# Second Quarter 2013 Semi-Annual Groundwater Monitoring Report

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

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

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

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

July 12, 2013

**Carryl MacLeod**
Project Manager
Marketing Business Unit

**Chevron Environmental Management Company**
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July 12, 2013

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 2013 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

**Stantec Consulting Services Inc.**
15575 Los Gatos Boulevard, Building C
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July 12, 2013

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

RE: **Second Quarter 2013 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 2013 Semi-Annual Groundwater Monitoring Report* for former Chevron-branded service station 92029, which was 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, Second Quarter 2013 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 dispensers were removed from the Site and replaced with five fuel dispensers (two located in the north-central portion of the Site and three located in the south-central portion of the Site). The fuel dispensers 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 dispensers, 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, on the south by West MacArthur Boulevard, and to the east by a small hotel.

## SECOND QUARTER 2013 GROUNDWATER MONITORING AND SAMPLING PROGRAM

Gettler-Ryan Inc. (G-R) performed the Second Quarter 2013 groundwater monitoring and sampling event on May 8, 2013. G-R's standard operating procedures (SOPs) and field data sheets are included in ***Attachment A***. G-R gauged depth-to-groundwater in four Site wells (MW-5, MW-6, MW-7, and 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.

Investigation-derived waste (IDW) generated during the Second Quarter 2013 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 an assessment of whether groundwater samples were collected when groundwater elevations were measured across the well screen intervals 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 2013 data) is shown on ***Figure 2***. The direction of groundwater flow at the time of sampling was generally towards the southwest at an approximate hydraulic gradient ranging from 0.025 to 0.030 feet per foot (ft/ft). This is generally consistent with the historical direction of groundwater flow, as shown by the Rose Diagram on ***Figure 3*** illustrating the direction of groundwater flow from Second Quarter 2011 to the present.

### 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 Second Quarter 2013, groundwater samples were collected from four Site wells (MW-5, MW-6, 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 4***. A TPH-GRO isoconcentration map is shown on ***Figure 5***.

A benzene isoconcentration map is shown on ***Figure 6***. A MtBE isoconcentration map is shown on ***Figure 7***.

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 2013 groundwater analytical results follows:

- **TPH-GRO** was detected in three Site wells this quarter, at concentrations of 2,000 micrograms per liter (µg/L; well MW-6), 2,100 µg/L (well MW-5), and 2,200 µg/L (well MW-7), which are within historical limits for each respective well.

- **Benzene** was detected in three Site wells this quarter, at concentrations of 2 µg/L (well MW-5), 10 µg/L (well MW-7), and 77 µg/L (well MW-6), which are within historical limits for each respective well.

- **Toluene** was detected in two Site wells this quarter, at concentrations of 0.9 µg/L (well MW-5) and 1 µg/L (well MW-6), which are within historical limits for each respective well.

- **Ethylbenzene** was detected in three Site wells this quarter, at concentrations of 2 µg/L (wells MW-5 and MW-7) and 9 µg/L (well MW-6), which are within historical limits for each respective well.

- **Total Xylenes** were not detected above the laboratory reporting limit (LRL; 0.5 µg/L) in any Site well sampled this quarter.

- **MtBE** was detected in two Site wells this quarter, at concentrations of 5 µg/L (well MW-7) and 6 µg/L (well MW-6), which are within historical limits for each respective well.

- **DIPE** was not detected above the LRL (0.5 µg/L) in any Site well sampled this quarter.

- **EtBE** was not detected above the LRL (0.5 µg/L) in any Site well sampled this quarter.

- **TAME** was not detected above the LRL (0.5 µg/L) in any Site well sampled this quarter.

- **TBA** was detected in one Site well this quarter, at a concentration of 5 µg/L (well MW-6), which is within historical limits for this well.

## CONCLUSIONS AND RECOMMENDATIONS

Concentrations were conservatively compared to California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs) for groundwater that is a current or potential source of drinking water, and concentrations of TPH-GRO, benzene, and MtBE were observed equal to or above ESLs in select wells as follows:

- TPH-GRO concentrations exceed the ESL of 100 µg/L in wells MW-5, MW-6, and MW-7;

- Benzene concentrations exceed the ESL of 1 µg/L in wells MW-5, MW-6, and MW-7; and
- MtBE concentrations equal or exceed the ESL of 5 µg/L in wells MW-6 and MW-7.

Maximum concentrations of petroleum hydrocarbons were observed in well MW-6, located down-gradient of former service station features (fuel dispensers 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. TPH-GRO and benzene were also detected above ESLs in well MW-5, located down-gradient of former service station features (fuel dispensers, 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. In addition, a previous off-site subsurface investigation conducted by CRA in January 2011 indicated that the plume is defined down-gradient of well MW-7 across Market Street. This investigation is documented in the *Additional Investigation Report*, dated March 31, 2011.

Current and historical groundwater quality data indicate that the dissolved-phase petroleum hydrocarbon plume is generally stable or decreasing in size and concentration. All concentrations were within historical limits at all wells sampled during Second Quarter 2013.

Based on concentrations of TPH-GRO, benzene, and MtBE equal to or exceeding 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.

As requested by ACEH in correspondence dated May 21, 2013, Stantec is preparing a Site conceptual model, a work plan to address identified data gaps, and a path to closure schedule. These will be submitted to ACEH under separate cover by July 26, 2013.

If you have any questions regarding the contents of this report, please contact the Stantec project manager, Travis Flora, at (408) 356-6124 or travis.flora@stantec.com.

Sincerely,
**Stantec Consulting Services Inc.**

Travis L. Flora
Project Manager

Attachments:

Table 1 – Well Details / Screen Interval Assessment – Second Quarter 2013
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 2013
Figure 3 – Rose Diagram – Second Quarter 2013
Figure 4 – Site Plan Showing Groundwater Concentrations – Second Quarter 2013
Figure 5 – TPH-GRO Isoconcentration Map – Second Quarter 2013
Figure 6 – Benzene Isoconcentration Map – Second Quarter 2013
Figure 7 – MtBE Isoconcentration Map – Second Quarter 2013

Attachment A – Gettler-Ryan Inc. Field Data Sheets and Standard Operating Procedures – Second Quarter 2013
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

## LIMITATIONS AND CERTIFICATION

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Chevron for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

**Prepared by:**

Erin O'Malley

Erin O'Malley
Engineering Project Specialist

**Reviewed by:**

Marisa Kaffenberger

Marisa Kaffenberger
Senior Engineer

All information, conclusions, and recommendations provided by Stantec in this document regarding the Subject Property have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

**Licensed Approver:**

**Name: James May, P.G.**

**Signature:** James P. May

**Date:** 12 JULY 2013

**Stamp:**

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
NO. 8021
STATE OF CALIFORNIA

# Tables

**Table 1**
**Well Details / Screen Interval Assessment**
**Second Quarter 2013**
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 bgs) | Current Depth to Groundwater[1] (feet below TOC) | Screen Interval (feet bgs) | Screen Interval Assessment |
|---|---|---|---|---|---|---|---|---|---|
| MW-5 | 7/24/2008 | Monitoring | 2 | 49.39 | 25.00 | 25.01 | 8.41 | 5-25 | Depth-to-groundwater within screen interval. |
| MW-6 | 7/24/2008 | Monitoring | 2 | 49.07 | 25.00 | 24.96 | 7.21 | 5-25 | Depth-to-groundwater within screen interval. |
| MW-7 | 7/24/2008 | Monitoring | 2 | 48.74 | 25.00 | 24.90 | 9.54 | 5-25 | Depth-to-groundwater within screen interval. |
| MW-8 | 7/24/2008 | Monitoring | 2 | 47.61 | 25.00 | 24.99 | 12.03 | 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 May 8, 2013.

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| **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** |
| **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** |
| **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 |

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| **MW-7 (cont)** | | | | | | | | | |
| 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** |
| **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** |
| **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 |

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (cont)** | | | | | | | | | |
| 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 | -- | -- | -- | -- | -- | -- |
| 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 | | | | | | | | | |

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| **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 |
| 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 |

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| **MW-4 (cont)** | | | | | | | | | |
| 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 | -- |
| 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** |

# 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
(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

* 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.

# Table 3

**Groundwater Analytical Results - Oxgenate 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) |
|---|---|---|---|---|---|---|---|---|
| **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** | **--** | **--** |
| **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** | **--** | **--** |
| **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 | -- | -- |

# Table 3

**Groundwater Analytical Results - Oxgenate 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) |
|---|---|---|---|---|---|---|---|---|
| **MW-7 (cont)** | | | | | | | | |
| 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** | **--** | **--** |
| **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** | **--** | **--** |
| **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 |

# Table 3

**Groundwater Analytical Results - Oxgenate 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) |
|---|---|---|---|---|---|---|---|---|
| **MW-1 (cont)** | | | | | | | | |
| 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 |
| 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 |

# Table 3

**Groundwater Analytical Results - Oxgenate 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) |
|---|---|---|---|---|---|---|---|---|
| **MW-3 (cont)** | | | | | | | | |
| 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 - Oxgenate 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.

