirmed analytical result.

[5] BTEX by EPA Method 8260.

[6] Laboratory report indicates reporting limits were raised due to interference from the sample matrix.

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-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
MW-6									
08/27/08	--	390	440	<0.5	<0.5	6	--	--	--
11/21/08	--	320	300	<13	<13	<13	--	--	--
02/13/09	--	100	180	<1	<1	4	--	--	--
05/08/09	--	16	38	<0.5	<0.5	0.9	--	--	--
08/07/09	--	190	330	<3	<3	5	--	--	--
11/05/09	--	86	160	<1	<1	4	--	--	--
05/06/10	--	2	9	<0.5	<0.5	<0.5	--	--	--
11/03/10	--	98	160	<3	<3	3	--	--	--
05/10/11[1]	--	<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[2]	--	60	78	<1	<1	2	--	--	--
05/14/14	--	8	10	<0.5	<0.5	<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-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[2]	--	<10	4	<1	<1	<1	--	--	<1
11/19/14	**--**	**<2**	**5**	**<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**	**--**	**--**	**--**

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-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									
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	--
06/27/03	--	<5	<0.5	<0.5	<0.5	<0.5	<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									
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	--

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-3 (cont)									
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	--
12/02/05	<50	11	34	<0.5	<0.5	1	<0.5	<0.5	--
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
(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

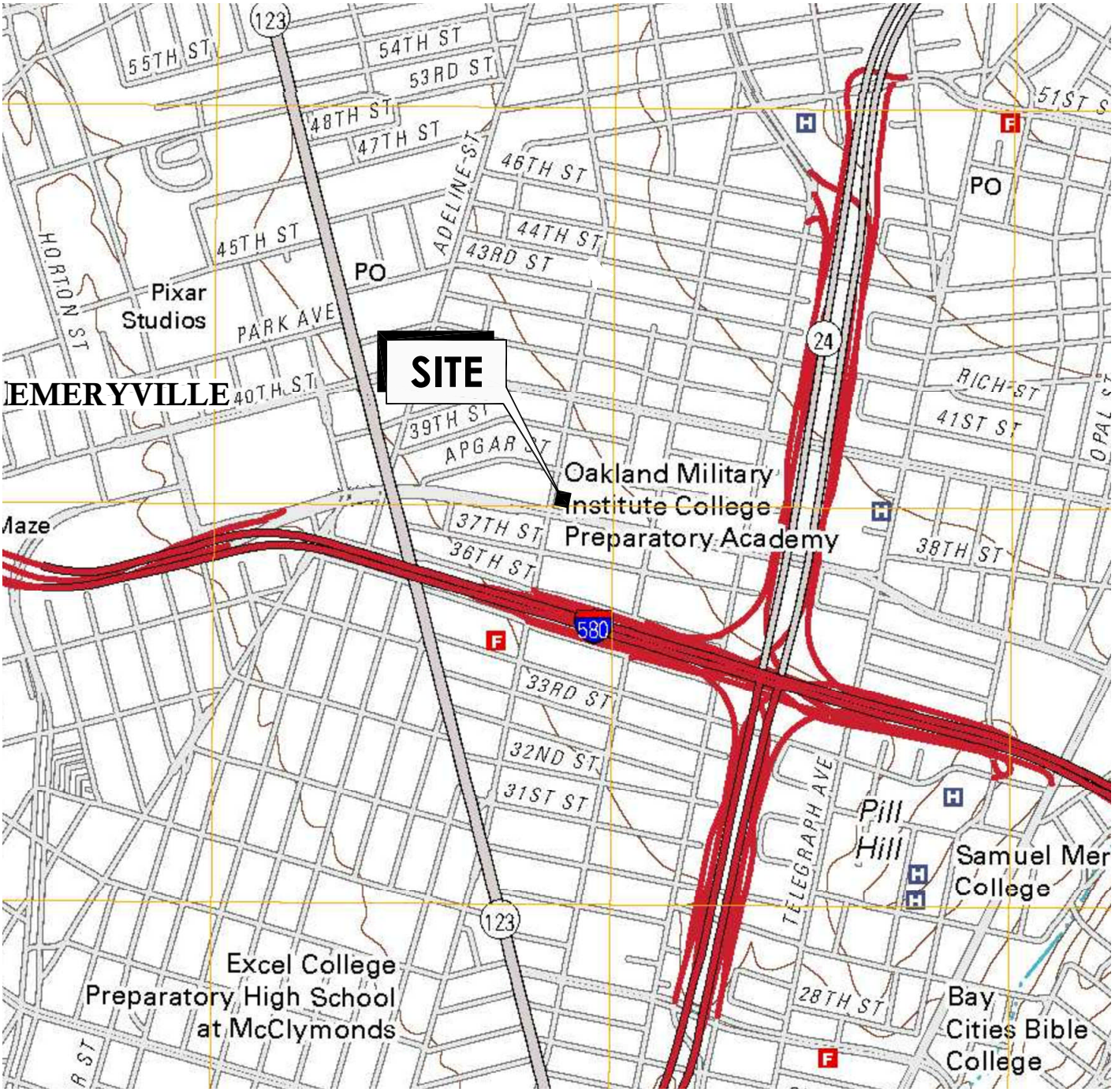
ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

