



**Stantec**

**Second Quarter 2012 Quarterly  
Groundwater Monitoring Report**

**Former Chevron-branded Service  
Station 91723  
9757 San Leandro Street  
Oakland, California**

**RECEIVED**

*11:14 am, Aug 03, 2012*

Alameda County  
Environmental Health

**Submitted to:**

Mr. Mark Detterman  
Alameda County Health Care  
Services Agency  
Department of Environmental Health  
Services, Environmental Protection  
Division  
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 25, 2012



**Carryl MacLeod**  
Project Manager  
Marketing Business Unit

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

July 25, 2012

Mr. Mark Detterman  
Alameda County Health Care Services Agency  
Department of Environmental Health Services,  
Environmental Protection Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Dear Mr. Detterman:

Attached for your review is the *Second Quarter 2012 Quarterly Groundwater Monitoring Report* for former Chevron-branded service station 91723, located at 9757 San Leandro Street in Oakland, California. 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](mailto:travis.flora@stantec.com).

Sincerely,

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

**Carryl MacLeod**  
Project Manager



**Stantec Consulting Services Inc.**  
15575 Los Gatos Boulevard, Building C  
Los Gatos, CA 95032  
Tel: (408) 356-6124  
Fax: (408) 356-6138

**Stantec**

July 25, 2012

Mr. Mark Detterman  
Alameda County Health Care Services Agency  
Department of Environmental Health Services, Environmental Protection Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

RE: **Second Quarter 2012 Quarterly Groundwater Monitoring Report**  
Former Chevron-branded Service Station 91723  
9757 San Leandro Street  
Oakland, California

Dear Mr. Detterman:

On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Services Inc. (Stantec) is pleased to submit the *Second Quarter 2012 Quarterly Groundwater Monitoring Report* for former Chevron-branded service station 91723, which was located at 9757 San Leandro Street, Oakland, Alameda County, California (the Site - shown on **Figure 1**). This report is presented in three sections: Site Background, Second Quarter 2012 Groundwater Monitoring and Sampling Program, and Conclusions and Recommendations.

## **SITE BACKGROUND**

The Site is a former Chevron-branded service station located on the western corner at the intersection of San Leandro Street and 98<sup>th</sup> Avenue in Oakland, California. The Site is currently a large parking area staging semi-trucks for a distribution company. A former Chevron-branded service station operated at the Site from approximately 1946 to 1978. Prior to 1966, three fuel underground storage tanks (USTs) and one fuel dispenser island (first generation) located in the eastern portion of the Site were removed. Second-generation fuel structures (installed between 1966 and 1968) included three fuel USTs located in the north central portion of the Site, one waste oil UST located in the western portion of the Site, and five fuel dispenser islands (four located in the central portion of the Site and one located in the southern portion of the Site). In 1978, the service station was closed and the second-generation fuel structures were removed from the Site. Land use near the Site consists primarily of commercial and industrial properties. The Site is bounded on the northwest and southwest by a former food processing plant, on the northeast by San Leandro Street, and on the southeast by 98<sup>th</sup> Avenue. A Thrifty-branded service station was formerly located southeast of the Site at 9801 San Leandro Street (Case No.: RO0000894) and was granted closure on April 2, 1997.

## **SECOND QUARTER 2012 GROUNDWATER MONITORING AND SAMPLING PROGRAM**

Blaine Tech Services, Inc. (Blaine Tech) performed the Second Quarter 2012 groundwater monitoring and sampling event on June 12, 2012. Blaine Tech's standard operating procedures

(SOPs) and field data sheets are included in **Attachment A**. Blaine Tech gauged depth-to-groundwater in five Site wells (MW-2, MW-5, MW-6, MW-8, and MW-9) prior to collecting groundwater samples for laboratory analysis. All five Site wells were sampled this quarter.

Investigation-derived waste (IDW) generated during the Second Quarter 2012 groundwater monitoring and sampling event was collected by Blaine Tech and transported under bill-of-lading to Integrated Wastestream Management, Inc. (IWM) facilities in San Jose, 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 wells are currently screened across the prevailing water table, with the exception of well MW-2 where the screen interval is submerged. Groundwater elevation data from Third Quarter 2011 to the present are included in **Table 2**. A groundwater elevation contour map (based on Second Quarter 2012 data) is shown on **Figure 2**. The direction of groundwater flow at the time of sampling was generally towards the west at an approximate hydraulic gradient of 0.002 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 Third Quarter 2011 to the present.

### **Schedule of Laboratory Analysis**

Groundwater samples were collected and analyzed for the presence of total petroleum hydrocarbons as gasoline range organics (TPH-GRO), benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds), and methyl *tertiary*-butyl ether (MtBE) using United States Environmental Protection Agency (US EPA) Method 8260B (SW-846).

In addition, groundwater samples were analyzed for sulfate ( $\text{SO}_4^{2-}$ ) and nitrate ( $\text{NO}_3^-$ ) by US EPA Method 300.0, alkalinity to pH 4.5 (also known as total alkalinity) and alkalinity to pH 8.3 (also known as phenolphthalein alkalinity) by SM20 2320-B, methane ( $\text{CH}_4$ ) by US EPA Method 8015B modified (SW-846), ferrous iron ( $\text{Fe}^{2+}$ ) by SM20 3500-Fe B modified, and sulfide by SM20 4500-S2 D to further evaluate if Site conditions are suitable for monitored natural attenuation (MNA). Field measurements of post-purge dissolved oxygen (DO) and oxidation-reduction potential (ORP) were collected using an in-line flow-through cell.

### **Groundwater Analytical Results**

During Second Quarter 2012, groundwater samples were collected from five Site wells (MW-2, MW-5, MW-6, MW-8, and MW-9). Groundwater analytical results from Third Quarter 2011 to the present are included in **Table 2**. Parameters used to evaluate MNA are presented in **Table 3**. A figure showing the latest groundwater analytical data plotted on a Site map is included as **Figure 4**. A TPH-GRO isoconcentration map is shown on **Figure 5**. A benzene isoconcentration map is shown on **Figure 6**. An isoconcentration map was not developed for MtBE as concentrations in all Site wells were below the laboratory reporting limit (LRL) of 0.5 micrograms per liter ( $\mu\text{g/L}$ ).

Certified laboratory analysis reports and chain-of-custody documents are presented as **Attachment B**. Hydrographs based on groundwater elevations and analytical results from Third Quarter 2011 to the present are included in **Attachment C**. A summary of Second Quarter 2012 groundwater analytical results follows:

- **TPH-GRO** was detected in four Site wells this quarter, at concentrations ranging from 66 µg/L (well MW-6) to 2,300 µg/L (well MW-8). The concentration in well MW-2 (99 µg/L) is a historical low, while the concentrations in wells MW-5 (260 µg/L), MW-6, and MW-8 are historical highs.
- **Benzene** was detected in one Site well this quarter, at a concentration of 49 µg/L (well MW-8), which is within historical limits for this well.
- **Toluene** was detected in one Site well this quarter, at a concentration of 2 µg/L (well MW-8), which is within historical limits for this well.
- **Ethylbenzene** was detected in one Site well this quarter, at a concentration of 14 µg/L (well MW-8), which is within historical limits for this well. In addition, the concentration in well MW-2 (below the LRL of 0.5 µg/L) is a historical low.
- **Total Xylenes** were detected in one Site well this quarter, at a concentration of 14 µg/L (well MW-8), which is within historical limits for this well. In addition, the concentration in well MW-2 (below the LRL of 0.5 µg/L) is a historical low.
- **MtBE** was not detected above the LRL (0.5 µg/L) in any Site well sampled this quarter.

Sheen and odor were described in purge water during the initial bailing of well MW-8.

### Monitored Natural Attenuation Analytical Results

An evaluation of MNA involves assessing a variety of physical, chemical, and biological processes that, under favorable conditions, may effectively reduce the mass, toxicity, mobility, volume, or concentration of constituents in soil or groundwater. For petroleum hydrocarbons, intrinsic biodegradation is typically the most important natural attenuation mechanism for the reduction of concentrations in groundwater. Intrinsic biodegradation involves the transfer of energy in the form of electrons by microorganisms in the subsurface. Bacteria use petroleum hydrocarbon constituents such as TPH, BTEX compounds, and MtBE as electron donors while DO, NO<sub>3</sub><sup>-</sup>, ferric iron (Fe<sup>3+</sup>), SO<sub>4</sub><sup>2-</sup>, and carbon dioxide (CO<sub>2</sub>), in order of preference, act as electron acceptors.

The geochemical parameters measured at the Site include DO; Fe<sup>2+</sup>, a metabolite of Fe<sup>3+</sup> reduction; NO<sub>3</sub><sup>-</sup>; SO<sub>4</sub><sup>2-</sup>; CH<sub>4</sub>, a metabolite of CO<sub>2</sub> reduction; alkalinity; sulfide, a metabolite of SO<sub>4</sub><sup>2-</sup> reduction; and ORP. These parameters provide lines of evidence for evaluating MNA and determining the most likely biodegradation mechanisms utilized within the plume (e.g., Fe<sup>3+</sup> reduction, SO<sub>4</sub><sup>2-</sup> reduction, etc.). MNA parameters are summarized in **Table 3**.

During Second Quarter 2012, DO levels (post-purge) in Site wells ranged between 0.84 milligrams per liter (mg/L; well MW-6) and 0.98 mg/L (well MW-8). The DO levels indicate

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an anaerobic environment is present in all Site wells. Consequently, alternative electron acceptors will be used for degradation.

ORP levels (post-purge) ranged between 47 millivolts (mV; well MW-8) and 135 mV (well MW-2). ORP values indicate oxidizing conditions. Values in this range are associated with aerobic respiration,  $\text{NO}_3^-$  reduction, and moving into the range of  $\text{Fe}^{3+}$  reduction.

Concentrations of  $\text{NO}_3^-$  ranged from below the LRL of 250  $\mu\text{g/L}$  (wells MW-6 and MW-8) to 2,900  $\mu\text{g/L}$  (well MW-9). Concentrations of  $\text{SO}_4^{2-}$  ranged from 6,300  $\mu\text{g/L}$  (well MW-6) to 44,800  $\mu\text{g/L}$  (well MW-5). Lower  $\text{NO}_3^-$  and  $\text{SO}_4^{2-}$  concentrations were generally found in wells with higher petroleum hydrocarbon concentrations such as well MW-8 (and vice versa; e.g., well MW-9), indicating that  $\text{NO}_3^-$  and  $\text{SO}_4^{2-}$  are likely being utilized as electron acceptors for bioremediation of dissolved-phase petroleum hydrocarbons by indigenous microbes. The low levels of  $\text{NO}_3^-$  in wells MW-6 and MW-8 is an indicator that the natural supply of  $\text{NO}_3^-$  at the Site may be nearly exhausted.

Concentrations of  $\text{Fe}^{2+}$  ranged from 340  $\mu\text{g/L}$  (well MW-9) to 43,200  $\mu\text{g/L}$  (well MW-8). Concentrations of  $\text{CH}_4$  ranged from below the LRL of 5.0  $\mu\text{g/L}$  (well MW-9) to 1,700  $\mu\text{g/L}$  (well MW-8). Higher concentrations of metabolic by-products  $\text{Fe}^{2+}$  and  $\text{CH}_4$  were generally found in wells with higher petroleum hydrocarbon concentrations (and vice versa). This indicates that  $\text{Fe}^{3+}$  and  $\text{CO}_2$  reduction may be occurring.

Concentrations of sulfide were below the LRLs of 54  $\mu\text{g/L}$ , 110  $\mu\text{g/L}$ , and 220  $\mu\text{g/L}$  in all Site wells. Though it is difficult to draw conclusions with no detections, this may indicate that  $\text{SO}_4^{2-}$  reduction has not yet (or just) begun to occur at the Site.

Total alkalinity measurements ranged from 387,000  $\mu\text{g/L}$  as calcium carbonate ( $\text{CaCO}_3$ ; well MW-5) to 460,000  $\mu\text{g/L}$  as  $\text{CaCO}_3$  (well MW-2). The enrichment of alkalinity in wells MW-2, MW-6, and MW-8 suggests biodegradation is occurring.

In general, the subsurface is becoming oxygen depleted and it appears that the natural supply of  $\text{NO}_3^-$  may be nearly exhausted. Bioactivity appears to be occurring within Site wells, and Site conditions are currently becoming favorable for petroleum hydrocarbon degradation to occur via  $\text{Fe}^{3+}$  reduction. As Site conditions become more reducing, degradation rates may slow due to the lower levels of electron acceptors identified by groundwater sampling.

## CONCLUSIONS AND RECOMMENDATIONS

Concentrations of TPH-GRO and benzene were observed above 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 as follows:

- TPH-GRO concentrations exceed the ESL of 100  $\mu\text{g/L}$  in wells MW-5 and MW-8; and
- The benzene concentration exceeds the ESL of 1  $\mu\text{g/L}$  in well MW-8.