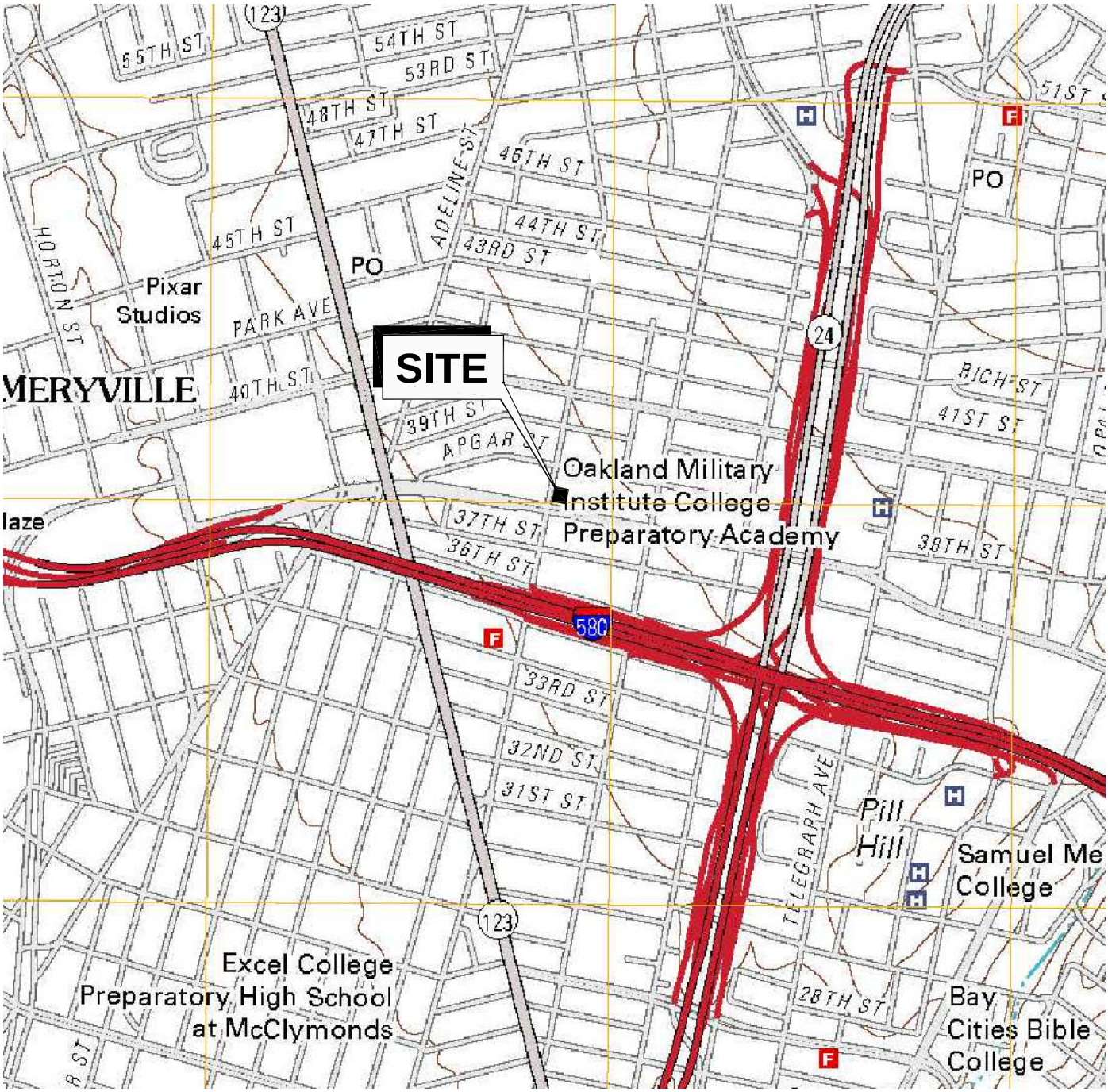
TBA = Tertiary-Butyl Alcohol
MtBE = Methyl tertiary-butyl ether
DIPE = Di-Isopropyl Ether
EtBE = Ethyl Tertiary-Butyl Ether
TAME = Tertiary-Amyl Methyl Ether
1,2-DCA = 1,2-Dichloroethane
1,2-DBA = 1,2-Dibromoethane
(µg/L) = Micrograms per liter
-- = Not Analyzed
EPA = Environmental Protection Agency

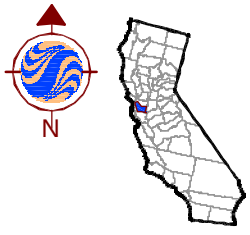
**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

[1] Laboratory confirmed analytical result.

# 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

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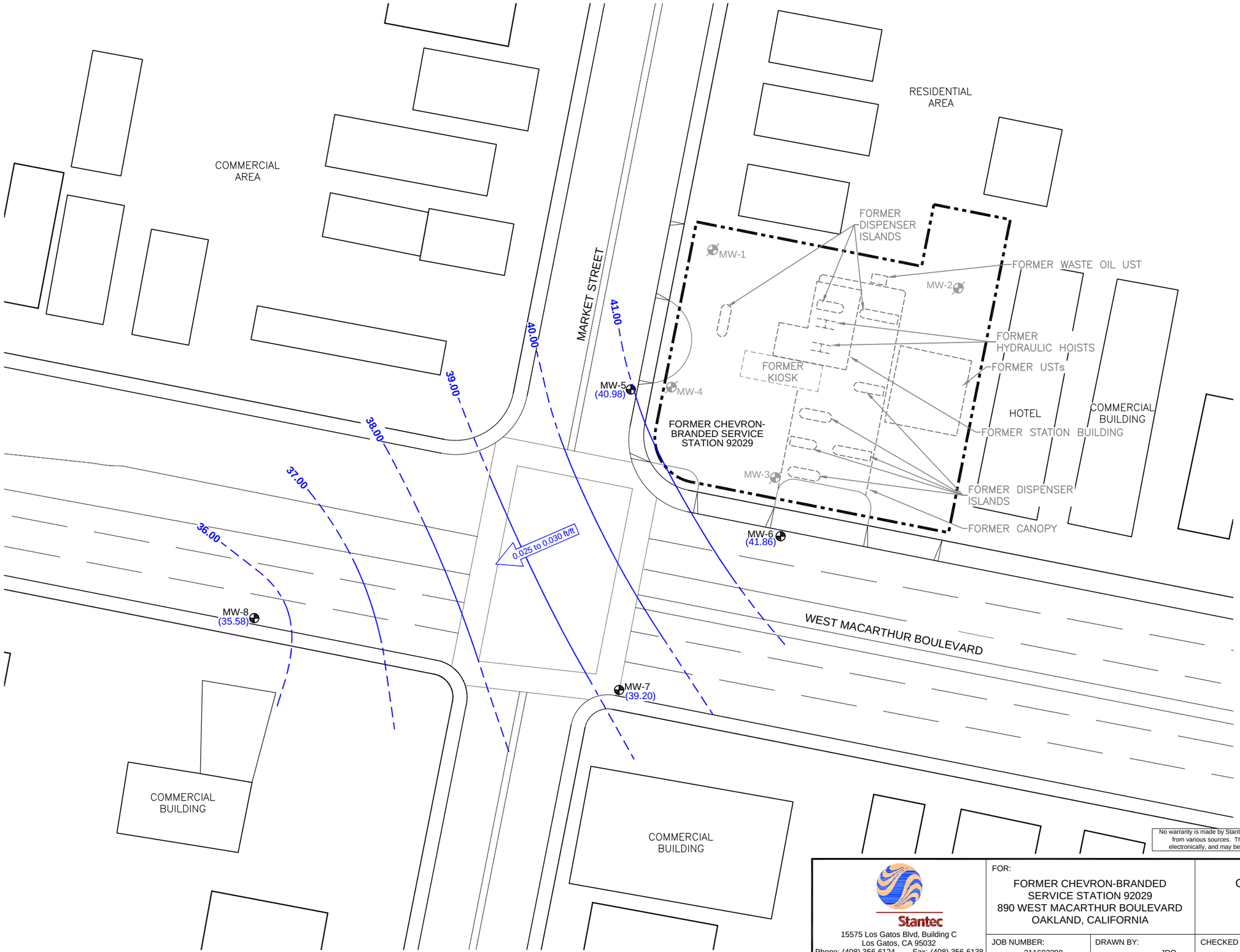
FOR:
FORMER CHEVRON-BRANDED SERVICE STATION 92029
890 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE: 1

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2013\2Q13\Figures\92029_2Q13.dwg|jopalekopsahl|May 17, 2013 at 13:21|Layout:Fig 1_SLM




## LEGEND

- APPROXIMATE SITE BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR; DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)
- (40.98) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW. HYDRAULIC GRADIENT RANGES FROM 0.025 TO 0.030 FEET PER FOOT (ft/ft).