[1] Laboratory confirmed analytical result.

[2] Laboratory report indicates reporting limits were raised due to interference from the sample matrix.

FIGURES



CALIFORNIA

1 1/2 0 1

SCALE IN MILES

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; OAKLAND WEST, CALIFORNIA; 2012

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

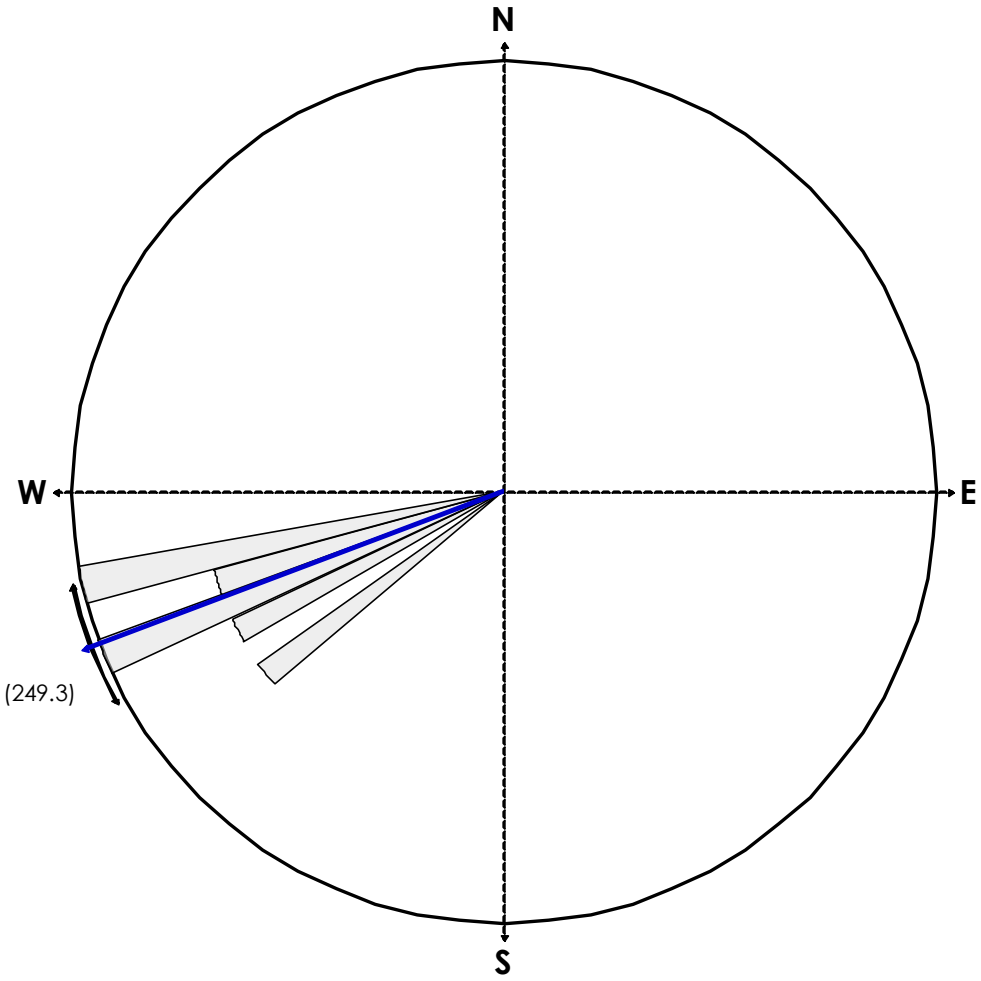
FOR:
FORMER CHEVRON-BRANDED SERVICE STATION 92029
890 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE: 1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211602398	JRO	EEO/MRK	MB/TLF	12/11/14