Maximum concentrations of TPH-GRO and BTEX compounds were observed in well MW-8, which is located in the northern portion of the Site near the former second-generation USTs. Sheen was also observed in the initial purging of well MW-8. TPH-GRO was also detected



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above the ESL in well MW-5, near the former first-generation dispenser island. Due to TPH-GRO below the ESL and BTEX compounds below LRLs in well MW-6 (down-gradient of well MW-5) and the potential for two distinct source areas, TPH-GRO has been represented as two distinct plumes. MtBE was not detected above LRLs in any Site well sampled this quarter.

Historical low concentrations of TPH-GRO, ethylbenzene, and total xylenes were observed in down-gradient well MW-2, and historical high concentrations of TPH-GRO were detected in wells MW-5, MW-6, and MW-8 located on Site. It should be noted that although there were historical high detections of TPH-GRO this quarter for the three on-site wells, there have only been four sampling events conducted, and the high concentrations showed an increase within range, with the exception of well MW-6 where there is a new detection below the ESL for the analyte.

MNA parameters were collected during the Second Quarter 2012 groundwater monitoring and sampling event. In general, the subsurface is becoming oxygen depleted and it appears that the natural supply of  $\text{NO}_3^-$  may be nearly exhausted. Bioactivity appears to be occurring within Site wells, and Site conditions are currently becoming favorable for petroleum hydrocarbon degradation to occur via  $\text{Fe}^{3+}$  reduction. As Site conditions become more reducing, degradation rates may slow due to the lower levels of electron acceptors identified by groundwater sampling.

Based on concentrations of TPH-GRO and benzene exceeding ESLs, Stantec recommends that the groundwater monitoring and sampling program continue; however, quarterly groundwater monitoring and sampling has been conducted at the Site for a period of one year and Stantec recommends reducing the required groundwater monitoring and sampling frequency to semi-annual (during First and Third Quarter groundwater monitoring and sampling events). Additionally, MNA parameters are recommended to be sampled during Third Quarter 2012 to further evaluate biodegradation trends. Reports will continue to be submitted to Alameda County Environmental Health (ACEH) within 60 days following groundwater monitoring and sampling events.

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](mailto:travis.flora@stantec.com).

Sincerely,  
**Stantec Consulting Services Inc.**



Travis L. Flora  
Project Manager

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Former Chevron-branded Service Station 91723  
July 25, 2012  
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### Attachments:

Table 1 – Well Details / Screen Interval Assessment – Second Quarter 2012

Table 2 – Groundwater Monitoring Data and Analytical Results

Table 3 – Monitored Natural Attenuation Parameters

Figure 1 – Site Location Map

Figure 2 – Groundwater Elevation Contour Map – Second Quarter 2012

Figure 3 – Rose Diagram – Second Quarter 2012

Figure 4 – Site Plan Showing Groundwater Concentrations – Second Quarter 2012

Figure 5 – TPH-GRO Isoconcentration Map – Second Quarter 2012

Figure 6 – Benzene Isoconcentration Map – Second Quarter 2012

Attachment A – Blaine Tech Groundwater Monitoring Report – Second Quarter 2012

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

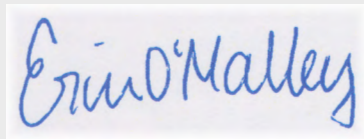
Linda Hothem Trust c/o Mr. Jan Greben, Greben & Associates, 1332 Anacapa Street, Suite 110, Santa Barbara, CA 93101 104 Caledonia Street, Sausalito, CA 94965

J. Jeannero, Gerber Products, 445 State Street, Fremont, MI 49412



## 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.

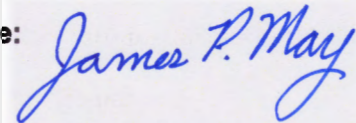
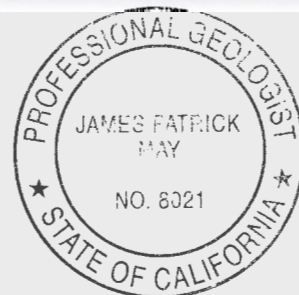
**Prepared by:**

Erin O'Malley  
Engineering Project Specialist

**Reviewed by:**

Marisa Kaffenberger  
Associate 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.**Date:** 25 JULY 2012**Signature:****Stamp:**

# Tables

**Table 1**  
**Well Details / Screen Interval Assessment**  
**Second Quarter 2012**  
Former Chevron-Branded Service Station 91723  
9757 San Leandro Street, Oakland, California

Well ID	Date Installed	Well Type	Casing Diameter (inches)	Top of Casing (feet above msl)	Construction Well Depth (feet bgs)	Current Well Depth <sup>1</sup> (feet bgs)	Current Depth to Groundwater <sup>1</sup> (feet below TOC)	Screen Interval (feet bgs)	Screen Interval Assessment
MW-2	4/18/1987	Monitoring	2	21.31	22.00	21.52	9.58	12-22	Depth-to-groundwater above screen interval.
MW-5	5/18/1988	Monitoring	2	21.84	20.00	17.55	9.65	7-20	Depth-to-groundwater within screen interval.
MW-6	5/18/1988	Monitoring	2	21.71	20.00	19.56	9.76	7-20	Depth-to-groundwater within screen interval.
MW-8	5/19/1988	Monitoring	2	21.84	20.00	18.13	9.90	7-20	Depth-to-groundwater within screen interval.
MW-9	8/4/1989	Monitoring	4	20.55	20.00	20.12	9.14	5.5-20	Depth-to-groundwater within screen interval.

Notes:  
bgs = below ground surface  
msl = mean sea level  
TOC = top of casing  
<sup>1</sup> = As measured prior to groundwater sampling on June 12, 2012.

**Table 2**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron-Branded Service Station 91723  
9757 San Leandro Street, 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)
<b>MW-2</b>									
09/23/11	21.31	9.78	11.53	180	<0.5	<0.5	0.6	0.6	0.6
12/29/11	21.31	9.73	11.58	100	<0.5	<0.5	0.7	0.9	<0.5
03/30/12	21.31	8.02	13.29	180	<0.5	<0.5	2	4	<0.5
<b>06/12/12</b>	<b>21.31</b>	<b>9.58</b>	<b>11.73</b>	<b>99</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-5</b>									
09/23/11	21.84	9.85	11.99	190	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	21.84	9.91	11.93	180	<0.5	<0.5	<0.5	<0.5	<0.5
03/30/12	21.84	7.92	13.92	190	<0.5	<0.5	<0.5	<0.5	<0.5
<b>06/12/12</b>	<b>21.84</b>	<b>9.65</b>	<b>12.19</b>	<b>260</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-6</b>									
09/23/11	21.71	9.99	11.72	<22	<0.5	<0.5	<0.5	<0.5	0.7
12/29/11	21.71	9.93	11.78	<22	<0.5	<0.5	<0.5	<0.5	0.6
03/30/12	21.71	8.00	13.71	<22	<0.5	<0.5	<0.5	<0.5	<0.5
<b>06/12/12</b>	<b>21.71</b>	<b>9.76</b>	<b>11.95</b>	<b>66</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-8</b>									
09/23/11	21.84	10.15	11.69	1,900	55	2	10	8	<0.5
12/29/11	21.84	10.10	11.74	1,300	31	1	5	5	<0.5
03/30/12	21.84	8.12	13.72	2,200	65	3	20	14	<0.5
<b>06/12/12</b>	<b>21.84</b>	<b>9.90</b>	<b>11.94</b>	<b>2,300</b>	<b>49</b>	<b>2</b>	<b>14</b>	<b>14</b>	<b>&lt;0.5</b>
<b>MW-9</b>									
09/23/11	20.55	9.30	11.25	<22	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	20.55	9.51	11.04	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/30/12	20.55	7.52	13.03	<22	<0.5	<0.5	<0.5	<0.5	<0.5
<b>06/12/12</b>	<b>20.55</b>	<b>9.14</b>	<b>11.41</b>	<b>&lt;22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>TRIP BLANK</b>									
<b>QA</b>									
09/23/11	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/30/12	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
<b>06/12/12</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>&lt;22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>

**Table 2**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron-Branded Service Station 91723  
9757 San Leandro Street, Oakland, California

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**EXPLANATIONS:**

Current groundwater monitoring data provided by Blaine Tech Services, Inc. Current laboratory analytical results provided by Lancaster Laboratories.

TOC = Top of Casing  
(ft.) = Feet

DTW = Depth to Water

GWE = Groundwater Elevation  
(msl) = Mean Sea Level

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

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

-- = Not Measured/Not Analyzed

QA = Quality Assurance/Trip Blank

**Table 3**  
**Monitored Natural Attenuation Parameters**  
Former Chevron-Branded Service Station 91723  
9757 San Leandro Street, Oakland, California

WELL ID/ DATE	METHANE (µg/L)	NITRATE (µg/L)	SULFATE (µg/L)	ALKALINITY TO pH 4.5 (µg/L as CaCO <sub>3</sub> )	ALKALINITY TO pH 8.3 (µg/L as CaCO <sub>3</sub> )	FERROUS IRON (µg/L)	SULFIDE (µg/L)	POST-PURGE DO (mg/L)	POST-PURGE ORP (mV)
<b>MW-2</b>									
03/30/12	330	320	10,600	545,000	<460	2,200	<270 <sup>1</sup>	1.08	219
06/12/12	<b>300</b>	<b>290</b>	<b>12,900</b>	<b>460,000</b>	<b>&lt;700</b>	<b>1,400</b>	<b>&lt;220<sup>1</sup></b>	<b>0.86</b>	<b>135</b>
<b>MW-5</b>									
03/30/12	110	440	30,200	370,000	<460	300	<270 <sup>1</sup>	1.11	222
06/12/12	<b>120</b>	<b>890</b>	<b>44,800</b>	<b>387,000</b>	<b>&lt;700</b>	<b>7,300</b>	<b>&lt;220<sup>1</sup></b>	<b>0.87</b>	<b>124</b>
<b>MW-6</b>									
03/30/12	62	<250	5,600	455,000	<460	210	<54	1.12	223
06/12/12	<b>190</b>	<b>&lt;250</b>	<b>6,300</b>	<b>458,000</b>	<b>&lt;700</b>	<b>4,700</b>	<b>&lt;110<sup>1</sup></b>	<b>0.84</b>	<b>115</b>
<b>MW-8</b>									
03/30/12	2,100	2,300	32,200	454,000	<460	29,300	780 <sup>1</sup>	1.15	230
06/12/12	<b>1,700</b>	<b>&lt;250</b>	<b>9,200</b>	<b>441,000</b>	<b>&lt;700</b>	<b>43,200</b>	<b>&lt;220<sup>1</sup></b>	<b>0.98</b>	<b>47</b>
<b>MW-9</b>									
03/30/12	<5.0	<250	7,400	381,000	<460	31	<54	1.34	179
06/12/12	<b>&lt;5.0</b>	<b>2,900</b>	<b>32,900</b>	<b>397,000</b>	<b>&lt;700</b>	<b>340</b>	<b>&lt;54</b>	<b>0.92</b>	<b>128</b>

**EXPLANATIONS:**

Current groundwater monitoring data provided by Blaine Tech Services, Inc. Current laboratory analytical results provided by Lancaster Laboratories.