## NOTES

FORMER SITE FEATURES ARE IN APPROXIMATE LOCATIONS

GROUNDWATER ELEVATION DATA WERE COLLECTED ON MAY 8, 2013

GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 8.0

N

0 40 80

APPROXIMATE SCALE IN FEET



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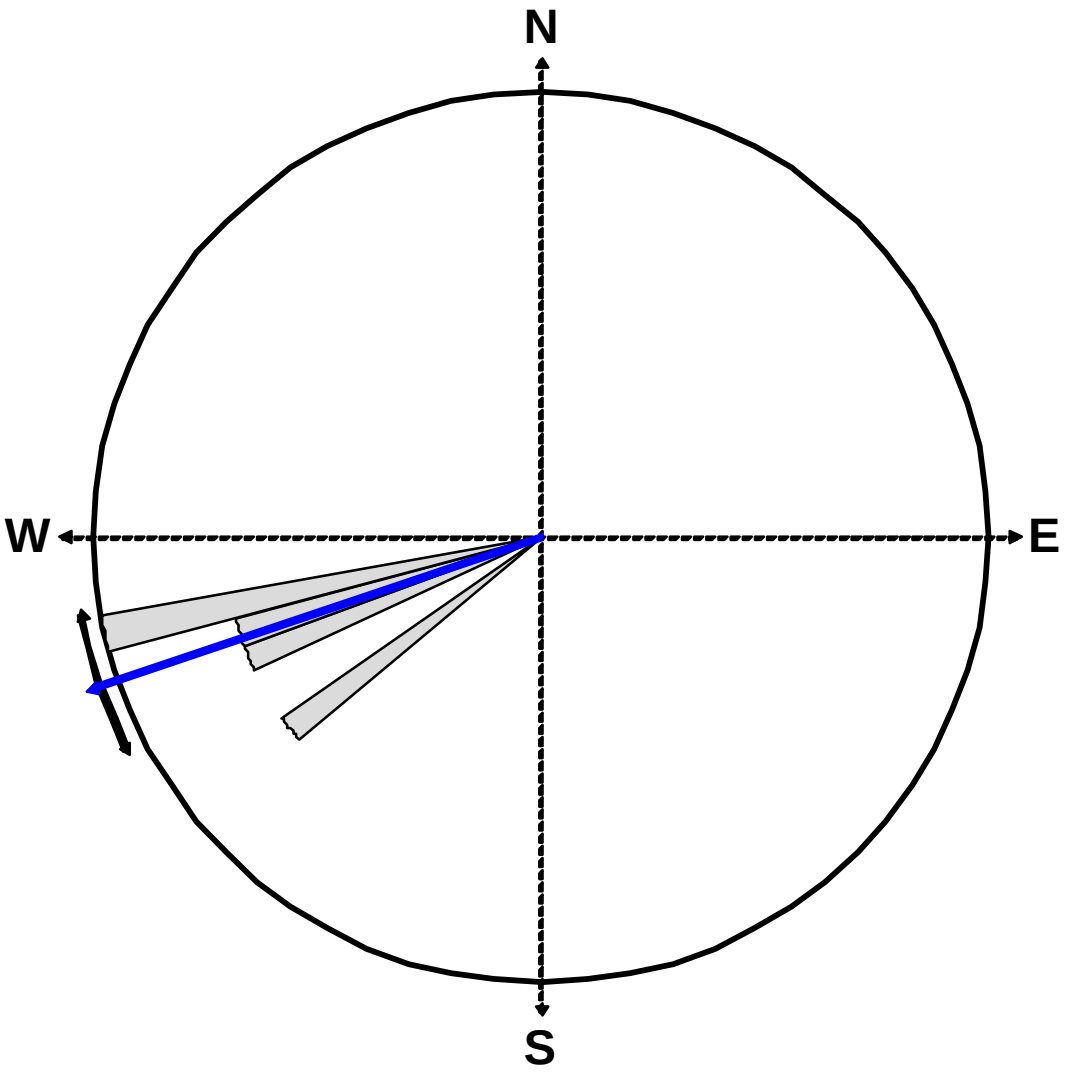
GROUNDWATER ELEVATION CONTOUR MAP - SECOND QUARTER 2013

FIGURE: 2

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2013\2Q13\Figures\92029_2Q13.dwg|jopalekopsahl|May 20, 2013 at 12:06|Layout: Fig 2_GWE




Equal Area Plot

| | |
|---|---|
| Number of Points | 5 |
| Class Size | 5 |
| Vector Mean | 251.03 |
| Vector Magnitude | 4.93 |
| Consistency Ratio | 0.99 |

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

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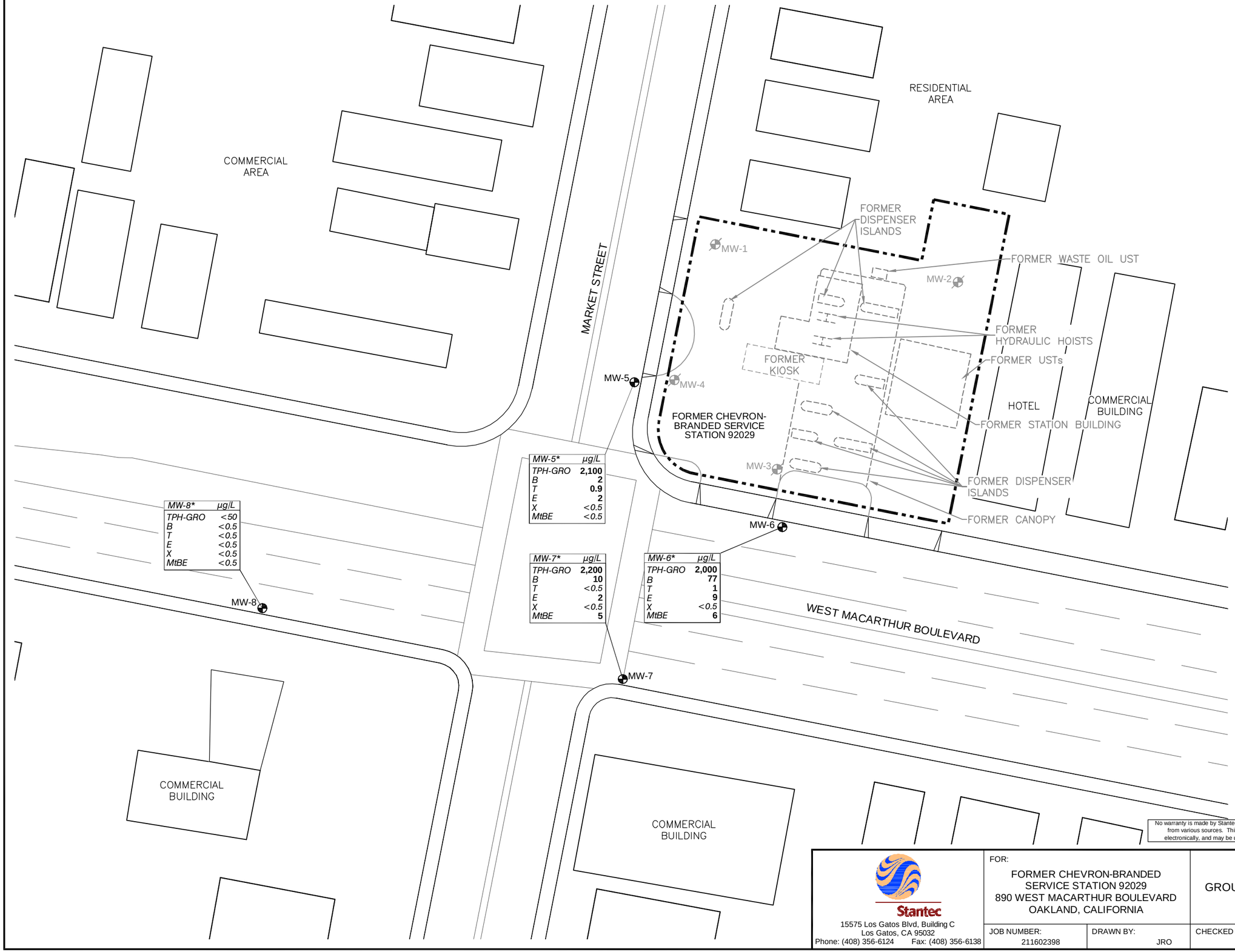
ROSE DIAGRAM -
SECOND QUARTER 2013

FIGURE: 3

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2013\2Q13\Figures\92029_2Q13.dwg|jopalekopsahl|May 20, 2013 at 12:07|Layout: Fig 3_Rose




## LEGEND

- APPROXIMATE SITE BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL

## 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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SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - SECOND QUARTER 2013

FIGURE: 4

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

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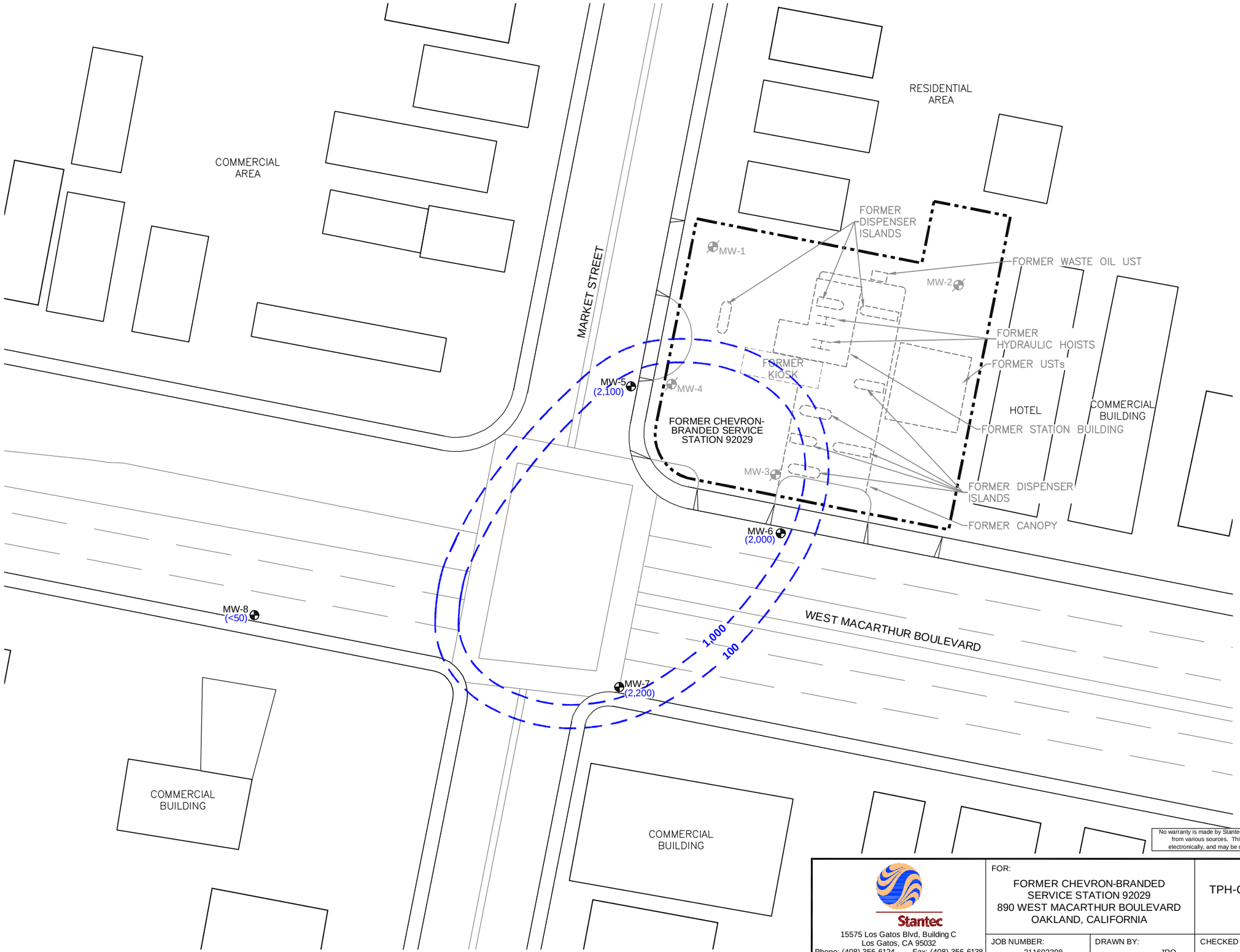