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2014\4Q14\Figures\92029_4Q14.dwg | jopalekopsahl | Dec 18, 2014 at 11:16 | Layout: Fig 1_SLM



EQUAL AREA PLOT

Number of Points	7
Class Size	5
Vector Mean	249.29
Vector Magnitude	6.92
Consistency Ratio	0.99

NOTE: ROSE DIAGRAM IS BASED ON THE DIRECTION OF GROUNDWATER FLOW BEGINNING SECOND QUARTER 2011.

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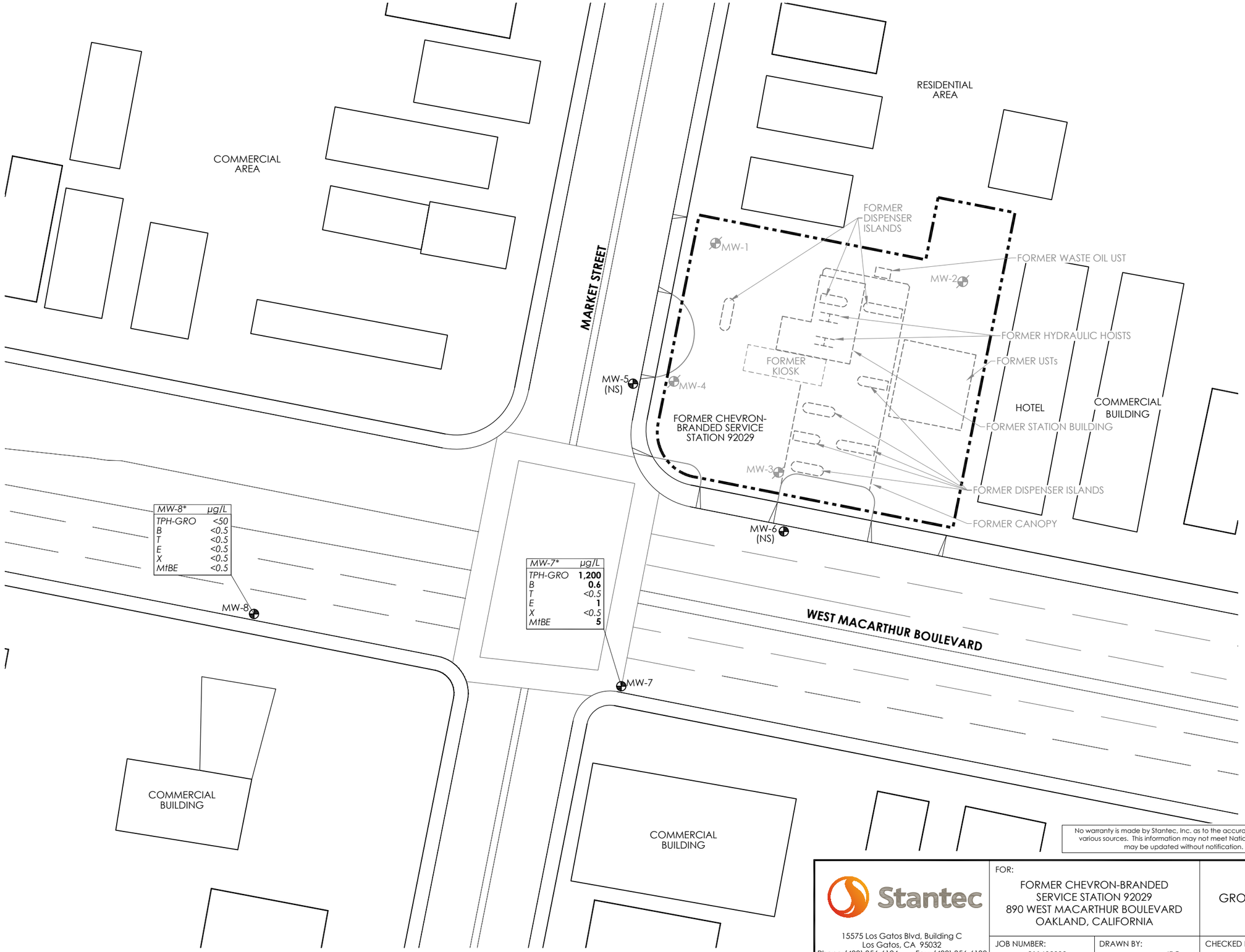
FOR:		FIGURE:
FORMER CHEVRON-BRANDED SERVICE STATION 92029 890 WEST MACARTHUR BOULEVARD OAKLAND, CALIFORNIA	GROUNDWATER FLOW DIRECTION ROSE DIAGRAM - HISTORICAL	2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211602398	JRO	EEO/MRK	MB/TLF	12/11/14