(µg/L) = Micrograms per liter

(µg/L as CaCO<sub>3</sub>) = Micrograms per liter as calcium carbonate

DO = Dissolved Oxygen

(mg/L) = Milligrams per liter

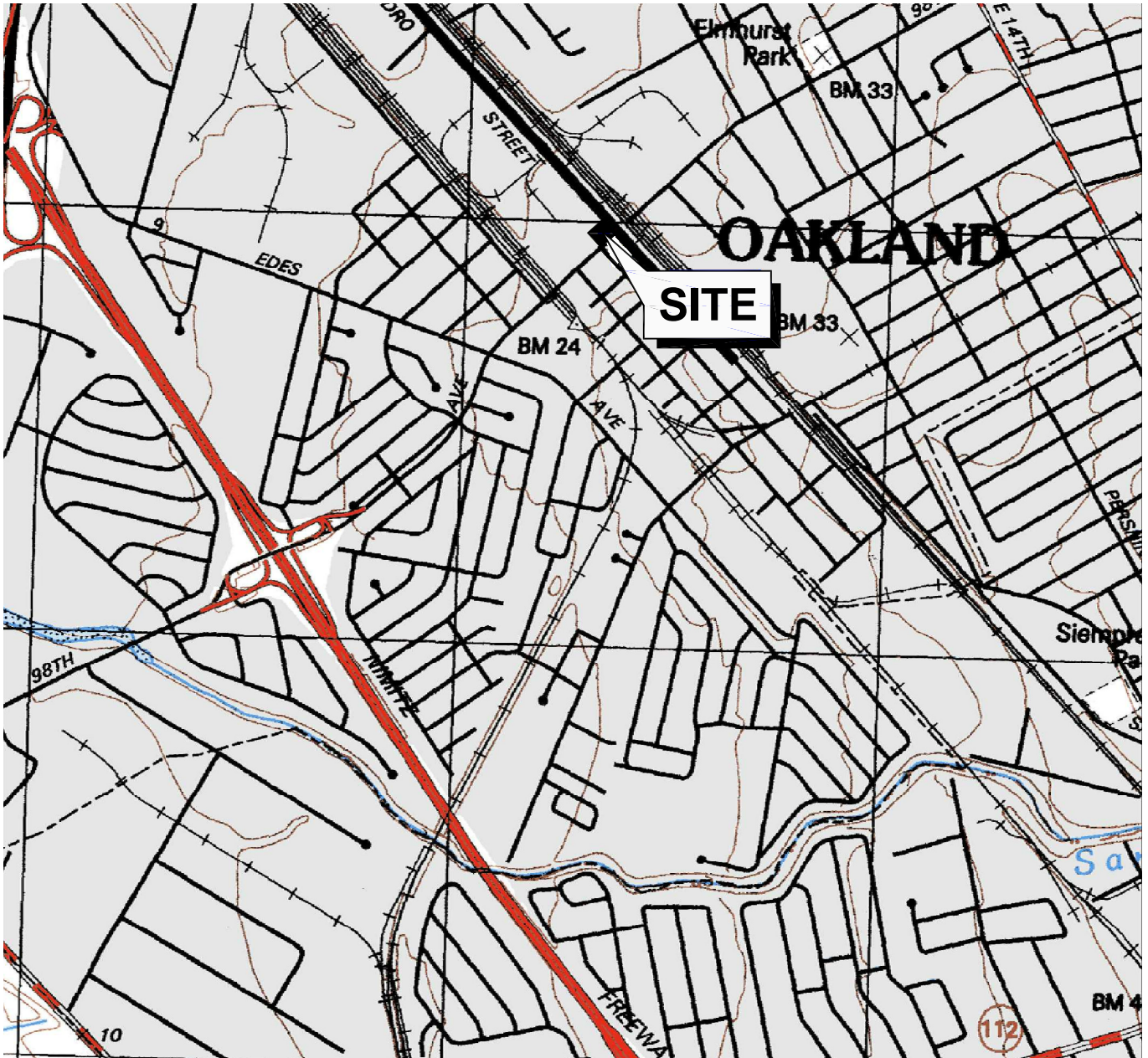
ORP = Oxidation Reduction Potential

(mV) = Millivolts

<sup>1</sup> Laboratory report indicates reporting limits were raised due to interference from the sample matrix.



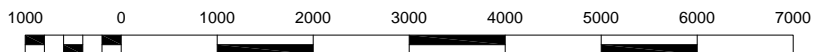
# Figures



CALIFORNIA



SCALE IN MILES



SCALE IN FEET

REFERENCE: USGS QUADRANGLE MAP :  
SAN LEANDRO, CA 1993



**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 91723  
9757 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA

JOB NUMBER:  
211602332

DRAWN BY:  
JRO

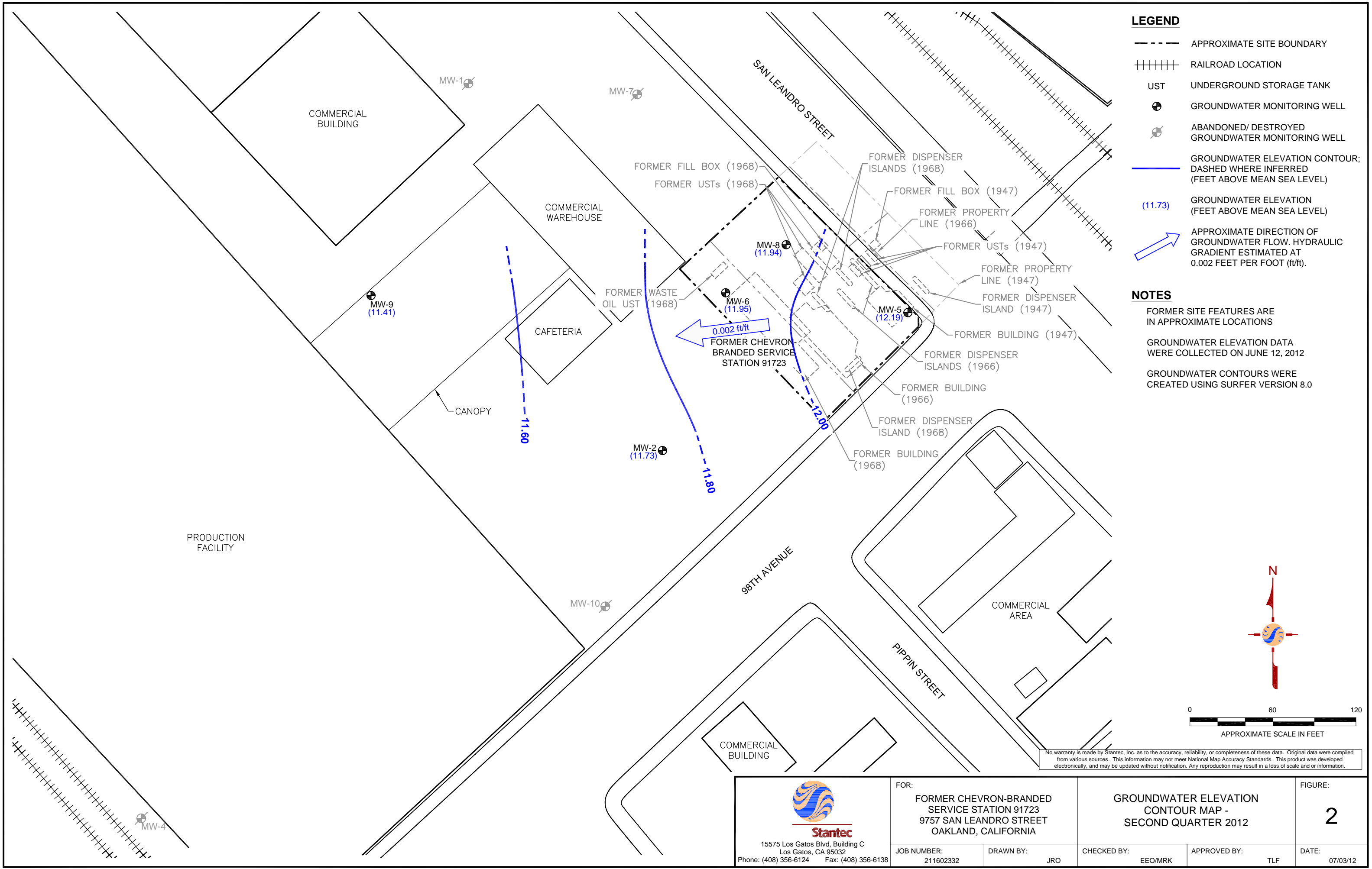
CHECKED BY:  
EEO/MRK

APPROVED BY:  
TLF

FIGURE:

1

DATE:  
07/03/12

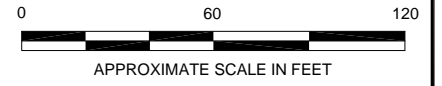
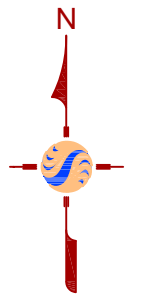


**LEGEND**


- APPROXIMATE SITE BOUNDARY
- ++++ RAILROAD LOCATION
- UST UNDERGROUND STORAGE TANK
- ⊕ GROUNDWATER MONITORING WELL
- ⊗ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR; DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)
- (11.73) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- ➔ APPROXIMATE DIRECTION OF GROUNDWATER FLOW. HYDRAULIC GRADIENT ESTIMATED AT 0.002 FEET PER FOOT (ft/ft).

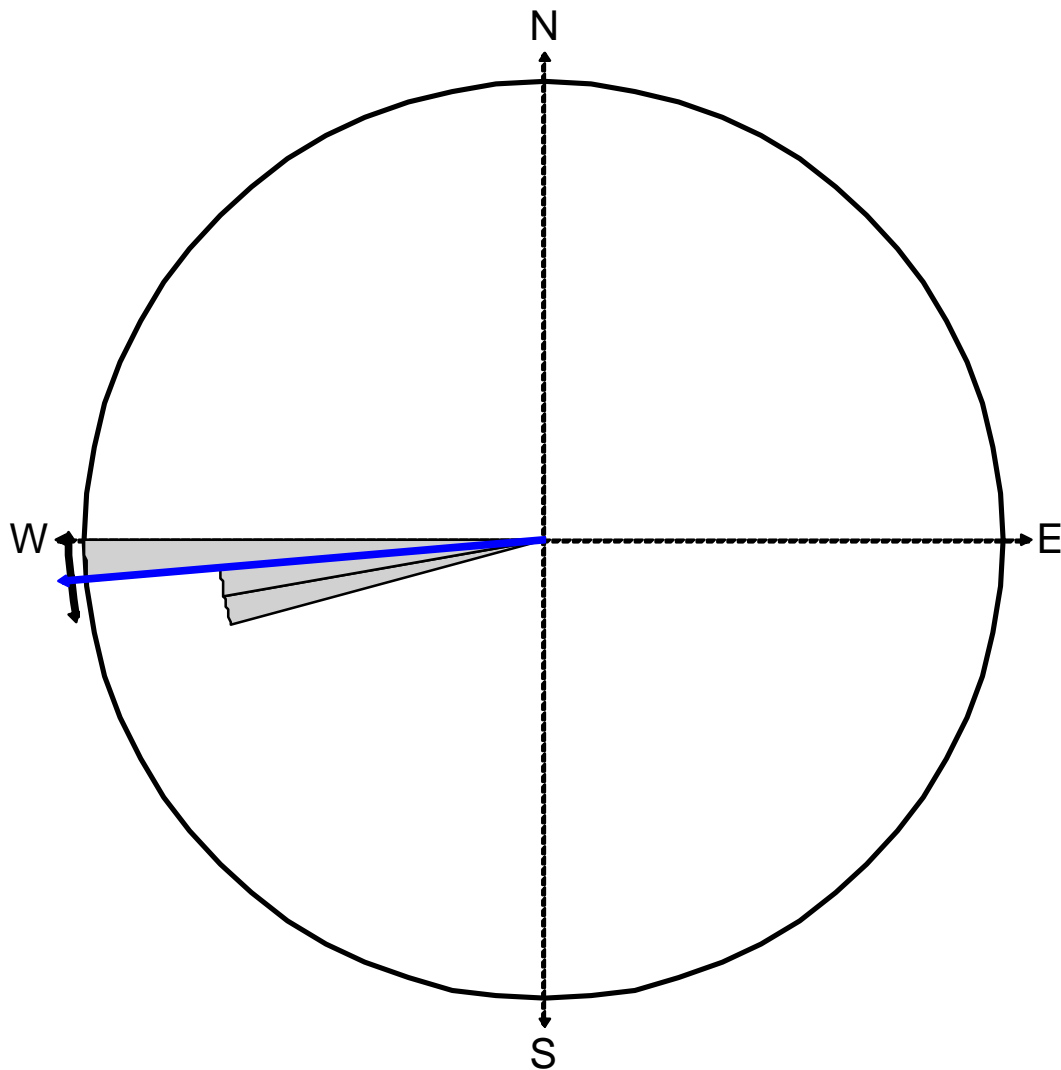
**NOTES**

- FORMER SITE FEATURES ARE IN APPROXIMATE LOCATIONS
- GROUNDWATER ELEVATION DATA WERE COLLECTED ON JUNE 12, 2012
- GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 8.0



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	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: TLF	DATE: 07/03/12