## LEGEND

| | |
|---|---|
| | APPROXIMATE SITE BOUNDARY |
| UST | UNDERGROUND STORAGE TANK |
| | GROUNDWATER MONITORING WELL |
| | ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL |
| (2,100) | TPH-GRO CONCENTRATION (µg/L) |
| | TPH-GRO CONTOUR; DASHED WHERE INFERRED |
| TPH-GRO | TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS |
| (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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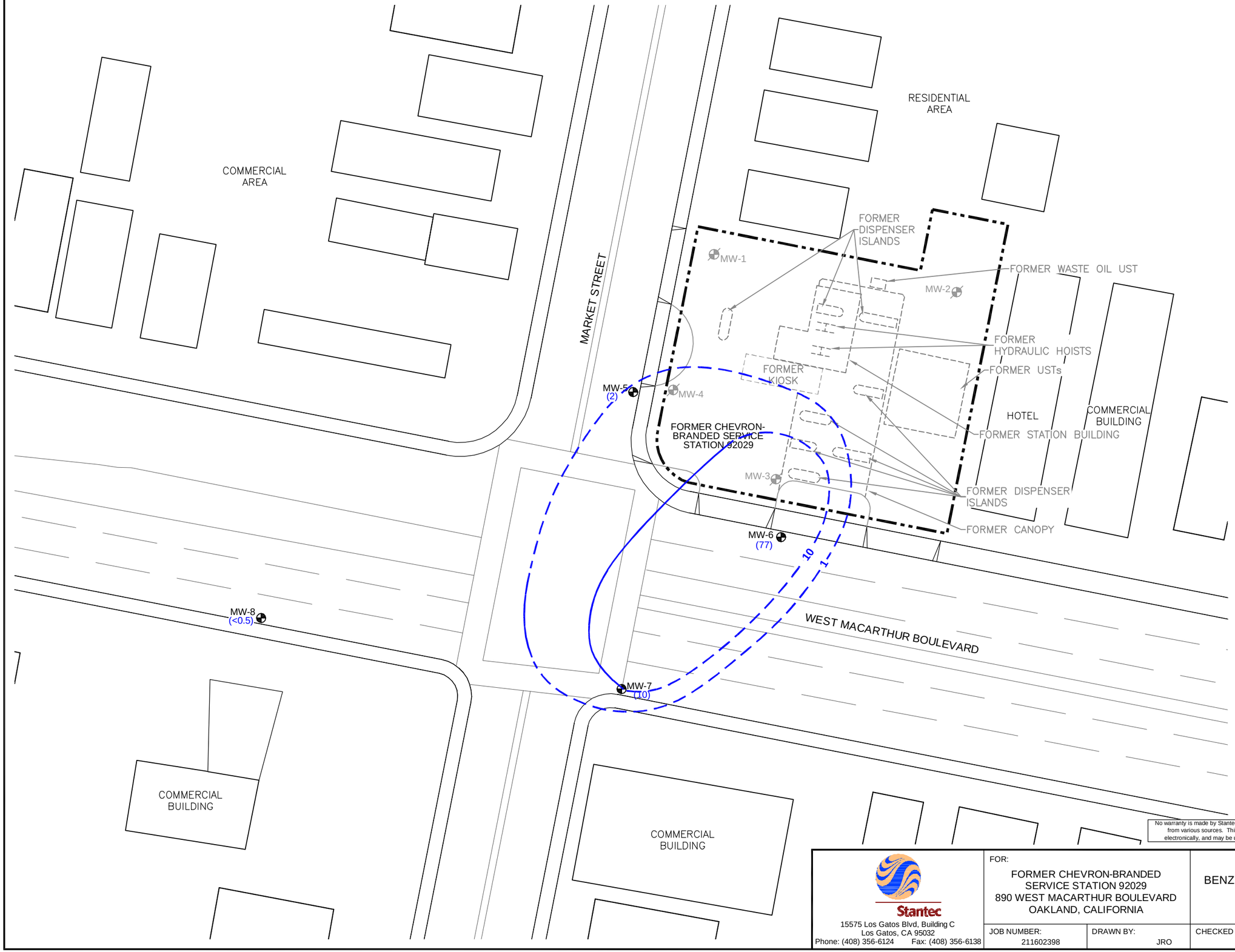
TPH-GRO ISOCONCENTRATION MAP - SECOND QUARTER 2013

FIGURE: 5

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

FILEPATH:P:\Chevron\N. CA Marketing Sites\Carryl MacLeod Portfolio\92029\GWM\2013\2Q13\Figures\92029_2Q13.dwg|jopalekopsahl|May 20, 2013 at 12:11|Layout: Fig 5_TPHg




## LEGEND

- APPROXIMATE SITE BOUNDARY
- UST — UNDERGROUND STORAGE TANK
- GROUNDWATER MONITORING WELL
- ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- (2) — BENZENE CONCENTRATION (µg/L)
- BENZENE CONTOUR; DASHED WHERE INFERRED
- (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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BENZENE ISOCONCENTRATION MAP - SECOND QUARTER 2013

FIGURE: 6

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

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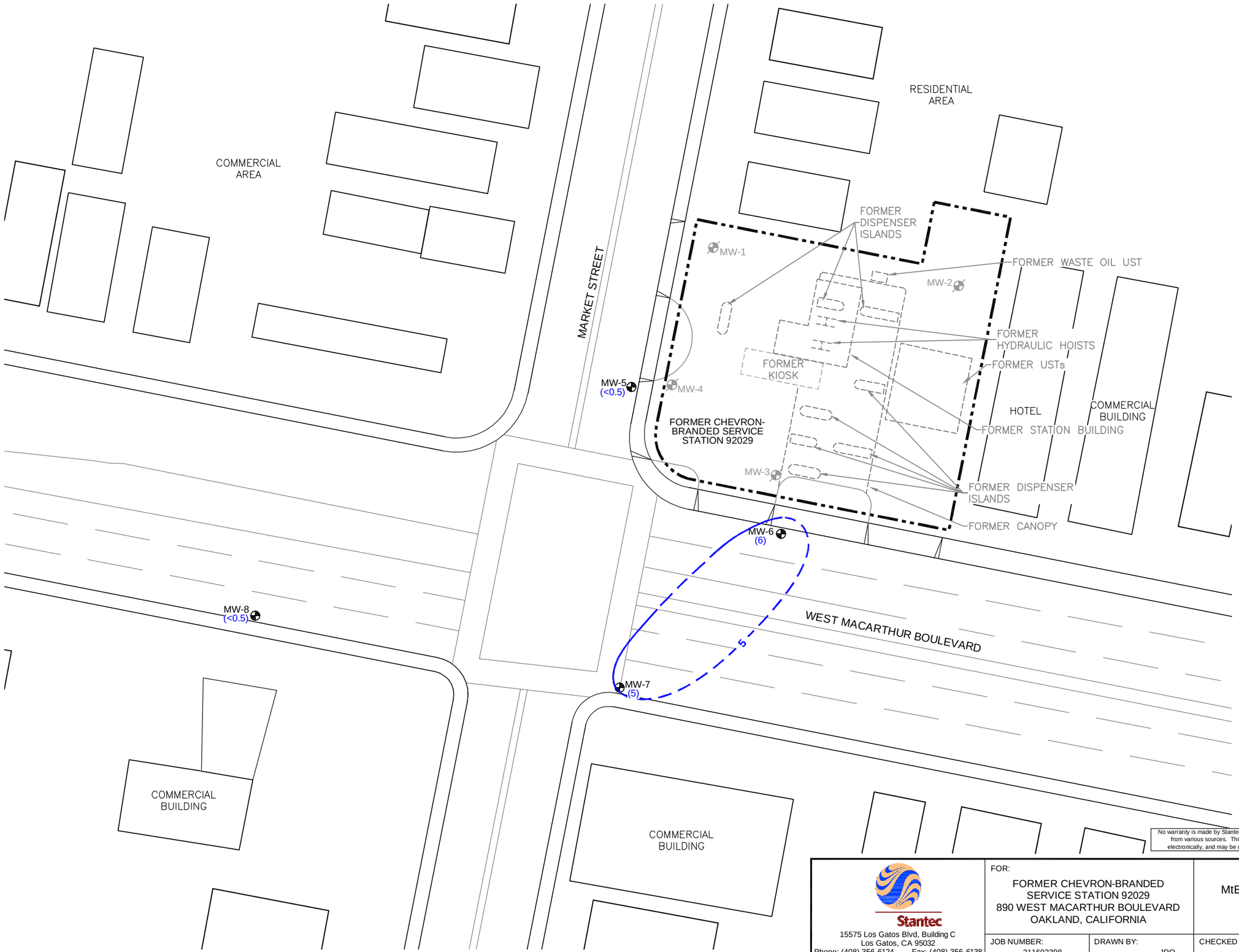