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2014\4Q14\Figures\92029_4Q14.dwg | jopalekopsahl | Dec 18, 2014 at 11:17 | Layout: Fig 2_Rose



LEGEND

- APPROXIMATE SITE BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- (NS) — NOT SAMPLED

ANALYTES

- *TPH-GRO* — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
- *B* — BENZENE
- *T* — TOLUENE
- *E* — ETHYLBENZENE
- *X* — TOTAL XYLENES
- *MtBE* — METHYL TERTIARY-BUTYL ETHER

* = ADDITIONAL ANALYSES WERE RUN AND COMPLETE RESULTS ARE PRESENTED IN TABLE 3 AND ATTACHMENT B

µg/L = MICROGRAMS PER LITER

NOTE

FORMER SITE FEATURES ARE IN APPROXIMATE LOCATIONS

N

0 40 80

APPROXIMATE SCALE IN FEET

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

SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - FOURTH QUARTER 2014

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211602398	JRO	EEO/MRK	MB/TLF	12/11/14

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2014\4Q14\Figures\92029_4Q14.dwg | jopalekopsahl | Dec 18, 2014 at 11:17 | Layout: Fig 3_GWC

ATTACHMENT A
Gettler-Ryan Inc. Field Data Sheets and Standard Operating Procedures – Fourth Quarter 2014

GETTLER-RYAN INC.

TRANSMITTAL

December 1, 2014
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 **Second Semi-Annual Event of November 19, 2014**

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 SHEET

Client/
Facility #: **Chevron #9-2029**

Site Address: **890 West Macarthur Blvd.**

City: **Oakland, CA**

Job #: **386911**

Event Date: 11.19.14

Sampler: 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)	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Y (N)
MW-5	←			UTA	→		→				
MW-6	←			UTA	→		→				
MW-7	OK	→					→			Monnisan/6"/2	
MW-8	OK	→					→			" " "	

Comments

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

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

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

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

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

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

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

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-2029 Job Number: 386911
Site Address: 890 West Macarthur Blvd. Event Date: 11.19.14 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-5 Date Monitored: UTA
Well Diameter 2 in.
Total Depth 24.99 ft.
Depth to Water NA ft.

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

☐ Check if water column is less then 0.50 ft.