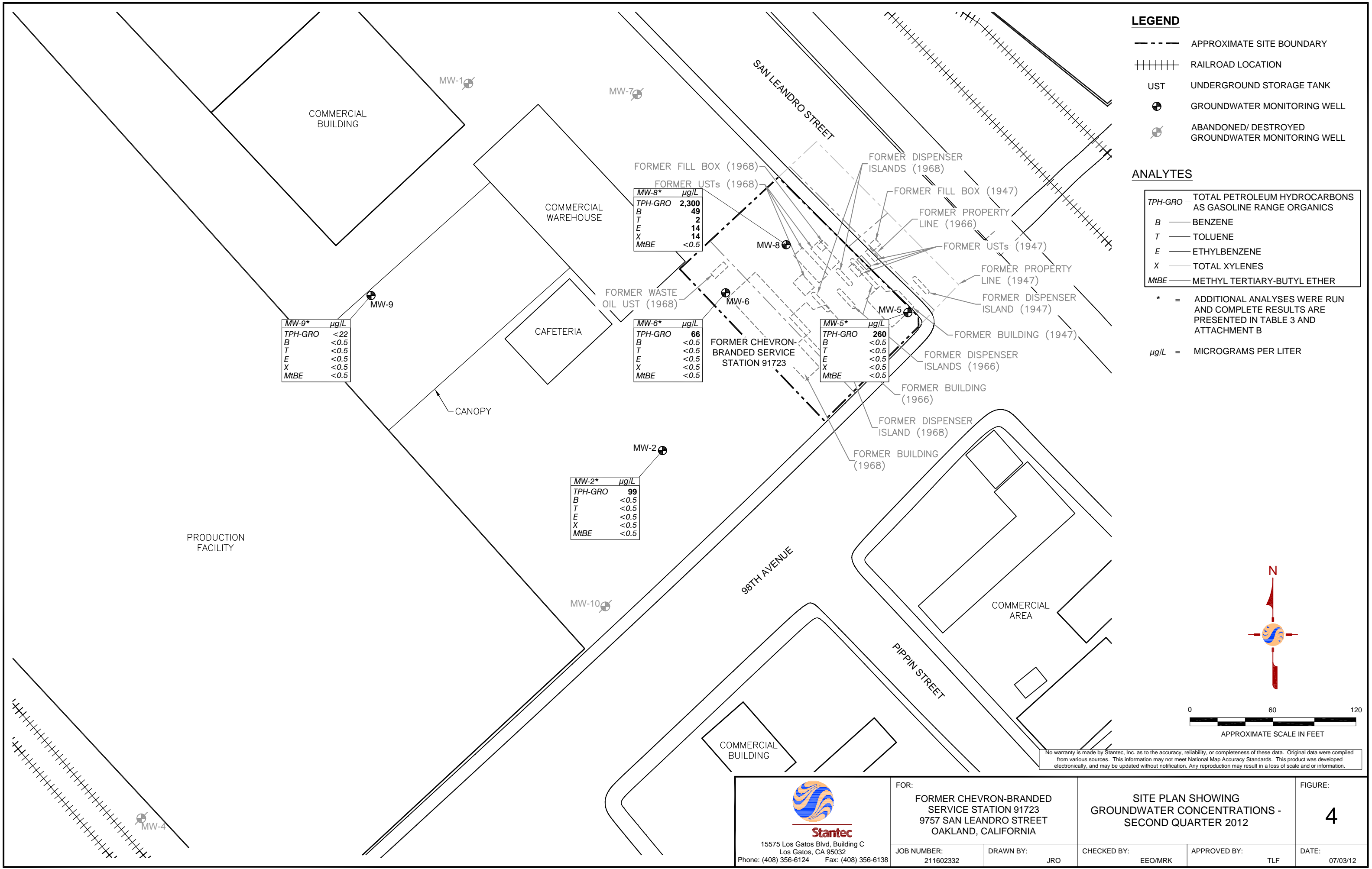
Equal Area Plot

Number of Points 4  
 Class Size 5  
 Vector Mean 265.00  
 Vector Magnitude 3.98  
 Consistency Ratio 1.00

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

 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA		ROSE DIAGRAM - SECOND QUARTER 2012		FIGURE:  <b>3</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: TLF	DATE: 07/03/12





**LEGEND**

- APPROXIMATE SITE BOUNDARY
- ++++ RAILROAD LOCATION
- 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

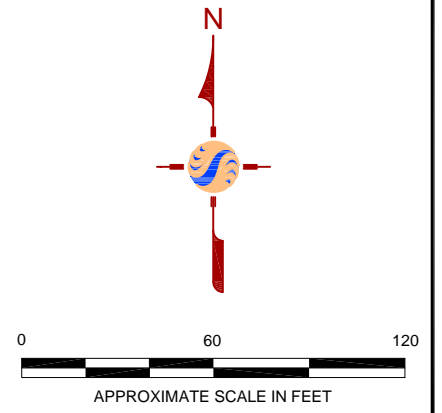
MW-9*	µg/L
TPH-GRO	<22
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

MW-8*	µg/L
TPH-GRO	2,300
B	49
T	2
E	14
X	14
MtBE	<0.5

MW-6*	µg/L
TPH-GRO	66
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

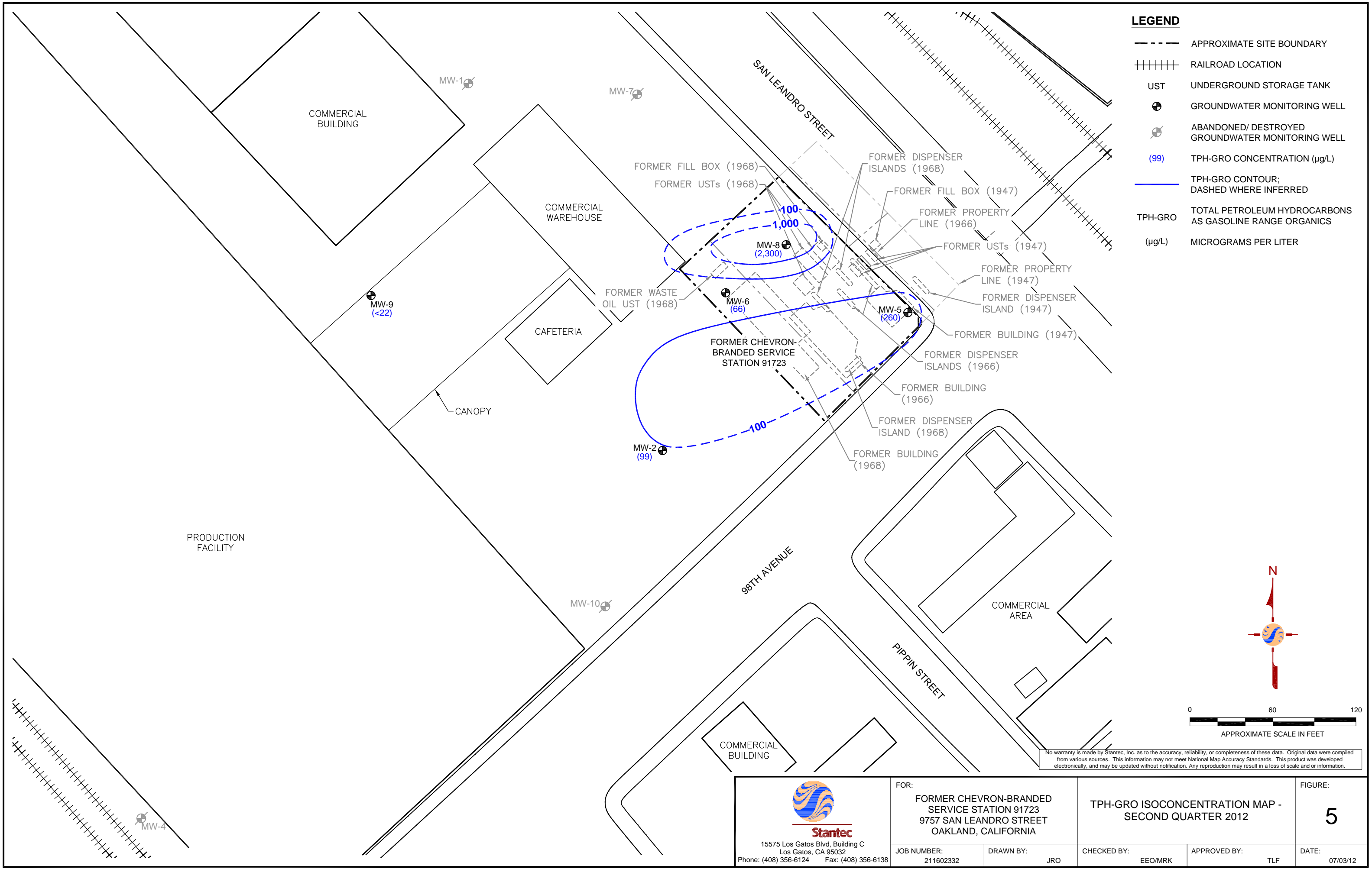
MW-5*	µg/L
TPH-GRO	260
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

MW-2*	µg/L
TPH-GRO	99
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

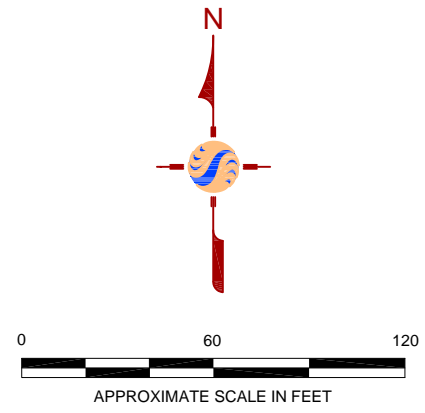


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 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA	SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - SECOND QUARTER 2012		FIGURE: <b>4</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: TLF



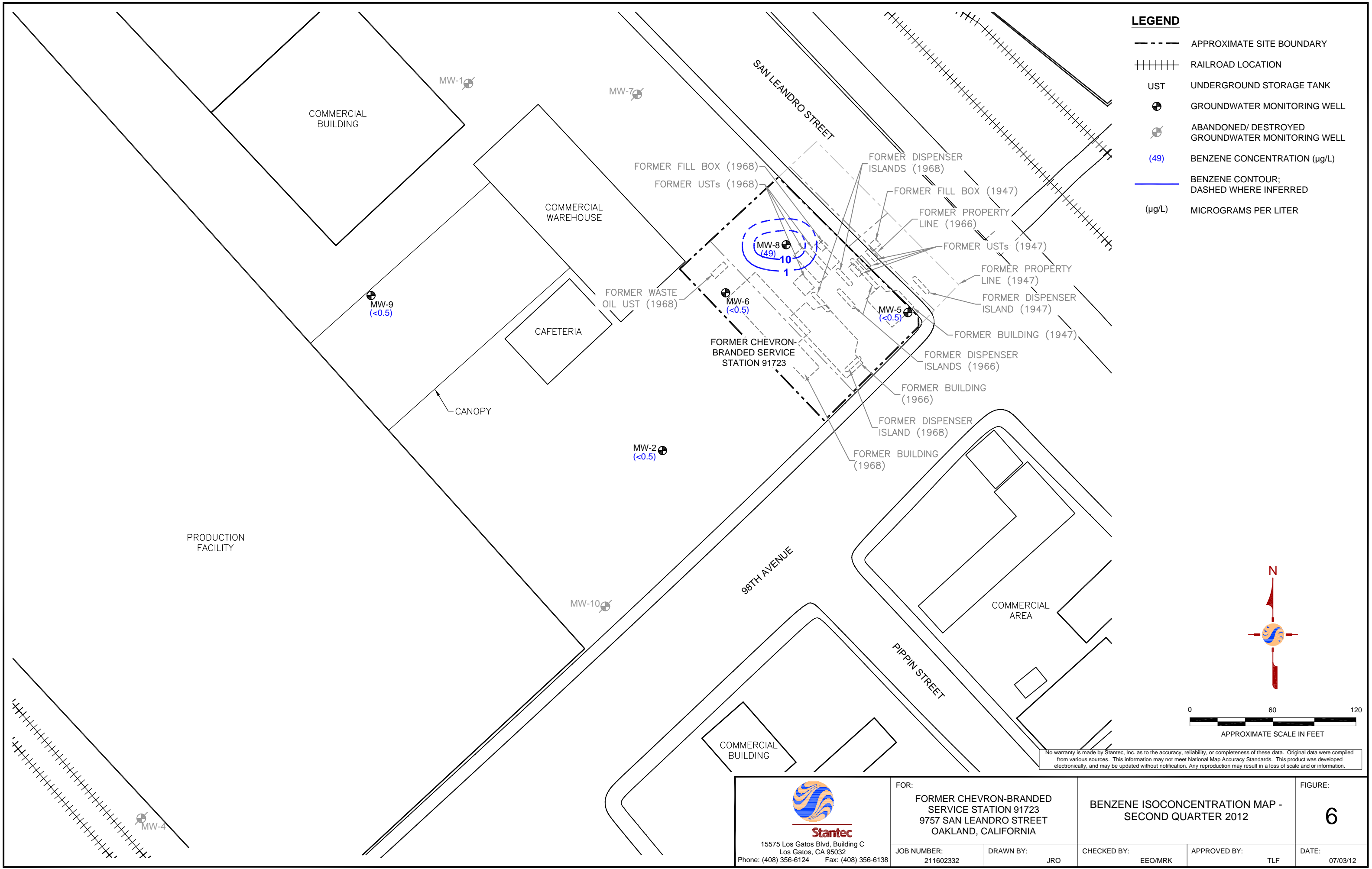
- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - ++++ RAILROAD LOCATION
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊕ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
  - (99) TPH-GRO CONCENTRATION (µg/L)
  - TPH-GRO CONTOUR; DASHED WHERE INFERRED
  - TPH-GRO TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS (µg/L)
  - (µg/L) MICROGRAMS PER LITER



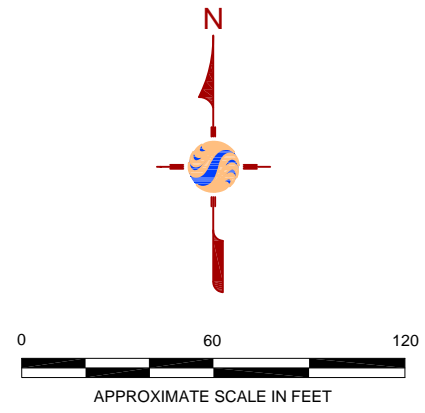
No warranty is made by Stantec, Inc. as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any reproduction may result in a loss of scale and/or information.