## LEGEND

| | |
|---|---|
| — - — - — | APPROXIMATE SITE BOUNDARY |
| UST | UNDERGROUND STORAGE TANK |
| ⊕ | GROUNDWATER MONITORING WELL |
| ⊕ | ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL |
| (6) | MtBE CONCENTRATION (µg/L) |
| ——— | MtBE CONTOUR; DASHED WHERE INFERRED |
| MtBE | METHYL TERTIARY-BUTYL ETHER |
| (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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OAKLAND, CALIFORNIA

MtBE ISOCONCENTRATION MAP - SECOND QUARTER 2013

FIGURE: 7

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 211602398 | JRO | EEO/MRK | TLF | 05/22/13 |

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# Attachment A

# Gettler-Ryan Inc. Field Data Sheets and Standard Operating Procedures – Second Quarter 2013

# GETTLER-RYAN INC.

## TRANSMITTAL

May 14, 2013
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.
6747 Sierra Court, Suite J
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<br>**First Semi-Annual Event of May 8, 2013** |

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 Job # 386911

Site Address: 890 West Macarthur Blvd. Event Date: 5.8.13

City: Oakland, CA Sampler: FT

| WELL ID | Vault Frame Condition | Gasket/ O-Ring (M)missing | BOLTS (M) Missing (R) Replaced | Bolt Flanges B= Broken S= Stripped R=Retap | APRON Condition C=Cracked B=Broken G=Gone | Grout Seal (Deficient) inches from TOC | Casing (Condition prevents tight cap seal) | REPLACE LOCK Y / N | REPLACE CAP Y / N | WELL VAULT Manufacture/Size/ # of Bolts | Pictures Taken Yes / (No) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-5 | OK | | | | | | | N | N | Mommison 6"/2 | |
| MW-6 | OK | | | | | | | N | | | |
| MW-7 | OK | | | | | | | Y | | | |
| MW-8 | OK | | | | | | | N | | | |
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Comments MW-5, 6, 7 & 8 NEED NEW WELL COVERS THEY ALL HAVE BOLT HOLE DAMAGE.

# 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: 5-8-13 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-5
Well Diameter: 2 in.
Total Depth: 25.01 ft.
Depth to Water: 8.41 ft.
Date Monitored: 5.8.13

| 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.

16.60 xVF .17 = 2.82 x3 case volume = Estimated Purge Volume: 8.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.73

**Purge Equipment:**
- Disposable Bailer: ✓
- Stainless Steel Bailer
- Stack Pump
- Suction Pump
- Grundfos
- Peristaltic Pump
- QED Bladder Pump
- Other:

**Sampling Equipment:**
- Disposable Bailer: ✓
- Pressure Bailer
- Discrete Bailer
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1100
Sample Time/Date: 1135 / 5.8.13
Approx. Flow Rate: ✓ gpm.
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 11.65

Weather Conditions: CLOUDY
Water Color: CLEAR Odor: (Y) / N MODERATE
Sediment Description: NONE

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm - µS) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1106 | 2.5 | 7.12 | 921 | 15.9 | | |
| 1112 | 5.0 | 7.09 | 917 | 16.3 | | |
| 1119 | 8.0 | 7.05 | 913 | 16.7 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-5 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX(8260)/ 5 OXYS (8260) |
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COMMENTS: MONUMENT 6" NEEDS NEW WELL COVER HAS BOLT HOLE DAMAGE

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

# 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: 5.8.13 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-6 | Date Monitored: 5.8.13
Well Diameter: 2 in.
Total Depth: 24.96 ft.
Depth to Water: 7.21 ft. ☐ Check if water column is less then 0.50 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 |

17.75 xVF .17 = 3.01 x3 case volume = Estimated Purge Volume: 9.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.76

**Purge Equipment:**
Disposable Bailer ✓
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Peristaltic Pump
QED Bladder Pump
Other:

**Sampling Equipment:**
Disposable Bailer ✓
Pressure Bailer
Discrete Bailer
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1150 | Weather Conditions: CLOUDY
Sample Time/Date: 1225 / 5.8.13 | Water Color: CLEAR | Odor: (Y) / N | MODERATE
Approx. Flow Rate: — gpm. | Sediment Description: NONE
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 10.69

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm - µS) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1156 | 3.0 | 6.97 | 1015 | 17.1 | | |
| 1202 | 6.0 | 6.94 | 1010 | 17.5 | | |
| 1209 | 9.0 | 6.91 | 1006 | 17.9 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-6 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX(8260)/ 5 OXYS (8260) |
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COMMENTS: MORRISON 6" NEEDS NEW WELL COVER HAS BOLT HOLE DAMAGE.

Add/Replaced Lock: ____ Add/Replaced Plug: ____ Add/Replaced Bolt: ____

# 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: 5.8.13 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-7 | Date Monitored: 5-8-13
Well Diameter: 2 in.
Total Depth: 24.90 ft.
Depth to Water: 9.54 ft. ☐ Check if water column is less then 0.50 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 |

15.36 xVF .17 = 2.61 x3 case volume = Estimated Purge Volume: 8.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.61

**Purge Equipment:**
- Disposable Bailer: ✓
- Stainless Steel Bailer:
- Stack Pump:
- Suction Pump:
- Grundfos:
- Peristaltic Pump:
- QED Bladder Pump:
- Other:

**Sampling Equipment:**
- Disposable Bailer: ✓
- Pressure Bailer:
- Discrete Bailer:
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1250 | Weather Conditions: CLOUDY
Sample Time/Date: 1325 / 5.8.13 | Water Color: CLEAR Odor: Ⓨ / N MODERATE
Approx. Flow Rate: ✓ gpm. | Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 12.10

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm - µS) | Temperature ( C / F ) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1256 | 2.5 | 7.05 | 1142 | 17.3 | | |
| 1302 | 5.0 | 7.01 | 1138 | 17.7 | ✓ | ✓ |
| 1309 | 8.0 | 6.98 | 1132 | 18.1 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-7 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX(8260)/ 5 OXYS (8260) |
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COMMENTS: NEEDS NEW WELL COVER HAS BOLT HOLE DAMAGE
MONNISON 6"

Add/Replaced Lock: ✓ Add/Replaced Plug: Add/Replaced Bolt:

# 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: 5.8.13 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW- 8 | Date Monitored: 5.8.13
Well Diameter: 2 in.
Total Depth: 24.99 ft.
Depth to Water: 12.03 ft. ☐ Check if water column is less then 0.50 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 |

12.96 xVF .17 = 2.20 x3 case volume = Estimated Purge Volume: 7.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.62

**Purge Equipment:**
- Disposable Bailer: ✓
- Stainless Steel Bailer:
- Stack Pump:
- Suction Pump:
- Grundfos:
- Peristaltic Pump:
- QED Bladder Pump:
- Other:

**Sampling Equipment:**
- Disposable Bailer: ✓
- Pressure Bailer:
- Discrete Bailer:
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1345 | Weather Conditions: CLOUDY
Sample Time/Date: 1420 / 5.8.13 | 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: 14.59

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm - µS) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1351 | 2.5 | 7.21 | 635 | 18.2 | | |
| 1357 | 5.0 | 7.19 | 639 | 18.5 | | |
| 1404 | 7.0 | 7.16 | 643 | 18.8 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW- 8 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX(8260)/ 5 OXYS (8260) |
| | | | | | |
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COMMENTS: MONITOR 6" WELL COVER HAS BOLT HOLE DAMAGE, NEEDS NEW COVER.