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

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

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

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): Weather Conditions:
Sample Time/Date: / Water Color: Odor: Y / N
Approx. Flow Rate: gpm. Sediment Description:
Did well de-water? If yes, Time: Volume: gal. DTW @ Sampling:

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTBE(8260)/5 OXYS(8260)

COMMENTS: UNABLE TO ACCESS WELL, WAS FLOODED OVER IS LOCATED IN ROAD GUTTER

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-2029 Job Number: 386911
Site Address: 890 West Macarthur Blvd. Event Date: 11.19.14 (inclusive)
City: Oakland, CA Sampler: FT

Well ID MW-6 Date Monitored: UTA
Well Diameter 2 in.
Total Depth 24.95 ft.
Depth to Water NA ft.

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

☐ Check if water column is less then 0.50 ft.

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

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

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

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): Weather Conditions:
Sample Time/Date: / Water Color: Odor: Y / N
Approx. Flow Rate: gpm. Sediment Description:
Did well de-water? If yes, Time: Volume: gal. DTW @ Sampling:

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTBE(8260)/5 OXYS(8260)

COMMENTS: UNABLE TO ACCESS WELL WAS FLOODED OVER. IS LOCATED IN ROAD GUTTER.

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-2029 | Job Number: 386911
Site Address: 890 West Macarthur Blvd. | Event Date: 11.19.14 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-7 | Date Monitored: 11.19.14
Well Diameter: 2 in.
Total Depth: 24.89 ft.
Depth to Water: 10.33 ft.

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

☐ Check if water column is less then 0.50 ft.

14.56 xVF .17 = 2.47 x3 case volume = Estimated Purge Volume: 7.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.24

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

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

Start Time (purge): 0930 | Weather Conditions: RAIN
Sample Time/Date: 1000 / 11.19.14 | Water Color: CLEAR | Odor: (Y) / N SLIGHT
Approx. Flow Rate: ✓ gpm. | Sediment Description: NONE
Did well de-water? No | If yes, Time: _____ | Volume: _____ gal. | DTW @ Sampling: 11.24

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0935	2.5	7.38	916	19.5		
0940	5.0	7.34	910	19.2		
0944	7.0	7.32	904	18.9	✓	✓

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	6 x voa vial	YES	HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTBE(8260)/5 OXYS(8260)

COMMENTS: _____

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/Facility#: Chevron #9-2029 | Job Number: 386911
Site Address: 890 West Macarthur Blvd. | Event Date: 11.19.14 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW- 8 | Date Monitored: 11.19.14
Well Diameter: 2 in.
Total Depth: 24.99 ft.
Depth to Water: 12.33 ft.

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

☐ Check if water column is less then 0.50 ft.

12.66 xVF .17 = 2.15 x3 case volume = Estimated Purge Volume: 6.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.86

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

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

Start Time (purge): 1020 | Weather Conditions: RAIN
Sample Time/Date: 1040 / 11.19.14 | Water Color: Brn Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 13.75

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1024	2.0	7.56	718	19.7		
1028	4.0	7.54	713	19.4		
1032	6.0	7.51	708	19.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 8	6 x voa vial	YES	HCL	LANCASTER	TPH-GRO(8015)/BTEX+MTBE(8260)/5 OXYS(8260)

COMMENTS:

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

Chevron California Region Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories   11914-01

For Eurofins Lancaster Laboratories use only
Acct. # ________ Group # ________ Sample # ________
Instructions on reverse side correspond with circled numbers.

1 of 1

SCR #: ________

① Client Information

Facility # SS#9-2029-OML G-R#386911 WBS Global ID#T0600173887

Site Address 850 WEST MACARTHUR BLVD., OAKLAND, CA

Chevron PM CM STANTECTF Lead Consultant Flora

Consultant/Office Gettler-Ryan, Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568

Consultant Project Mgr. Deanna L. Harding, deanna@grinc.com

Consultant Phone # (925) 551-7444 x180

Sampler Frank Terrinoni

④ Matrix: Sediment ☐; Ground ☒ / Surface ☐ Water; Potable ☐ / NPDES ☐; Soil ☐; Oil ☐ / Air ☐

⑤ Analyses Requested: BTEX [redacted] 8260 ☒ 8021 ☐; TPH-GRO 8260 ☐ 8015 ☒; TPH-DRO 8015 without Silica Gel Cleanup ☐; TPH-DRO 8015 with Silica Gel Cleanup ☐; 8260 Full Scan; 5 Oxygenates (8260); Total Lead Method ___; Dissolved Lead Method ___; MTBE (8260)