 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723</b> <b>9757 SAN LEANDRO STREET</b> <b>OAKLAND, CALIFORNIA</b>		<b>TPH-GRO ISOCONCENTRATION MAP -</b> <b>SECOND QUARTER 2012</b>		<b>FIGURE:</b> <b>5</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: TLF	DATE: 07/03/12






- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - ++++ RAILROAD LOCATION
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊕ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
  - (49) BENZENE CONCENTRATION (µg/L)
  - BENZENE CONTOUR; DASHED WHERE INFERRED
  - (µg/L) MICROGRAMS PER LITER



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 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723</b> <b>9757 SAN LEANDRO STREET</b> <b>OAKLAND, CALIFORNIA</b>		<b>BENZENE ISOCONCENTRATION MAP -</b> <b>SECOND QUARTER 2012</b>		FIGURE: <b>6</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: TLF	DATE: 07/03/12

## **Attachment A**

### **Blaine Tech Groundwater Monitoring Report – Second Quarter 2012**



June 19, 2012

Chevron Environmental Management Company  
Dave Patten  
6111 Bollinger Canyon Rd.  
San Ramon, CA 94583

Second Quarter 2012 Monitoring at  
Chevron Service Station 91723  
9757 San Leandro Blvd.  
Oakland, CA

Monitoring performed on June 12, 2012

---

**Blaine Tech Services, Inc. Groundwater Monitoring Event 120612-PH2**

This submission covers the routine monitoring of groundwater wells conducted on June 12, 2012 at this location. Five monitoring wells were measured for depth to groundwater (DTW). Five monitoring wells were sampled. All sampling activities were performed in accordance with local, state and federal guidelines.

Water levels measurements were collected using an electronic slope indicator. All sampled wells were purged of three case volumes, depending on well recovery, or until water temperature, pH and conductivity stabilized. Purging was accomplished using electric submersible pumps, positive air-displacement pumps or stainless steel, Teflon or disposable bailers. Subsequent sample collection and sample handling was performed in accordance with EPA protocols using disposable bailers. Alternately, where applicable, wells were sampled utilizing no-purge methodology. All reused equipment was decontaminated in an integrated stainless steel sink with de-ionized water supplied Hotsy pressure washer and Liquinox or equivalent.

Second Quarter Groundwater Monitoring at Chevron 91723, 9757 San Leandro Blvd., Oakland, CA

SAN JOSE

SACRAMENTO

LOS ANGELES

SAN DIEGO

1680 ROGERS AVENUE

SAN JOSE, CA 95112-1105

(408) 573-0555

FAX (408) 573-7771

LIC. 746684

[www.blainetech.com](http://www.blainetech.com)

Samples were delivered under chain-of-custody to Lancaster Laboratories of Lancaster, Pennsylvania, for analysis. Monitoring well purgewater and equipment rinsate water was collected and transported under bill-of-lading to IWM facilities of San Jose, California.

Enclosed documentation from this event includes copies of the Well Gauging Sheet, Well Monitoring Data Sheets, and Chain-of-Custody.

Blaine Tech Services, Inc.'s activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrogeologic conditions or formulation of recommendations was performed.

Please call if you have any questions.

Sincerely,



Dustin Becker  
Blaine Tech Services, Inc.  
Senior Project Manager

attachments: SOP  
Well Gauging Sheet  
Individual Well Monitoring Data Sheets  
Chain of Custody  
Wellhead Inspection Form  
Bill of Lading  
Calibration Log

cc: Stantec  
Attn: Travis Flora  
15575 Los Gatos Blvd Building C  
Los Gatos, CA 95032

Second Quarter Groundwater Monitoring at Chevron 91723, 9757 San Leandro Blvd., Oakland, CA

SAN JOSE

SACRAMENTO

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# BLAINE TECH SERVICES, INC. METHODS AND PROCEDURES FOR THE ROUTINE MONITORING OF GROUNDWATER WELLS AT CHEVRON SITES

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. We specialize in groundwater monitoring assignments and intentionally limit the scope of our services to those centered on the generation of objective information.

To avoid conflicts of interest, Blaine Tech Services, Inc. personnel do not evaluate or interpret the information we collect. As a state licensed contractor (C-57 well drilling –water – 746684) performing strictly technical services, we do not make any professional recommendations and perform no consulting of any kind.

---

## SAMPLING PROCEDURES OVERVIEW

### SAFETY

All groundwater monitoring assignments performed for Chevron comply with Chevron's safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40-hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any Chevron site.

### INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic water level indicators that are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of immiscibles. When free product is suspected, its presence is confirmed using an electronic interface probe (e.g. GeoTech). No samples are collected from a well containing over two-hundredths of a foot (0.02') of product.

### EVACUATION

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be

evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well.

## PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

## DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewateres and does not immediately recharge.

## MEASURING RECHARGE

Upon completion of well purging, a depth to water measurement is collected and notated to ensure that the well has recharged to within 80% of its static, pre-purge level prior to sampling.

Wells that do not immediately show 80% recharge or dewatered wells will be allowed approximately 2 hours to recharge prior to sampling or will be sampled at site departure. All wells requiring off-site traffic control in the public right-of-way, the 80% recharge rule may be disregarded in the interests of Health and Safety. The sample may be collected as soon as there is sufficient water. The water level at time of sampling will be noted.

## PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non-hazardous purgewater is transported under standard Bill of Lading documentation to a Blaine Tech Services, Inc. facility before being transported to a Chevron approved disposal facility.



## SAMPLE COLLECTION DEVICES

All samples are collected using disposable bailers.

## SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory that will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

## TRIP BLANKS

Trip Blanks, if requested, are taken to the site and kept inside the sample cooler for the duration of the event. They are turned over to the laboratory for analysis with the samples from that site.

## DUPLICATES

Duplicates, if requested, may be collected at a site. The Duplicate sample is collected, typically from the well containing the most measurable contaminants. The Duplicate sample is labeled the same as the original.

## SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the designated analytical laboratory. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

## DOCUMENTATION CONVENTIONS

A label must be affixed to all sample containers. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the store number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time and date of sample collection along with the initials of the person who collects the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

## DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer that is then operated with high quality deionized water that is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation (U.S. Patent 5,535,775) that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, water level indicator, etc.) that cannot be washed using the high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

## DISSOLVED OXYGEN READINGS

Dissolved Oxygen readings are taken pre- and/or post-purge using YSI meters (e.g. YSI Model 550) or HACH field test kits.

The YSI meters are able to collect accurate in-situ readings. The probe allows downhole measurements to be taken from wells with diameters as small as two inches. The probe and reel is decontaminated between wells as described above. The meter is calibrated between wells as per the instructions in the operating manual. The probe is lowered into the water column and the reading is allowed to stabilize prior to collection.

## OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual.

## FERROUS IRON MEASUREMENTS

All field measurements are collected at time of sampling with a HACH test kit.

## WELL GAUGING DATA

Project # 120612-PH2 Date 6/12/12 Client Chevron

Site 9757 San Leandro St., Oakland

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-2	1220	2					9.58	21.52	↓	
MW-5	1228	2				9.65	17.55			
MW-6	1224	2				9.76	19.56			
MW-8	1232	2				9.90	18.13			
MW-9	1215	4				9.14	20.12	↓		

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120612-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>6/12/12</u>
Weather: <u>sunny</u>	Ambient Air Temperature: <u>75°F</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth: <u>21.52</u>	Depth to Water: <u>9.58</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.96</u>	

Purge Method:

- Bailer
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other \_\_\_\_\_

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: \_\_\_\_\_

<u>1.9</u> (Gals.) X	<u>3</u>	= <u>5.7</u> Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>1310</u>	<u>68.2</u>	<u>7.7</u>	<u>833</u>	<u>&gt;1000</u>	<u>2</u>	
<u>1313</u>	<u>67.6</u>	<u>7.10</u>	<u>899</u>	<u>&gt;1000</u>	<u>4</u>	
<u>1316</u>	<u>68.1</u>	<u>7.1</u>	<u>892</u>	<u>&gt;1000</u>	<u>6</u>	

Did well dewater? Yes  No Gallons actually evacuated: 6

Sampling Date: 6/12/12 Sampling Time: 1320 ~~1310~~ Depth to Water: 9.68

Sample I.D.: MW-2 Laboratory: Lancaster Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE OXYS Other See box

Duplicate I.D.: Analyzed for: TPH-G BTEX MTBE OXYS Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.86 mg/L
	O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: 135 mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120612-PL12</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>6/12/12</u>
Weather: <u>Sunny</u>	Ambient Air Temperature: <u>75°F</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>3</u> 3 4 6 8 _____
Total Well Depth: <u>17.55</u>	Depth to Water: <u>9.65</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.23</u>	

Purge Method: Bailer      Waterra      Sampling Method: Bailer  
Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing  
 Other: \_\_\_\_\_

1.3 (Gals.) X 3 = 3.8 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1400</u>	<u>67.3</u>	<u>7.6</u>	<u>821</u>	<u>&gt;1000</u>	<u>1.5</u>	
<u>1402</u>	<u>67.0</u>	<u>7.4</u>	<u>819</u>	<u>&gt;1000</u>	<u>2.7</u>	
<u>1405</u>	<u>66.4</u>	<u>7.4</u>	<u>820</u>	<u>&gt;1000</u>	<u>4.0</u>	

Did well dewater?    Yes      No      Gallons actually evacuated: 4

Sampling Date: 6/12/12    Sampling Time: 1410    Depth to Water: 9.70

Sample I.D.: MW-5      Laboratory: Kancaster    Other \_\_\_\_\_

Analyzed for:    TPH-G    BTEX    MTBE    OXYS    Other    See CO2

Duplicate I.D.:      Analyzed for:    TPH-G    BTEX    MTBE    OXYS    Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>0.87</u> mg/L
	O.R.P. (if req'd):	mV	Post-purge:	<u>124</u> mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120612-P42</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>6/12/12</u>
Weather: <u>Sunny</u>	Ambient Air Temperature: <u>75°F</u>
Well I.D.: <u>MW-6</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth: <u>19.56</u>	Depth to Water: <u>9.76</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.72</u>	

Purge Method: Bailer      Waterra      Disposable Bailer  
 Bailer      Disposable Bailer      Peristaltic      Extraction Port  
 Positive Air Displacement      Extraction Pump      Dedicated Tubing  
 Electric Submersible      Other \_\_\_\_\_      Other: \_\_\_\_\_

<u>1.6</u> (Gals.) X	<u>3</u>	=	<u>4.7</u> Gals.
1 Case Volume	Specified Volumes	Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1335</u>	<u>68.9</u>	<u>7.6</u>	<u>890</u>	<u>&gt;1000</u>	<u>1.7</u>	
<u>1337</u>	<u>67.9</u>	<u>7.3</u>	<u>892</u>	<u>&gt;1000</u>	<u>3.5</u>	
<u>1340</u>	<u>68.1</u>	<u>7.3</u>	<u>888</u>	<u>&gt;1000</u>	<u>4.7</u>	

Did well dewater?    Yes    No    Gallons actually evacuated: 4.7

Sampling Date: 6/12/12    Sampling Time: 1345    Depth to Water: 9.84

Sample I.D.: MW-6    Laboratory: Lancaster    Other \_\_\_\_\_

Analyzed for:    TPH-G    BTEX    MTBE    OXYS    Other: See lab

Duplicate I.D.:    Analyzed for:    TPH-G    BTEX    MTBE    OXYS    Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>0.84</u> mg/L
	O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: <u>115</u> mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120612-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>6/12/12</u>
Weather: <u>SUNNY</u>	Ambient Air Temperature: <u>75.6F</u>
Well I.D.: <u>MW-8</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth: <u>18.13</u>	Depth to Water: <u>9.90</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.54</u>	

Purge Method:

- Bailer
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other \_\_\_\_\_

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

Other: \_\_\_\_\_

<u>1.3</u> (Gals.) X	<u>3</u> Specified Volumes	<u>= 3.9</u> Gals. Calculated Volume
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Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1425</u>	<u>67.2</u>	<u>7.6</u>	<u>849</u>	<u>&gt;1000</u>	<u>1.5</u>	<u>shear odor</u>
<u>1427</u>	<u>66.2</u>	<u>7.3</u>	<u>852</u>	<u>&gt;1000</u>	<u>2.6</u>	
<u>1430</u>	<u>66.0</u>	<u>7.3</u>	<u>856</u>	<u>&gt;1000</u>	<u>4.0</u>	

Did well dewater? Yes  No  Gallons actually evacuated: 4

Sampling Date: 6/12/12 Sampling Time: 1435 Depth to Water: 9.97

Sample I.D.: MW-8 Laboratory: Lancaster Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE OXYS Other See CO2