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

# Chevron California Region Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories

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

SCR #: _____

## 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 Lead Consultant STANTECTF Flora
Consultant/Office G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568
Consultant Project Mgr Deanna L. Harding (deanna@grinc.com)
Consultant Phone # 925-551-7555 925-551-7899
Fax # (408) 356-6124 x238
Sampler Frank Tenanon

## 4 Matrix

Soil ☐ Sediment ☐
Water ☒ Ground ☐ Potable ☐ NPDES ☐ Surface ☐
Oil ☐ Air ☐

## 3

Grab / Composite

## 2 Sample Identification | Soil Depth | Collected Date | Collected Time

## 5 Analyses Requested

Total Number of Containers
BTEX 8260 ☒ / 8021 ☐
TPH-GRO 8260 ☐ / 8015 ☒
TPH-DRO 8015 without Silica Gel Cleanup ☐
TPH-DRO 8015 with Silica Gel Cleanup ☐
8260 Full Scan
Oxygenates (8260) 5
Total Lead Method ____
Dissolved Lead Method ____
MTBE (8260)

| Sample Identification | Soil Depth | Date | Time | Grab | Composite | Soil | Water | Oil | Total Containers | BTEX | TPH-GRO | TPH-DRO 8015 without Silica Gel Cleanup | TPH-DRO 8015 with Silica Gel Cleanup | 8260 Full Scan | Oxygenates (8260) | Total Lead | Dissolved Lead | MTBE (8260) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QA | | 5.8.13 | | | | | W | | 2 | X | X | | | | | | | X |
| MW-5 | | | 1135 | X | | | | | 6 | X | X | | | | X | | | |
| MW-6 | | | 1225 | X | | | | | 6 | X | X | | | | X | | | |
| MW-7 | | | 1325 | X | | | | | 6 | X | X | | | | X | | | |
| MW-8 | | | 1420 | X | | | | | 6 | X | X | | | | X | | | |

## 6 Remarks

- ☐ 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

## 7 Turnaround Time Requested (TAT) (please circle)

(Standard) 5 day 4 day
72 hour 48 hour 24 hour

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| [signature] | 5.8.13 | 1520 | [signature] | 5/8/13 | 1520 |
| Relinquished by | Date | Time | Received by | Date | Time |
| | | | | | |
| Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____ | | | Received by | Date | Time |
| | | | | | |

## 8 Data Package (circle if required)

Type I - Full
Type VI (Raw Data)

## EDD (circle if required)

EDFFLAT (default)
Other: _____

Temperature Upon Receipt _____ °C

Custody Seals Intact? Yes No

## 9

# Attachment B

# Certified Laboratory Analysis Reports and Chain-of-Custody Documents

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

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

May 15, 2013

Project: 92029

Submittal Date: 05/09/2013
Group Number: 1388678
PO Number: 0015116151
Release Number: MACLEOD
State of Sample Origin: CA

| Client Sample Description | Lancaster Labs (LLI) # |
|---|---|
| QA-T-130508 NA Water | 7050183 |
| MW-5-W-130508 Grab Groundwater | 7050184 |
| MW-6-W-130508 Grab Groundwater | 7050185 |
| MW-7-W-130508 Grab Groundwater | 7050186 |
| MW-8-W-130508 Grab Groundwater | 7050187 |

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

| | | |
|---|---|---|
| ELECTRONIC COPY TO | Stantec c/o Gettler-Ryan | Attn: Rachelle Munoz |
| 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 |

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

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

**Sample Description:** QA-T-130508 NA Water
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

**LLI Sample #** WW 7050183
**LLI Group #** 1388678
**Account #** 10906

**Project Name:** 92029

Collected: 05/08/2013

Submitted: 05/09/2013 09:15
Reported: 05/15/2013 19:03

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** | |
| 10943 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 10943 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | 1 |
| 10943 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | 1 |
| 10943 | Toluene | 108-88-3 | N.D. | 0.5 | 1 |
| 10943 | 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

State of California Lab Certification No. 2501

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 |
|---|---|---|---|---|---|---|---|
| 10943 | BTEX/MTBE 8260 Water | SW-846 8260B | 1 | P131332AA | 05/13/2013 13:17 | Emily R Styer | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | P131332AA | 05/13/2013 13:17 | Emily R Styer | 1 |
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 13130B20A | 05/13/2013 11:36 | Catherine J Schwarz | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 13130B20A | 05/13/2013 11:36 | Catherine J Schwarz | 1 |

**Sample Description:** MW-5-W-130508 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

**LLI Sample #** WW 7050184
**LLI Group #** 1388678
**Account #** 10906

**Project Name:** 92029

Collected: 05/08/2013 11:35 by FT

Submitted: 05/09/2013 09:15
Reported: 05/15/2013 19:03

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

WMO05

| 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** | |
| 10943 | t-Amyl methyl ether | 994-05-8 | N.D. | 0.5 | 1 |
| 10943 | Benzene | 71-43-2 | 2 | 0.5 | 1 |
| 10943 | t-Butyl alcohol | 75-65-0 | N.D. | 2 | 1 |
| 10943 | Ethyl t-butyl ether | 637-92-3 | N.D. | 0.5 | 1 |
| 10943 | Ethylbenzene | 100-41-4 | 2 | 0.5 | 1 |
| 10943 | di-Isopropyl ether | 108-20-3 | N.D. | 0.5 | 1 |
| 10943 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | 1 |
| 10943 | Toluene | 108-88-3 | 0.9 | 0.5 | 1 |
| 10943 | 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. | 2,100 | 50 | 1 |

## General Sample Comments

State of California Lab Certification No. 2501

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 |
|---|---|---|---|---|---|---|---|
| 10943 | BTEX + 5 Oxygenates 8260 Water | SW-846 8260B | 1 | P131332AA | 05/13/2013 22:31 | Emily R Styer | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | P131332AA | 05/13/2013 22:31 | Emily R Styer | 1 |
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 13130B20A | 05/13/2013 21:02 | Catherine J Schwarz | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 13130B20A | 05/13/2013 21:02 | Catherine J Schwarz | 1 |

**Sample Description:** MW-6-W-130508 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

**LLI Sample #** WW 7050185
**LLI Group #** 1388678
**Account #** 10906

**Project Name:** 92029

Collected: 05/08/2013 12:25 by FT

Submitted: 05/09/2013 09:15
Reported: 05/15/2013 19:03

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

WMO06

| 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** | |
| 10943 | t-Amyl methyl ether | 994-05-8 | N.D. | 0.5 | 1 |
| 10943 | Benzene | 71-43-2 | 77 | 0.5 | 1 |
| 10943 | t-Butyl alcohol | 75-65-0 | 5 | 2 | 1 |
| 10943 | Ethyl t-butyl ether | 637-92-3 | N.D. | 0.5 | 1 |
| 10943 | Ethylbenzene | 100-41-4 | 9 | 0.5 | 1 |
| 10943 | di-Isopropyl ether | 108-20-3 | N.D. | 0.5 | 1 |
| 10943 | Methyl Tertiary Butyl Ether | 1634-04-4 | 6 | 0.5 | 1 |
| 10943 | Toluene | 108-88-3 | 1 | 0.5 | 1 |
| 10943 | 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. | 2,000 | 50 | 1 |

## General Sample Comments

State of California Lab Certification No. 2501

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 |
|---|---|---|---|---|---|---|---|
| 10943 | BTEX + 5 Oxygenates 8260 Water | SW-846 8260B | 1 | P131341AA | 05/14/2013 17:50 | Emily R Styer | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | P131341AA | 05/14/2013 17:50 | Emily R Styer | 1 |
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 13130B20A | 05/13/2013 21:24 | Catherine J Schwarz | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 13130B20A | 05/13/2013 21:24 | Catherine J Schwarz | 1 |

**Sample Description:** MW-7-W-130508 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

**LLI Sample #** WW 7050186
**LLI Group #** 1388678
**Account #** 10906

**Project Name:** 92029

Collected: 05/08/2013 13:25 by FT

Submitted: 05/09/2013 09:15
Reported: 05/15/2013 19:03

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** | |
| 10943 | t-Amyl methyl ether | 994-05-8 | N.D. | 0.5 | 1 |
| 10943 | Benzene | 71-43-2 | 10 | 0.5 | 1 |
| 10943 | t-Butyl alcohol | 75-65-0 | N.D. | 2 | 1 |
| 10943 | Ethyl t-butyl ether | 637-92-3 | N.D. | 0.5 | 1 |
| 10943 | Ethylbenzene | 100-41-4 | 2 | 0.5 | 1 |
| 10943 | di-Isopropyl ether | 108-20-3 | N.D. | 0.5 | 1 |
| 10943 | Methyl Tertiary Butyl Ether | 1634-04-4 | 5 | 0.5 | 1 |
| 10943 | Toluene | 108-88-3 | N.D. | 0.5 | 1 |
| 10943 | 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. | 2,200 | 250 | 5 |

## General Sample Comments

State of California Lab Certification No. 2501

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 |
|---|---|---|---|---|---|---|---|
| 10943 | BTEX + 5 Oxygenates 8260 Water | SW-846 8260B | 1 | P131341AA | 05/14/2013 18:17 | Emily R Styer | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | P131341AA | 05/14/2013 18:17 | Emily R Styer | 1 |
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 13130B20A | 05/13/2013 19:57 | Catherine J Schwarz | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 13130B20A | 05/13/2013 19:57 | Catherine J Schwarz | 5 |

**Sample Description:** MW-8-W-130508 Grab Groundwater
Facility# 92029 Job# 386911 GRD
890 W MacArthur-Oakland T0600173887

**LLI Sample #** WW 7050187
**LLI Group #** 1388678
**Account #** 10906

**Project Name:** 92029

Collected: 05/08/2013 14:20 by FT

Submitted: 05/09/2013 09:15
Reported: 05/15/2013 19:03

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** | |
| 10943 | t-Amyl methyl ether | 994-05-8 | N.D. | 0.5 | 1 |
| 10943 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 10943 | t-Butyl alcohol | 75-65-0 | N.D. | 2 | 1 |
| 10943 | Ethyl t-butyl ether | 637-92-3 | N.D. | 0.5 | 1 |
| 10943 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | 1 |
| 10943 | di-Isopropyl ether | 108-20-3 | N.D. | 0.5 | 1 |
| 10943 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | 1 |
| 10943 | Toluene | 108-88-3 | N.D. | 0.5 | 1 |
| 10943 | 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

State of California Lab Certification No. 2501

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 |
|---|---|---|---|---|---|---|---|
| 10943 | BTEX + 5 Oxygenates 8260 Water | SW-846 8260B | 1 | P131341AA | 05/14/2013 18:45 | Emily R Styer | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | P131341AA | 05/14/2013 18:45 | Emily R Styer | 1 |
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 13130B20A | 05/13/2013 13:50 | Catherine J Schwarz | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 13130B20A | 05/13/2013 13:50 | Catherine J Schwarz | 1 |