② Sample Identification	Soil Depth	Collected Date	Collected Time	③ Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX	TPH-GRO	TPH-DRO 8015 without Silica Gel Cleanup	TPH-DRO 8015 with Silica Gel Cleanup	8260 Full Scan	5 Oxygenates (8260)	Total Lead	Dissolved Lead	MTBE (8260)			
QA		11.19.14					W		2	X	X							X			
MW-7		↓	1000	X			↓		6	X	X				X						
MW-8		↓	1040	X			↓		6	X	X				X						

☐ 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

⑥ Remarks

⑦ Turnaround Time Requested (TAT) (please circle)

(Standard) 5 day 4 day
72 hour 48 hour 24 hour EDF/EDD

⑧ Data Package (circle if required)
Type I - Full
Type VI (Raw Data)

EDD (circle if required)
EDFFLAT (default)
Other: ________

Relinquished by	Date	Time	Received by	Date	Time
[signature]	11.19.14	1215	[signature]	19NOV14	1215 ⑨
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____			Received by	Date	Time

Temperature Upon Receipt ________ °C   Custody Seals Intact? Yes No

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

Issued by Dept. 40 Management
7050.03

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

eurofins | Lancaster Laboratories Environmental

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

December 04, 2014

Project: 92029

Submittal Date: 11/20/2014
Group Number: 1520117
PO Number: 0015141332
Release Number: CMACLEOD

State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
QA-T-141119 NA Water	7683129
MW-7-W-141119 Grab Groundwater	7683130
MW-8-W-141119 Grab Groundwater	7683131

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

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

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: QA-T-141119 NA Water
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

LL Sample # WW 7683129
LL Group # 1520117
Account # 10906

Project Name: 92029

Collected: 11/19/2014

Submitted: 11/20/2014 09:20
Reported: 12/04/2014 10:09

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

WMOQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Volatiles	**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.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	Z143312AA	11/27/2014 08:38	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z143312AA	11/27/2014 08:38	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	14335A94A	12/02/2014 11:29	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	14335A94A	12/02/2014 11:29	Brett W Kenyon	1

Sample Description: MW-7-W-141119 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

LL Sample # WW 7683130
LL Group # 1520117
Account # 10906

Project Name: 92029

Collected: 11/19/2014 10:00 by FT

Submitted: 11/20/2014 09:20
Reported: 12/04/2014 10:09

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

WMO07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.6	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	1	0.5	1
10945	di-Isopropyl ether	108-20-3	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	5	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 Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	1,200	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.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	Z143312AA	11/27/2014 16:18	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z143312AA	11/27/2014 16:18	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	14335A94A	12/02/2014 14:02	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	14335A94A	12/02/2014 14:02	Brett W Kenyon	1

Sample Description: MW-8-W-141119 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

LL Sample # WW 7683131
LL Group # 1520117
Account # 10906

Project Name: 92029

Collected: 11/19/2014 10:40 by FT

Submitted: 11/20/2014 09:20
Reported: 12/04/2014 10:09

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

WMO08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Volatiles	**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.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX + 5 Oxygenates 8260 Water	SW-846 8260B	1	Z143312AA	11/27/2014 16:42	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z143312AA	11/27/2014 16:42	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	14335A94A	12/02/2014 14:28	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	14335A94A	12/02/2014 14:28	Brett W Kenyon	1