Duplicate I.D.: \_\_\_\_\_ Analyzed for: TPH-G BTEX MTBE OXYS Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge: _____ mg/L	Post-purge: <u>0.98</u> mg/L
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O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: <u>47</u> mV
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## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120612-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>6/12/12</u>
Weather: <u>Sunny</u>	Ambient Air Temperature: <u>75°F</u>
Well I.D.: <u>MW-9</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>20.12</u>	Depth to Water: <u>9.14</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.33</u>	

Purge Method:

- Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

<u>7.1</u> (Gals.) X	<u>3</u>	= <u>21.4</u> Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>1240</u>	<u>68.4</u>	<u>7.7</u>	<u>857</u>	<u>205</u>	<u>7.5</u>	
<u>1242</u>	<u>65.4</u>	<u>7.4</u>	<u>835</u>	<u>80</u>	<u>14.5</u>	
<u>1245</u>	<u>65.7</u>	<u>7.4</u>	<u>850</u>	<u>33</u>	<u>21.5</u>	

Did well dewater? Yes   No Gallons actually evacuated: 21.5

Sampling Date: 6/12/12 Sampling Time: 1250 Depth to Water: 9.14

Sample I.D.: MW-9 Laboratory: Lancaster Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE OXYS Other: See CDC

Duplicate I.D.: Analyzed for: TPH-G BTEX MTBE OXYS Other:

D.O. (if req'd):	Pre-purge:	mg/l	Post-purge:	0.92	mg/l
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O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	128	mV
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CHAIN OF CUSTODY FORM

Chevron Environmental Management Company ■ 6111 Bollinger Canyon Rd. ■ San Ramon, CA 94583

COC 1 of 1

Chevron Site Number: 91723  
 Chevron Site Global ID: T0600101789  
 Chevron Site Address: 9757 San Leandro St., Oakland, CA  
 Chevron PM: DAVE PATTEN  
 Chevron PM Phone No.: (925)543-1740  
 Retail and Terminal Business Unit (RTBU) Job  
 Construction/Retail Job

Chevron Consultant: STANTEC  
 Address: 15575 Los Gatos Blvd., Bldg. C, Los Gatos, CA  
 Consultant Contact: Travis Flora  
 Consultant Phone No. 408-356-6124  
 Consultant Project No. 120612-PHZ  
 Sampling Company: Blaine Tech Services  
 Sampled By (Print): Patrick Huron  
 Sampler Signature: [Signature]

ANALYSES REQUIRED

Analysis Code	Analysis Name	Requested
H	Preservation Codes	<input type="checkbox"/>
	H = HCL T = Thioculfate	
	N = HNO <sub>3</sub> B = NaOH	
	S = H <sub>2</sub> SO <sub>4</sub> O = Other	
	acc# 10869	
	Cap # 1315333	
	Sample # 0685302-07	
	Special Instructions	
	Must meet lowest detection limits possible for 8260 Compounds	
	Notes/Comments	
	Sulfide, Nitrate, Nitrite, Methane, Fe <sup>2+</sup>	
EPA 8260B/GC/MS	TPH-G	<input checked="" type="checkbox"/>
	BTEX	<input checked="" type="checkbox"/>
	MIBEX	<input type="checkbox"/>
	OXYGENATES	<input type="checkbox"/>
	HVOC	<input type="checkbox"/>
EPA 8015B	GRO	<input type="checkbox"/>
	DRO	<input type="checkbox"/>
	ORO	<input type="checkbox"/>
	HC SCREEN	<input type="checkbox"/>
EPA 8021B	BTEX	<input type="checkbox"/>
	MTBE	<input type="checkbox"/>
EPA 6010	Ca, Fe, K, Mg, Mn, Na	<input type="checkbox"/>
EPA 6010/7000	TITLE 22 METALS	<input type="checkbox"/>
	TLC	<input type="checkbox"/>
	STLC	<input type="checkbox"/>
EPA 150.1	PH	<input checked="" type="checkbox"/>
SM2510B	SPECIFIC CONDUCTIVITY	<input type="checkbox"/>
EPA 418.1	TRPH	<input type="checkbox"/>
EPA 8260	ETHANOL	<input type="checkbox"/>
EPA 8015	TPH-D	<input type="checkbox"/>
	EPA 413.1 OIL & GREASE	<input type="checkbox"/>

Charge Code: NWRTB 00SITE NUMBER-0-WBS  
**(WBS ELEMENTS):**  
 SITE ASSESSMENT: A1L REMEDIATION IMPLEMENTATION: R5L  
 SITE MONITORING: OML OPERATION MAINTENANCE & MONITORING: M1L  
 THIS IS A LEGAL DOCUMENT. ALL FIELDS MUST BE FILLED OUT CORRECTLY AND COMPLETELY.

**Lancaster Laboratories**  
 Lancaster, PA  
 Lab Contact: Jill Parker  
 2425 New Holland Pike, Lancaster, PA 17601  
 Phone No: (717)656-2300

Other Lab	Temp. Blank Check Time	Temp.
	1200	406
	1200	406
	1400	406

SAMPLE ID				Sample Time	# of Containers	Container Type
Field Point Name	Matrix	Top Depth	Date (yyymmdd)			
MW-2	W		120612	1320	13	Various
MW-5			120612	1410		
MW-6			120612	1345		
MW-8			120612	1435		
MW-9	↓		120612	1250	↓	↓
QA	T		120612	1200	2	H2 Vol

Relinquished By: <u>[Signature]</u>	Company: <u>BTS</u>	Date/Time: <u>6/12/12 1500</u>	Relinquished To: <u>[Signature]</u>	Company: <u>LLI</u>	Date/Time: <u>6/12/12 1500</u>	Turnaround Time: Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Other <input type="checkbox"/>
Relinquished By: <u>[Signature]</u>	Company: <u>LLI</u>	Date/Time: <u>6/12/12 1600</u>	Relinquished To: <u>[Signature]</u>	Company: <u>FE</u>	Date/Time: <u></u>	Sample Integrity: (Check by lab on arrival)
Relinquished By: <u>[Signature]</u>	Company: <u>LLI</u>	Date/Time: <u></u>	Relinquished To: <u>[Signature]</u>	Company: <u>LLI</u>	Date/Time: <u></u>	Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> Temp: <u>43</u> COC #

6-13-12 0920







## **Attachment B**

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

## ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

Prepared for:

ChevronTexaco  
L4310  
6001 Bollinger Canyon Rd.  
San Ramon CA 94583

June 22, 2012

Project: 91723

Submittal Date: 06/13/2012  
Group Number: 1315333  
PO Number: 0015101071  
Release Number: HORNE  
State of Sample Origin: CAClient Sample DescriptionMW-2-W-120612 NA Water  
MW-5-W-120612 NA Water  
MW-6-W-120612 NA Water  
MW-8-W-120612 NA Water  
MW-9-W-120612 NA Water  
QA-T-120612 NA WaterLancaster Labs (LL) #6685302  
6685303  
6685304  
6685305  
6685306  
6685307

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

ELECTRONIC     Stantec  
COPY TO  
ELECTRONIC     Stantec  
COPY TO  
ELECTRONIC     Stantec  
COPY TO  
ELECTRONIC     Stantec  
COPY TO

Attn: Laura Viesselman

Attn: Travis Flora

Attn: Erin O'Malley

Attn: Marisa Patterson

Respectfully Submitted,



Jill M. Parker  
Senior Specialist

(717) 556-7262

**Sample Description:** MW-2-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-2

**LLI Sample #** WW 6685302  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 13:20 by PH ChevronTexaco  
 L4310  
 Submitted: 06/13/2012 09:20 6001 Bollinger Canyon Rd.  
 Reported: 06/22/2012 20:38 San Ramon CA 94583

SLO02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B ug/l</b>					
10945	Benzene	71-43-2	N.D.	0.5	1
10945	C6-C12-TPH-GRO	n.a.	99	22	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
<b>GC Miscellaneous SW-846 8015B modified ug/l</b>					
07105	Methane	74-82-8	300	5.0	1
<b>Wet Chemistry EPA 300.0 ug/l</b>					
00368	Nitrate Nitrogen	14797-55-8	290	250	5
00228	Sulfate	14808-79-8	12,900	1,500	5
<b>SM20 2320 B ug/l as CaCO3</b>					
12150	Total Alkalinity	n.a.	460,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
<b>SM20 3500 Fe B modified ug/l</b>					
08344	Ferrous Iron	n.a.	1,400	50	5
<b>SM20 4500 S2 D ug/l</b>					
00230	Sulfide	18496-25-8	N.D.	220	4
Reporting limits were raised due to interference from the sample matrix.					

### 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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 19:39	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 19:39	Michael A Ziegler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	121720017A	06/20/2012 22:41	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	12165655901B	06/13/2012 21:44	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	12165655901B	06/13/2012 21:44	Clinton M Wilson	5
12150	Total Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:07	Michele L Graham	1



**Sample Description:** MW-2-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-2

**LLI Sample #** WW 6685302  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 13:20 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO02

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12707	Phenolphthalein Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:07	Michele L Graham	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	12166834401A	06/14/2012 21:30	Daniel S Smith	5
00230	Sulfide	SM20 4500 S2 D	1	12170023001A	06/18/2012 11:00	Susan E Hibner	4

**Sample Description:** MW-5-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-5

**LLI Sample #** WW 6685303  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 14:10 by PH ChevronTexaco  
 L4310  
 Submitted: 06/13/2012 09:20 6001 Bollinger Canyon Rd.  
 Reported: 06/22/2012 20:38 San Ramon CA 94583

SLO05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B ug/l</b>					
10945	Benzene	71-43-2	N.D.	0.5	1
10945	C6-C12-TPH-GRO	n.a.	260	22	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
<b>GC Miscellaneous SW-846 8015B modified ug/l</b>					
07105	Methane	74-82-8	120	5.0	1
<b>Wet Chemistry EPA 300.0 ug/l</b>					
00368	Nitrate Nitrogen	14797-55-8	890	250	5
00228	Sulfate	14808-79-8	44,800	1,500	5
<b>SM20 2320 B ug/l as CaCO3</b>					
12150	Total Alkalinity	n.a.	387,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
<b>SM20 3500 Fe B modified ug/l</b>					
08344	Ferrous Iron	n.a.	7,300	250	25
<b>SM20 4500 S2 D ug/l</b>					
00230	Sulfide	18496-25-8	N.D.	220	4
Reporting limits were raised due to interference from the sample matrix.					

### 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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 20:52	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 20:52	Michael A Ziegler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	121720017A	06/20/2012 23:34	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	12165655901B	06/13/2012 21:30	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	12165655901B	06/13/2012 21:30	Clinton M Wilson	5
12150	Total Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:13	Michele L Graham	1

**Sample Description:** MW-5-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-5

**LLI Sample #** WW 6685303  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 14:10 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO05

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12707	Phenolphthalein Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:13	Michele L Graham	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	12166834401A	06/14/2012 21:30	Daniel S Smith	25
00230	Sulfide	SM20 4500 S2 D	1	12170023001A	06/18/2012 11:00	Susan E Hibner	4

**Sample Description:** MW-6-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-6

**LLI Sample #** WW 6685304  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 13:45 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B ug/l</b>					
10945	Benzene	71-43-2	N.D.	0.5	1
10945	C6-C12-TPH-GRO	n.a.	66	22	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
<b>GC Miscellaneous SW-846 8015B modified ug/l</b>					
07105	Methane	74-82-8	190	5.0	1
<b>Wet Chemistry EPA 300.0 ug/l</b>					
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	6,300	1,500	5
<b>SM20 2320 B ug/l as CaCO3</b>					
12150	Total Alkalinity	n.a.	458,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
<b>SM20 3500 Fe B modified ug/l</b>					
08344	Ferrous Iron	n.a.	4,700	250	25
<b>SM20 4500 S2 D ug/l</b>					
00230	Sulfide	18496-25-8	N.D.	110	2
Reporting limits were raised due to interference from the sample matrix.					

### 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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 21:16	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 21:16	Michael A Ziegler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	121720017A	06/20/2012 23:52	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	12165655901B	06/13/2012 21:16	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	12165655901B	06/13/2012 21:16	Clinton M Wilson	5
12150	Total Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:20	Michele L Graham	1

**Sample Description:** MW-6-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-6

**LLI Sample #** WW 6685304  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 13:45 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO06

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12707	Phenolphthalein Alkalinity	SM20 2320 B	1	12171002203A	06/19/2012 19:20	Michele L Graham	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	12166834401A	06/14/2012 21:30	Daniel S Smith	25
00230	Sulfide	SM20 4500 S2 D	1	12170023001A	06/18/2012 11:00	Susan E Hibner	2

**Sample Description:** MW-8-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-8

**LLI Sample #** WW 6685305  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 14:35 by PH ChevronTexaco  
 L4310  
 Submitted: 06/13/2012 09:20 6001 Bollinger Canyon Rd.  
 Reported: 06/22/2012 20:38 San Ramon CA 94583

SLO08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles</b>			<b>SW-846 8260B</b>	<b>ug/l</b>	
10945	Benzene	71-43-2	49	0.5	1
10945	C6-C12-TPH-GRO	n.a.	2,300	22	1
10945	Ethylbenzene	100-41-4	14	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	2	0.5	1
10945	Xylene (Total)	1330-20-7	14	0.5	1
<b>GC Miscellaneous</b>			<b>SW-846 8015B modified</b>	<b>ug/l</b>	
07105	Methane	74-82-8	1,700	50	10
<b>Wet Chemistry</b>			<b>EPA 300.0</b>	<b>ug/l</b>	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	9,200	1,500	5
			<b>SM20 2320 B</b>	<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	441,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
			<b>SM20 3500 Fe B modified</b>	<b>ug/l</b>	
08344	Ferrous Iron	n.a.	43,200	1,000	100
			<b>SM20 4500 S2 D</b>	<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	220	4
Reporting limits were raised due to interference from the sample matrix.					