# Quality Control Summary

Client Name: Chevron Group Number: 1388678
Reported: 05/15/13 at 07:03 PM

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: P131332AA | Sample number(s): 7050183-7050184 | | | | | | | |
| t-Amyl methyl ether | N.D. | 0.5 | ug/l | 98 | | 66-120 | | |
| Benzene | N.D. | 0.5 | ug/l | 91 | | 77-121 | | |
| t-Butyl alcohol | N.D. | 2. | ug/l | 101 | | 75-120 | | |
| Ethyl t-butyl ether | N.D. | 0.5 | ug/l | 94 | | 66-120 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 93 | | 79-120 | | |
| di-Isopropyl ether | N.D. | 0.5 | ug/l | 92 | | 65-120 | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 101 | | 68-121 | | |
| Toluene | N.D. | 0.5 | ug/l | 92 | | 79-120 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 94 | | 77-120 | | |
| Batch number: P131341AA | Sample number(s): 7050185-7050187 | | | | | | | |
| t-Amyl methyl ether | N.D. | 0.5 | ug/l | 103 | | 66-120 | | |
| Benzene | N.D. | 0.5 | ug/l | 93 | | 77-121 | | |
| t-Butyl alcohol | N.D. | 2. | ug/l | 101 | | 75-120 | | |
| Ethyl t-butyl ether | N.D. | 0.5 | ug/l | 93 | | 66-120 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 91 | | 79-120 | | |
| di-Isopropyl ether | N.D. | 0.5 | ug/l | 93 | | 65-120 | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 99 | | 68-121 | | |
| Toluene | N.D. | 0.5 | ug/l | 90 | | 79-120 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 91 | | 77-120 | | |
| Batch number: 13130B20A | Sample number(s): 7050183-7050187 | | | | | | | |
| TPH-GRO N. CA water C6-C12 | N.D. | 50. | ug/l | 100 | | 75-135 | | |

## 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: P131332AA | Sample number(s): 7050183-7050184 UNSPK: P050319 | | | | | | | | |
| t-Amyl methyl ether | 97 | 97 | 65-117 | 1 | 30 | | | | |
| Benzene | 96 | 95 | 72-134 | 2 | 30 | | | | |
| t-Butyl alcohol | 97 | 97 | 67-119 | 1 | 30 | | | | |
| Ethyl t-butyl ether | 94 | 95 | 74-122 | 1 | 30 | | | | |
| Ethylbenzene | 100 | 97 | 71-134 | 2 | 30 | | | | |
| di-Isopropyl ether | 95 | 94 | 70-129 | 1 | 30 | | | | |
| Methyl Tertiary Butyl Ether | 100 | 98 | 72-126 | 2 | 30 | | | | |
| Toluene | 97 | 95 | 80-125 | 2 | 30 | | | | |

*- 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: 1388678
Reported: 05/15/13 at 07:03 PM

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| Xylene (Total) | 101 | 98 | 79-125 | 3 | 30 | | | | |
| Batch number: P131341AA | Sample number(s): 7050185-7050187 UNSPK: P051660 | | | | | | | | |
| t-Amyl methyl ether | 99 | 93 | 65-117 | 6 | 30 | | | | |
| Benzene | 95 | 93 | 72-134 | 2 | 30 | | | | |
| t-Butyl alcohol | 95 | 93 | 67-119 | 1 | 30 | | | | |
| Ethyl t-butyl ether | 92 | 87 | 74-122 | 5 | 30 | | | | |
| Ethylbenzene | 88 | 88 | 71-134 | 1 | 30 | | | | |
| di-Isopropyl ether | 93 | 89 | 70-129 | 3 | 30 | | | | |
| Methyl Tertiary Butyl Ether | 94 | 87 | 72-126 | 3 | 30 | | | | |
| Toluene | 92 | 90 | 80-125 | 2 | 30 | | | | |
| Xylene (Total) | 89 | 88 | 79-125 | 1 | 30 | | | | |
| Batch number: 13130B20A | Sample number(s): 7050183-7050187 UNSPK: P050589 | | | | | | | | |
| TPH-GRO N. CA water C6-C12 | 115 | 109 | 75-135 | 2 | 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: UST VOCs by 8260B - Water
Batch number: P131332AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 7050183 | 103 | 95 | 100 | 96 |
| 7050184 | 102 | 96 | 98 | 101 |
| Blank | 102 | 97 | 98 | 95 |
| LCS | 102 | 100 | 100 | 99 |
| MS | 101 | 97 | 99 | 101 |
| MSD | 103 | 99 | 98 | 100 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

Analysis Name: UST VOCs by 8260B - Water
Batch number: P131341AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 7050185 | 101 | 96 | 98 | 98 |
| 7050186 | 103 | 101 | 96 | 99 |
| 7050187 | 102 | 99 | 100 | 96 |
| Blank | 101 | 100 | 99 | 96 |
| LCS | 102 | 103 | 99 | 97 |
| MS | 102 | 101 | 99 | 98 |
| MSD | 102 | 101 | 98 | 97 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

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

*- 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: 1388678
Reported: 05/15/13 at 07:03 PM

## Surrogate Quality Control

Batch number: 13130B20A

| | Trifluorotoluene-F |
|---|---|
| 7050183 | 84 |
| 7050184 | 144* |
| 7050185 | 114 |
| 7050186 | 87 |
| 7050187 | 83 |
| Blank | 88 |
| LCS | 101 |
| MS | 96 |
| MSD | 96 |
| 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

eurofins | Lancaster Laboratories

Acct. # 10906 | 050813-04

For Eurofins Lancaster Laboratories use only
Group # 1388678 Sample # 7050183-87
Instructions on reverse side correspond with circled numbers.

SCR #: _____

## (1) Client Information

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

Site Address 890 WEST MACARTHUR BLVD., OAKLAND, CA

Chevron PM CM Lead Consultant STANTECTF Flora

Consultant/Office G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568

Consultant Project Mgr. Deanna L. Harding (deanna@grinc.com)

Consultant Phone # 925-551-7555 925-551-7899

Consultant Fax # (408) 356-6124 x238

Sampler FRANK TENNISON

## (4) Matrix

Soil ☐ Water ☒ Oil ☐ Sediment ☐ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Air ☐

## (5) Analyses Requested

| (2) Sample Identification | Soil Depth | Collected Date | Collected Time | (3) Grab | (3) Composite | Soil | Water | Oil | Total Number of Containers | BTEX 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QA | | 5.8.13 | | | | | W | | 2 | X | X | | | | | | | X |
| MW-5 | | | 1135 | X | | | | | 6 | X | X | | | | X | | | |
| MW-6 | | | 1225 | X | | | | | 6 | X | X | | | | X | | | |
| MW-7 | | | 1325 | X | | | | | 6 | X | X | | | | X | | | |
| MW-8 | | ↓ | 1420 | X | | | ↓ | | 6 | X | X | | | | X | | | |

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

## (6) Remarks

## (7) Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

## (8) Data Package (circle if required)

Type I - Full

Type VI (Raw Data)

EDD (circle if required) EDF/EDD

EDFFLAT (default)

Other: _____

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| [signature] | 5.8.13 | 1520 | [signature] | 5/8/13 | 1520 |
| [signature] | 5/8/13 | 1630 | FE | | |

Relinquished by Commercial Carrier: UPS ____ FedEx X Other ____

Received by [signature] Date 5/9/13 Time 0915

Temperature Upon Receipt 0.5 °C

Custody Seals Intact? Yes No

eurofins | Lancaster Laboratories

# 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

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

**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 of gas 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.

*U.S. EPA CLP Data Qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quantitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike sample not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | 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.

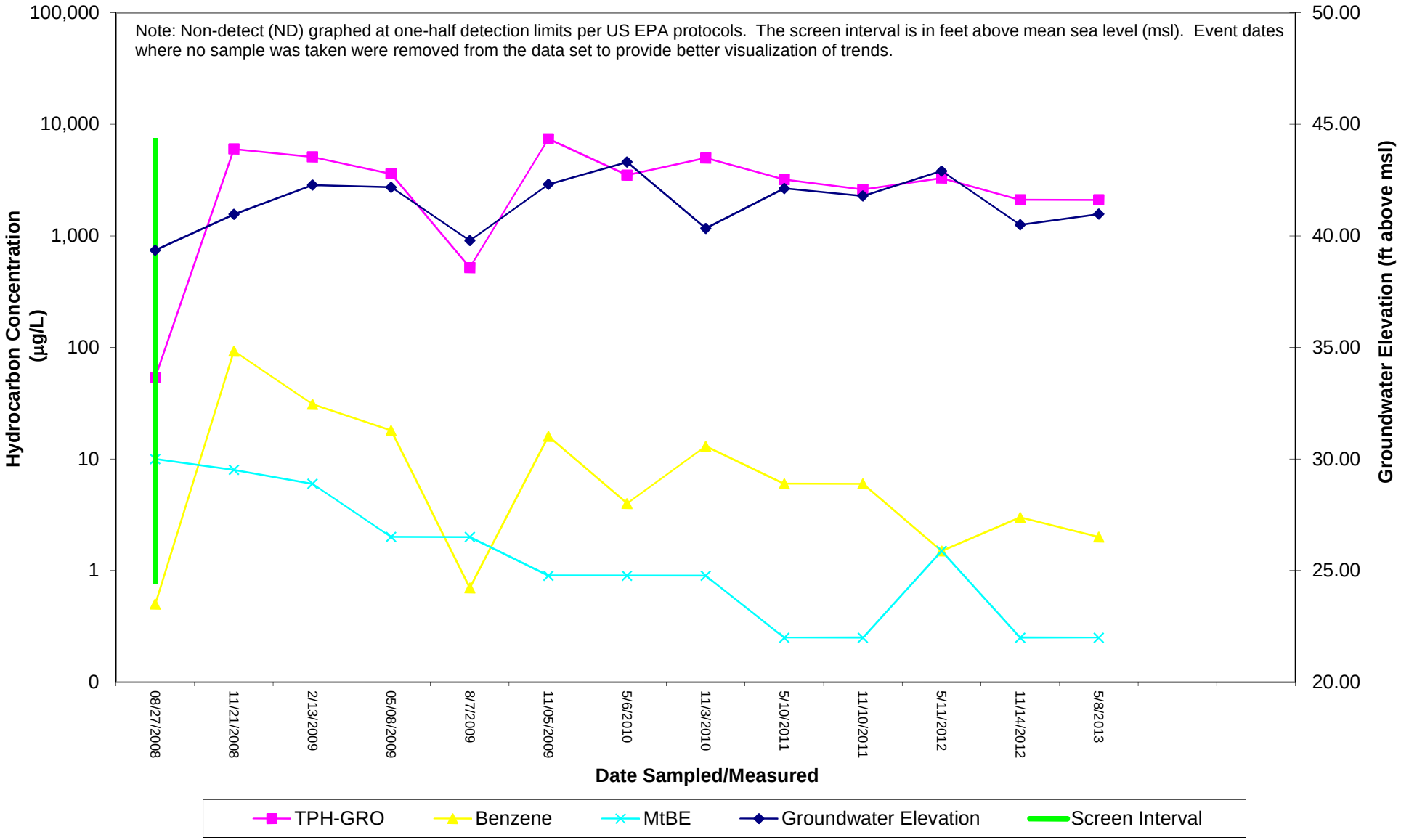
Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have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