Quality Control Summary

Client Name: Chevron Group Number: 1520117
Reported: 12/04/14 at 10:09 AM

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 Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Z143312AA	Sample number(s): 7683129-7683131							
t-Amyl methyl ether	N.D.	0.5	ug/l	92		75-120		
Benzene	N.D.	0.5	ug/l	93		78-120		
t-Butyl alcohol	N.D.	2.	ug/l	101		75-120		
Ethyl t-butyl ether	N.D.	0.5	ug/l	88		69-120		
Ethylbenzene	N.D.	0.5	ug/l	100		79-120		
di-Isopropyl ether	N.D.	0.5	ug/l	84		61-132		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	90		75-120		
Toluene	N.D.	0.5	ug/l	100		80-120		
Xylene (Total)	N.D.	0.5	ug/l	101		80-120		
Batch number: 14335A94A	Sample number(s): 7683129-7683131							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	102	94	80-139	8	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 %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: Z143312AA	Sample number(s): 7683129-7683131 UNSPK: P682996								
t-Amyl methyl ether	90	81	65-117	10	30				
Benzene	93	84	72-134	10	30				
t-Butyl alcohol	96	89	67-119	7	30				
Ethyl t-butyl ether	85	77	74-122	10	30				
Ethylbenzene	101	90	71-134	11	30				
di-Isopropyl ether	83	75	70-129	10	30				
Methyl Tertiary Butyl Ether	85	77	72-126	10	30				
Toluene	100	90	80-125	11	30				
Xylene (Total)	101	90	79-125	12	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 + 5 Oxygenates 8260 Water

*- 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.

Quality Control Summary

Client Name: Chevron Group Number: 1520117
Reported: 12/04/14 at 10:09 AM

Surrogate Quality Control

Batch number: Z143312AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7683129	99	96	99	95
7683130	95	91	99	102
7683131	98	96	98	94
Blank	97	96	98	95
LCS	95	94	99	102
MS	95	97	98	102
MSD	96	94	97	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 14335A94A

	Trifluorotoluene-F
7683129	91
7683130	105
7683131	77
Blank	81
LCS	90
LCSD	88
Limits:	63-135

*- 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.

Chevron California Region Analysis Request/Chain of Custody

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Acct. # 10906 Group # 1520117 Sample # 7683129-31
Instructions on reverse side correspond with circled numbers.

1 of 1

① Client Information

Facility # SS#9-2029-OML G-R#386911 WBS Global ID#T0600173887

Site Address 890 WEST MACARTHUR BLVD., OAKLAND, CA

Chevron PM CM STANTECTF Lead Consultant Flora

Consultant/Office Getter-Ryan, Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568

Consultant Project Mgr. Deanna L. Harding, deanna@grinc.com

Consultant Phone # (925) 551-7444 x180

Sampler Frank Teminoni

④ Matrix: ☐ Sediment ☒ Ground ☐ Surface; ☐ Potable ☐ NPDES ☐ Air; ☐ Soil, Water, ☐ Oil

⑤ Analyses Requested: BTEX [redacted] (☐ 8021 ☒ 8260); TPH-GRO (☒ 8015 ☐ 8260); ☐ TPH-DRO 8015 without Silica Gel Cleanup; ☐ TPH-DRO 8015 with Silica Gel Cleanup; 8260 Full Scan; 5 Oxygenates (8260); Total Lead Method ___; Dissolved Lead Method ___; MTBE (8260)

SCR #: ___

- ☐ 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

② Sample Identification	Soil Depth	Collected Date	Collected Time	③ Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX	TPH-GRO	TPH-DRO 8015 without Silica Gel Cleanup	TPH-DRO 8015 with Silica Gel Cleanup	8260 Full Scan	Oxygenates	Total Lead	Dissolved Lead	MTBE (8260)			
QA		11.19.14					W		2	X	X							X			
MW-7		↓	1000	X			↓		6	X	X				X						
MW-8		↓	1040	X			↓		6	X	X				X						

⑥ Remarks

⑦ Turnaround Time Requested (TAT) (please circle)
(Standard — circled) 5 day 4 day
72 hour 48 hour 24 hour EDF/EDD

⑧ Data Package (circle if required): Type I - Full; Type VI (Raw Data)

EDD (circle if required): EDFFLAT (default); Other: ___

Relinquished by	Date	Time	Received by	Date	Time
[signature]	11.19.14	1215	A. Salgar [signature]	19NOV14	1215
A. Salgar [signature]	19NOV14	1630	FEDEX		
Relinquished by Commercial Carrier: UPS ___ FedEx X Other ___			[signature]	11.20.14	920