### 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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 21:40	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 21:40	Michael A Ziegler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	121720017A	06/21/2012 16:58	Elizabeth J Marin	10
00368	Nitrate Nitrogen	EPA 300.0	1	12165655901B	06/13/2012 21:02	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	12165655901B	06/13/2012 21:02	Clinton M Wilson	5
12150	Total Alkalinity	SM20 2320 B	1	12171002203B	06/19/2012 19:37	Michele L Graham	1

**Sample Description:** MW-8-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-8

**LLI Sample #** WW 6685305  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 14:35 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO08

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12707	Phenolphthalein Alkalinity	SM20 2320 B	1	12171002203B	06/19/2012 19:37	Michele L Graham	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	12166834401A	06/14/2012 21:30	Daniel S Smith	100
00230	Sulfide	SM20 4500 S2 D	1	12170023002A	06/18/2012 15:45	Susan E Hibner	4

**Sample Description:** MW-9-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-9

**LLI Sample #** WW 6685306  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 12:50 by PH ChevronTexaco  
 L4310  
 Submitted: 06/13/2012 09:20 6001 Bollinger Canyon Rd.  
 Reported: 06/22/2012 20:38 San Ramon CA 94583

SLO09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	C6-C12-TPH-GRO	n.a.	N.D.	22	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
<b>GC Miscellaneous SW-846 8015B modified</b>			ug/l	ug/l	
07105	Methane	74-82-8	N.D.	5.0	1
<b>Wet Chemistry EPA 300.0</b>			ug/l	ug/l	
00368	Nitrate Nitrogen	14797-55-8	2,900	250	5
00228	Sulfate	14808-79-8	32,900	1,500	5
<b>SM20 2320 B</b>			ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	397,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
<b>SM20 3500 Fe B modified</b>			ug/l	ug/l	
08344	Ferrous Iron	n.a.	340	10	1
<b>SM20 4500 S2 D</b>			ug/l	ug/l	
00230	Sulfide	18496-25-8	N.D.	54	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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 22:04	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 22:04	Michael A Ziegler	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	121720017A	06/21/2012 16:23	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	12165655901B	06/13/2012 20:48	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	12165655901B	06/13/2012 20:48	Clinton M Wilson	5
12150	Total Alkalinity	SM20 2320 B	1	12171002203B	06/19/2012 19:43	Michele L Graham	1



**Sample Description:** MW-9-W-120612 NA Water  
**Facility#** 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-9

**LLI Sample #** WW 6685306  
**LLI Group #** 1315333  
**Account #** 10869

**Project Name:** 91723

Collected: 06/12/2012 12:50 by PH

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLO09

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12707	Phenolphthalein Alkalinity	SM20 2320 B	1	12171002203B	06/19/2012 19:43	Michele L Graham	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	12166834401A	06/14/2012 21:30	Daniel S Smith	1
00230	Sulfide	SM20 4500 S2 D	1	12170023002A	06/18/2012 15:45	Susan E Hibner	1

Sample Description: QA-T-120612 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789 QA

LLI Sample # WW 6685307  
LLI Group # 1315333  
Account # 10869

Project Name: 91723

Collected: 06/12/2012 12:00

ChevronTexaco

L4310

Submitted: 06/13/2012 09:20

6001 Bollinger Canyon Rd.

Reported: 06/22/2012 20:38

San Ramon CA 94583

SLOQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			<b>ug/l</b>	<b>ug/l</b>	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	C6-C12-TPH-GRO	n.a.	N.D.	22	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

### 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
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z121712AA	06/19/2012 22:28	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z121712AA	06/19/2012 22:28	Michael A Ziegler	1

## Quality Control Summary

Client Name: ChevronTexaco  
Reported: 06/22/12 at 08:38 PM

Group Number: 1315333

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: Z121712AA	Sample number(s): 6685302-6685307							
Benzene	N.D.	0.5	ug/l	92		77-121		
C6-C12-TPH-GRO	N.D.	22.	ug/l	151	150	80-160	1	30
Ethylbenzene	N.D.	0.5	ug/l	99		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	93		68-121		
Toluene	N.D.	0.5	ug/l	107		79-120		
Xylene (Total)	N.D.	0.5	ug/l	103		77-120		
Batch number: 121720017A	Sample number(s): 6685302-6685306							
Methane	N.D.	5.0	ug/l	90		80-120		
Batch number: 12165655901B	Sample number(s): 6685302-6685306							
Nitrate Nitrogen	N.D.	50.	ug/l	108		90-110		
Sulfate	N.D.	300.	ug/l	106		90-110		
Batch number: 12166834401A	Sample number(s): 6685302-6685306							
Ferrous Iron	N.D.	10.	ug/l	99		93-105		
Batch number: 12170023001A	Sample number(s): 6685302-6685304							
Sulfide	N.D.	54.	ug/l	109		90-110		
Batch number: 12170023002A	Sample number(s): 6685305-6685306							
Sulfide	N.D.	54.	ug/l	104		90-110		
Batch number: 12171002203A	Sample number(s): 6685302-6685304							
Total Alkalinity	N.D.	700.	ug/l as CaCO3	99		90-110		
Batch number: 12171002203B	Sample number(s): 6685305-6685306							
Total Alkalinity	N.D.	700.	ug/l as CaCO3	99		90-110		

### 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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: Z121712AA	Sample number(s): 6685302-6685307 UNSPK: 6685302								
Benzene	106	107	72-134	1	30				
Ethylbenzene	107	109	71-134	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: ChevronTexaco  
Reported: 06/22/12 at 08:38 PM

Group Number: 1315333

### 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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>BKG</u> <u>MAX</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Methyl Tertiary Butyl Ether	103	104	72-126	1	30			
Toluene	111	114	80-125	3	30			
Xylene (Total)	110	113	79-125	3	30			
Batch number: 121720017A	Sample number(s): 6685302-6685306 UNSPK: 6685302							
Methane	33 (2)	33 (2)	35-157	0	20			
Batch number: 12165655901B	Sample number(s): 6685302-6685306 UNSPK: P685317 BKG: P685317							
Nitrate Nitrogen	103		90-110		N.D.	N.D.	0 (1)	20
Sulfate	98		90-110		1,500	N.D.	200* (1)	20
Batch number: 12166834401A	Sample number(s): 6685302-6685306 UNSPK: P685549 BKG: P685549							
Ferrous Iron	102	97	81-112	4	6	890	960	8* (1) 5
Batch number: 12170023001A	Sample number(s): 6685302-6685304 UNSPK: P685707 BKG: P685708							
Sulfide	89	85	43-137	4	16	11,600	11,200	3 5
Batch number: 12170023002A	Sample number(s): 6685305-6685306 UNSPK: P685309 BKG: P685309							
Sulfide	102	104	43-137	1	16	300	300	2 (1) 5
Batch number: 12171002203A	Sample number(s): 6685302-6685304 UNSPK: P684566 BKG: P684566							
Total Alkalinity	80		73-121		26,300	26,300	0	5
Phenolphthalein Alkalinity					N.D.	N.D.	0 (1)	5
Batch number: 12171002203B	Sample number(s): 6685305-6685306 UNSPK: P684566 BKG: P686103							
Total Alkalinity	80		73-121		124,000	125,000	1	5
Phenolphthalein Alkalinity					N.D.	N.D.	0 (1)	5

### Surrogate Quality Control

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

Analysis Name: UST VOCs + GRO by 8260B-Water  
Batch number: Z121712AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6685302	101	102	103	95
6685303	98	101	102	94
6685304	102	104	101	95
6685305	100	102	102	98
6685306	104	103	100	92
6685307	103	104	102	92
Blank	103	104	100	94
LCS	101	100	103	100
LCSD	99	98	103	97
MS	99	102	102	99
MSD	101	105	102	101
Limits:	80-116	77-113	80-113	78-113

\*- 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: ChevronTexaco  
Reported: 06/22/12 at 08:38 PM

Group Number: 1315333

**Surrogate Quality Control**Analysis Name: Volatile Headspace Hydrocarbon  
Batch number: 121720017A  
Propene

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6685302	43
6685303	67
6685304	48
6685305	80
6685306	53
Blank	97
LCS	94
MS	47
MSD	48

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Limits: 42-131

\*- 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.



**CHAIN OF CUSTODY FORM**

**Chevron Environmental Management Company ■ 6111 Bollinger Canyon Rd. ■ San Ramon, CA 94583**

**COC 1 of 1**

Chevron Site Number: 91723  
 Chevron Site Global ID: T0600101789  
 Chevron Site Address: 9757 San Leandro St., Oakland, CA  
 Chevron PM: DAVE PATTEN  
 Chevron PM Phone No.: (925)543-1740  
 Retail and Terminal Business Unit (RTBU) Job  
 Construction/Retail Job

Chevron Consultant: STANTEC  
 Address: 15575 Los Gatos Blvd., Bldg. C Los Gatos, CA  
 Consultant Contact: Travis Flora  
 Consultant Phone No. 408-356-6124  
 Consultant Project No. 120612-PHZ  
 Sampling Company: Blaine Tech Services  
 Sampled By (Print): Patrick Harmon  
 Sampler Signature: [Signature]

ANALYSES REQUIRED											
<input checked="" type="checkbox"/> H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> HVOC	<input type="checkbox"/> OXYGENATES	<input type="checkbox"/> DRO	<input type="checkbox"/> HC SCREEN	<input type="checkbox"/> GRO	<input type="checkbox"/> ORO	<input type="checkbox"/> MTBE	<input type="checkbox"/> DRO	<input type="checkbox"/> BTEX	<input type="checkbox"/> GRO	<input type="checkbox"/> MTBE	<input type="checkbox"/> STLC
<input type="checkbox"/> EPA 8260B/GC/MS	<input type="checkbox"/> EPA 8015B	<input type="checkbox"/> EPA 8021B	<input type="checkbox"/> EPA 6010 Ca, Fe, K, Mg, Mn, Na	<input type="checkbox"/> EPA 6010/7000	<input type="checkbox"/> EPA 150.1	<input type="checkbox"/> SM2510B	<input type="checkbox"/> EPA 418.1	<input type="checkbox"/> EPA 8260	<input type="checkbox"/> EPA 8015	<input type="checkbox"/> ETHANOL	<input type="checkbox"/> TPH-D
<input type="checkbox"/> TPH-G	<input type="checkbox"/> BTEX	<input type="checkbox"/> GRO	<input type="checkbox"/> MTBE	<input type="checkbox"/> TITLE 22 METALS	<input type="checkbox"/> ALKALINITY	<input type="checkbox"/> SPECIFIC CONDUCTIVITY	<input type="checkbox"/> TRPH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Charge Code:** NWRWB 00SITE NUMBER-0- WBS  
**(WBS ELEMENTS:**  
 SITE ASSESSMENT: **A1L** REMEDIATION IMPLEMENTATION: **R5L**  
 SITE MONITORING: **OML** OPERATION MAINTENANCE & MONITORING: **M1L**  
**THIS IS A LEGAL DOCUMENT. ALL FIELDS MUST BE FILLED OUT CORRECTLY AND COMPLETELY.**

**Lancaster Laboratories**  
 Other Lab \_\_\_\_\_  
 Temp. Blank Check Time \_\_\_\_\_  
 Lancaster, PA  
 Lab Contact: Jill Parker  
 2425 New Holland Pike, Lancaster, PA 17601  
 Phone No: (717)656-2300

Preservation Codes  
 H = HCL T = Thiosulfate  
 N = HNO<sub>3</sub> B = NaOH  
 S = H<sub>2</sub>SO<sub>4</sub> O = Other  
 acc# 10869  
 Cap # 1315333  
 Sample # 6685302-07  
 Special Instructions  
 Must meet lowest detection limits possible for 8260 Compounds

SAMPLE ID				Sample Time	# of Containers	Container Type	EPA 8260B/GC/MS	EPA 8015B	EPA 8021B	EPA 6010 Ca, Fe, K, Mg, Mn, Na	EPA 6010/7000	EPA 150.1	SM2510B	EPA 418.1	EPA 8260	EPA 8015	ETHANOL	TPH-D	Notes/Comments	
Field Point Name	Matrix	Top Depth	Date (yyymmdd)																	
MW-2	W		120612	1320	13	Various	X					X								
MW-5			120612	1410			X					X								
MW-6			120612	1345			X					X								
MW-8			120612	1435			X					X								
MW-9	↓		120612	1250	↓	↓	X					X								
QA	T		120612	1200	2	HCL VOL	X													

Relinquished By: [Signature] Company: BTS Date/Time: 6/12/12 1500  
 Relinquished To: [Signature] Company: CCI Date/Time: 6/12/12 1500  
 Relinquished By: [Signature] Company: CCI Date/Time: 6/12/12 1600  
 Relinquished To: [Signature] Company: FE Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished To: [Signature] Company: CCI Date/Time: \_\_\_\_\_

Turnaround Time: Standard  24 Hours  48 hours  72 Hours  Other   
 Sample Integrity: (Check by lab on arrival)  
 Intact:  On Ice:  Temp: 43  
 COC # \_\_\_\_\_

6-13-12 0920

# Explanation of Symbols and Abbreviations

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

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>µg</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>mL</b>	milliliter(s)	<b>L</b>	liter(s)
<b>m<sup>3</sup></b>	cubic meter(s)	<b>µL</b>	microliter(s)
		<b>pg/L</b>	picogram/liter
<b>&lt;</b>	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	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.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	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  $\geq$  the Method Detection Limit (MDL) and  $<$  the Limit of Quantitation (LOQ).