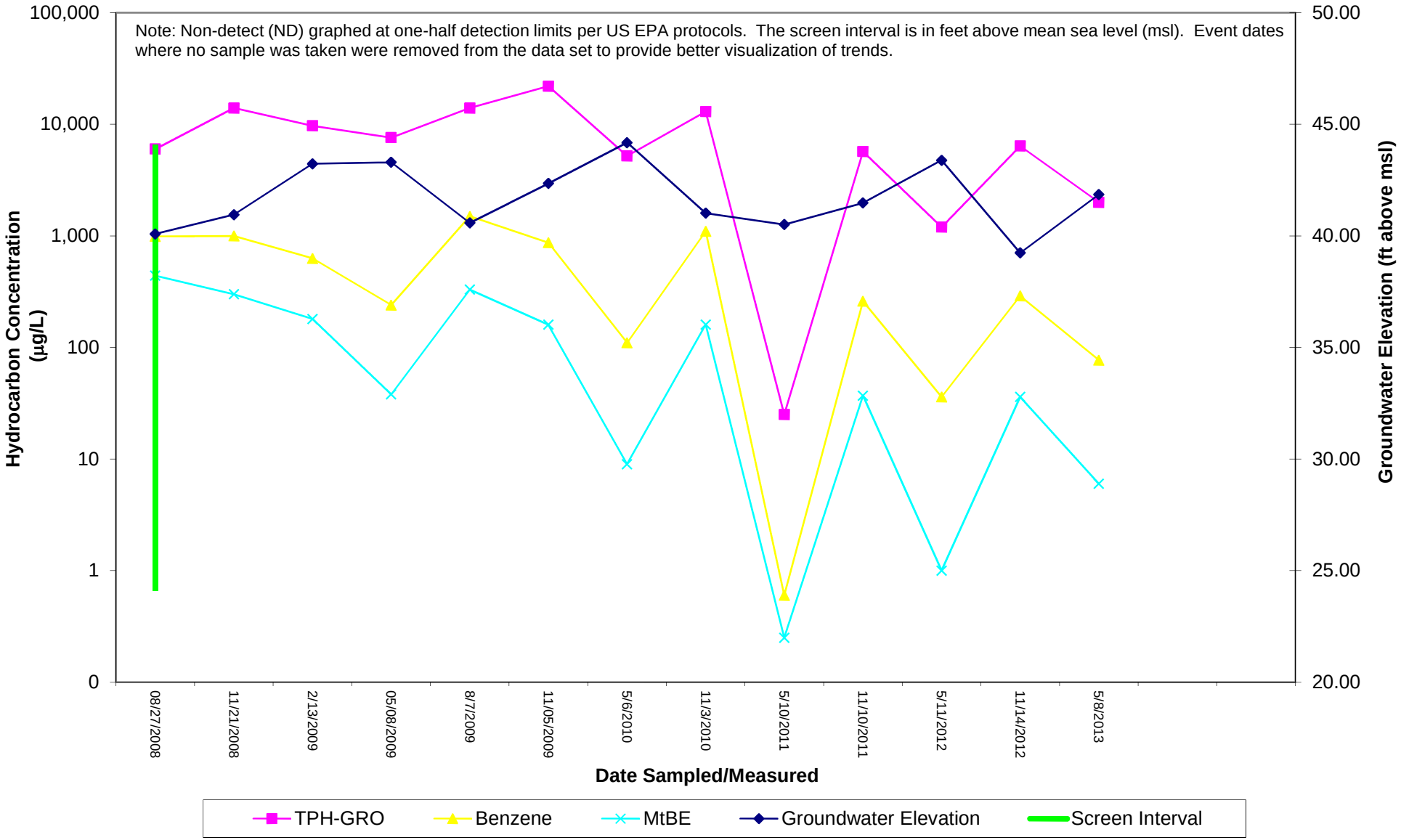
# Attachment C

# Hydrographs

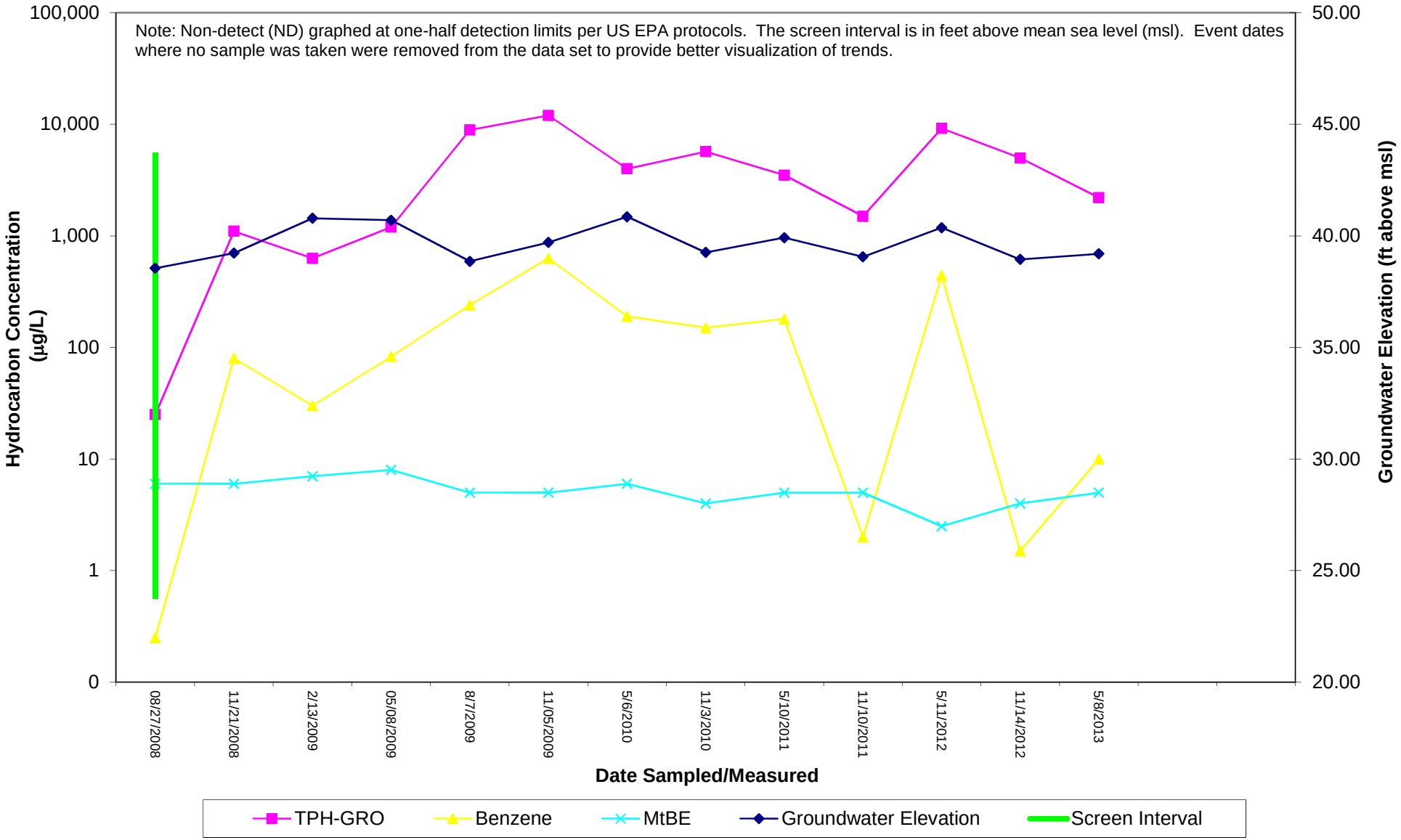
**MW-5 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**
Former Chevron-branded Service Station 92029
890 West MacArthur Boulevard
Oakland, California



**MW-6 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**
Former Chevron-branded Service Station 92029
890 West MacArthur Boulevard
Oakland, California



**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