⑨

Temperature Upon Receipt 1.5-1.7 °C
Custody Seals Intact? (Yes — circled) No

eurofins | Lancaster Laboratories Environmental

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)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> 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.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

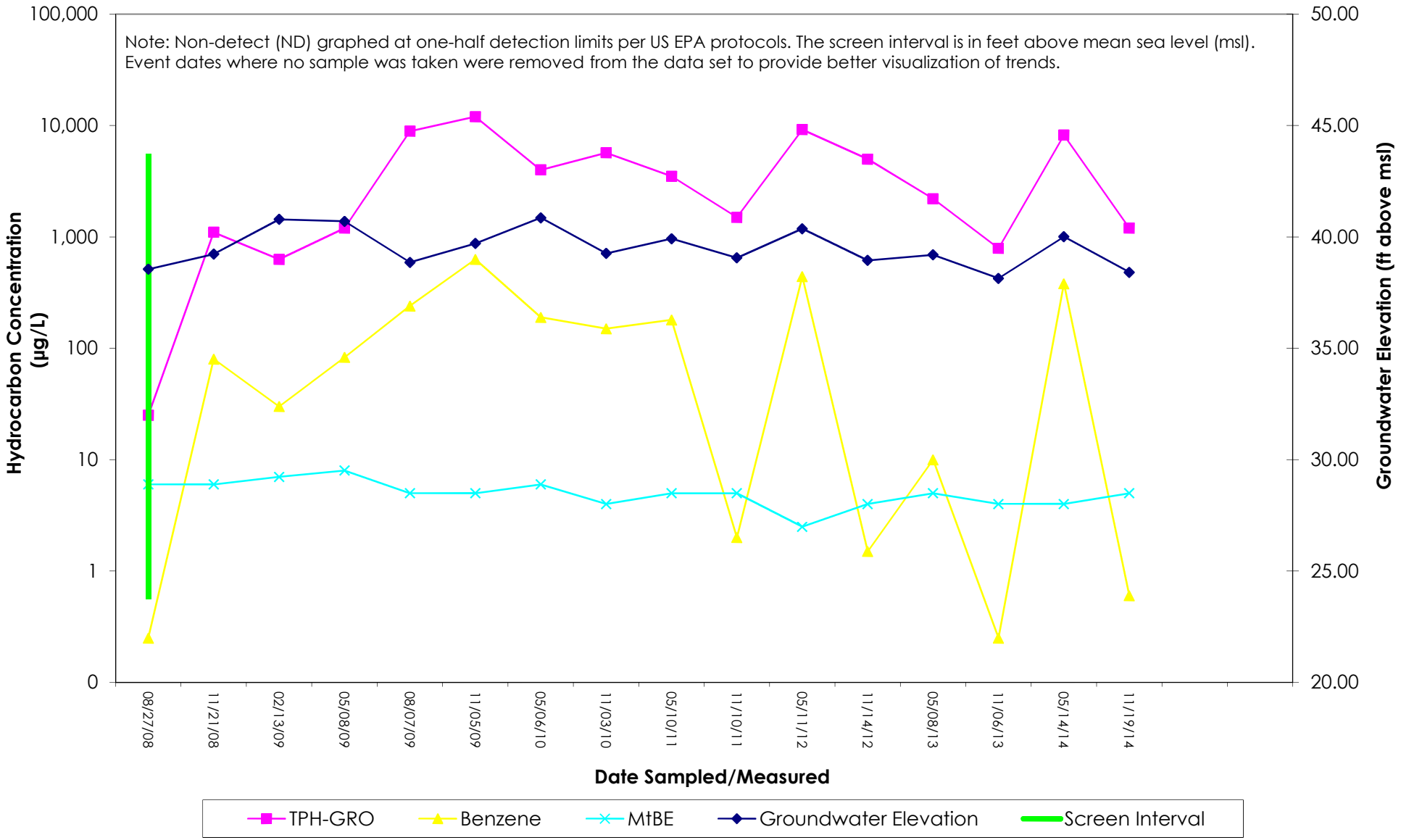
Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have 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.

ATTACHMENT C
Hydrographs

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

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



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

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