## U.S. EPA CLP Data Qualifiers:

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

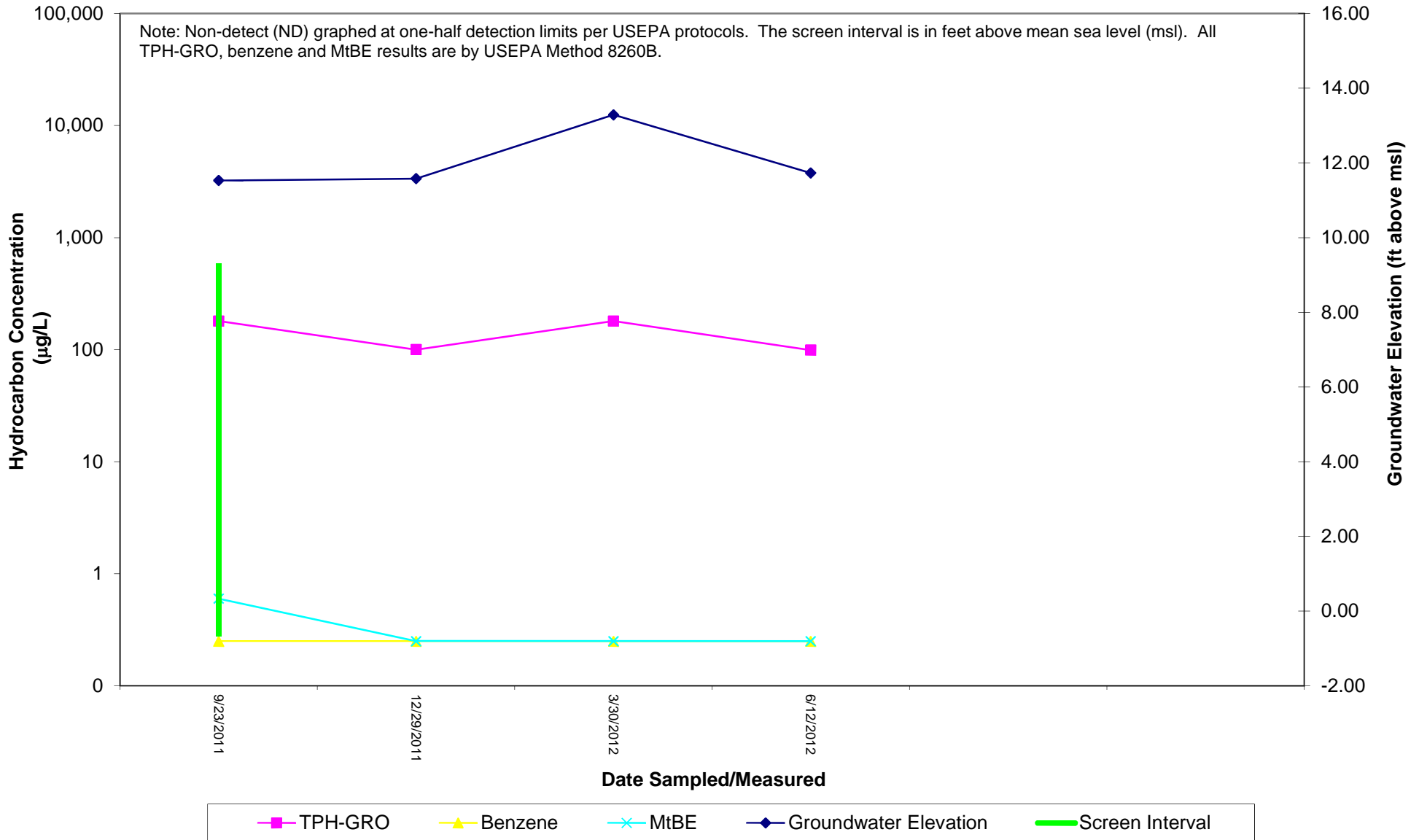
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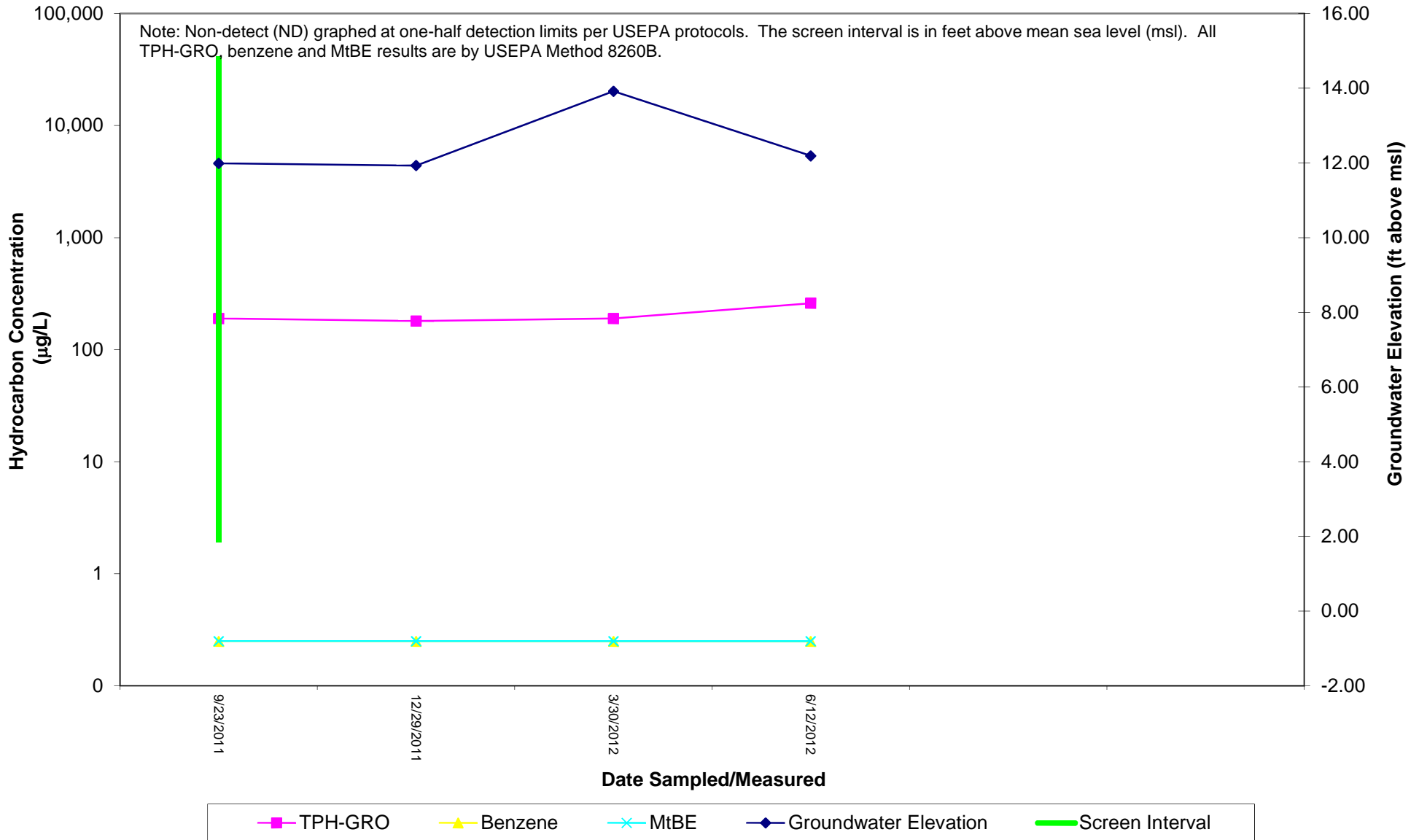
# **Attachment C**

## **Hydrographs**

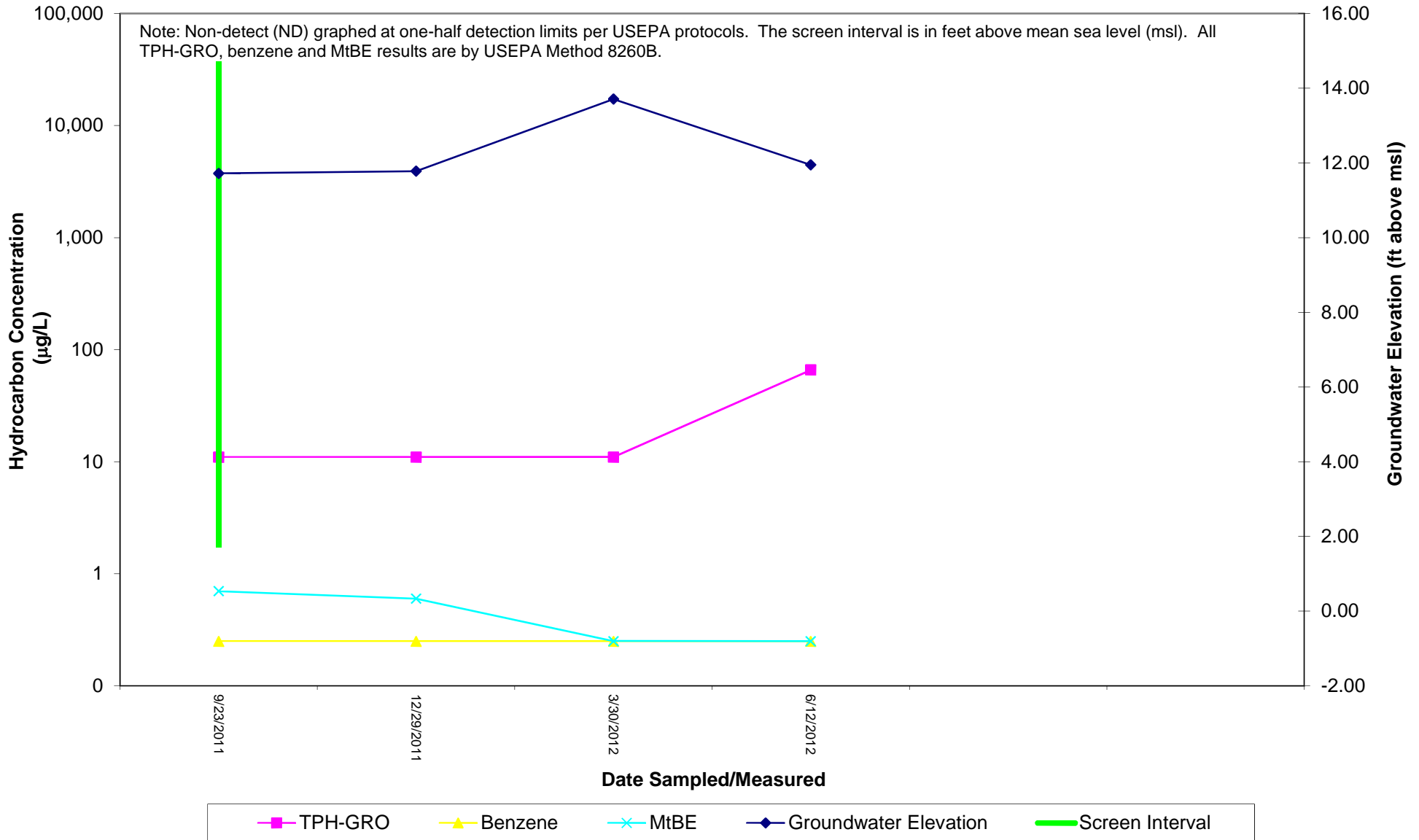
**MW-2 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



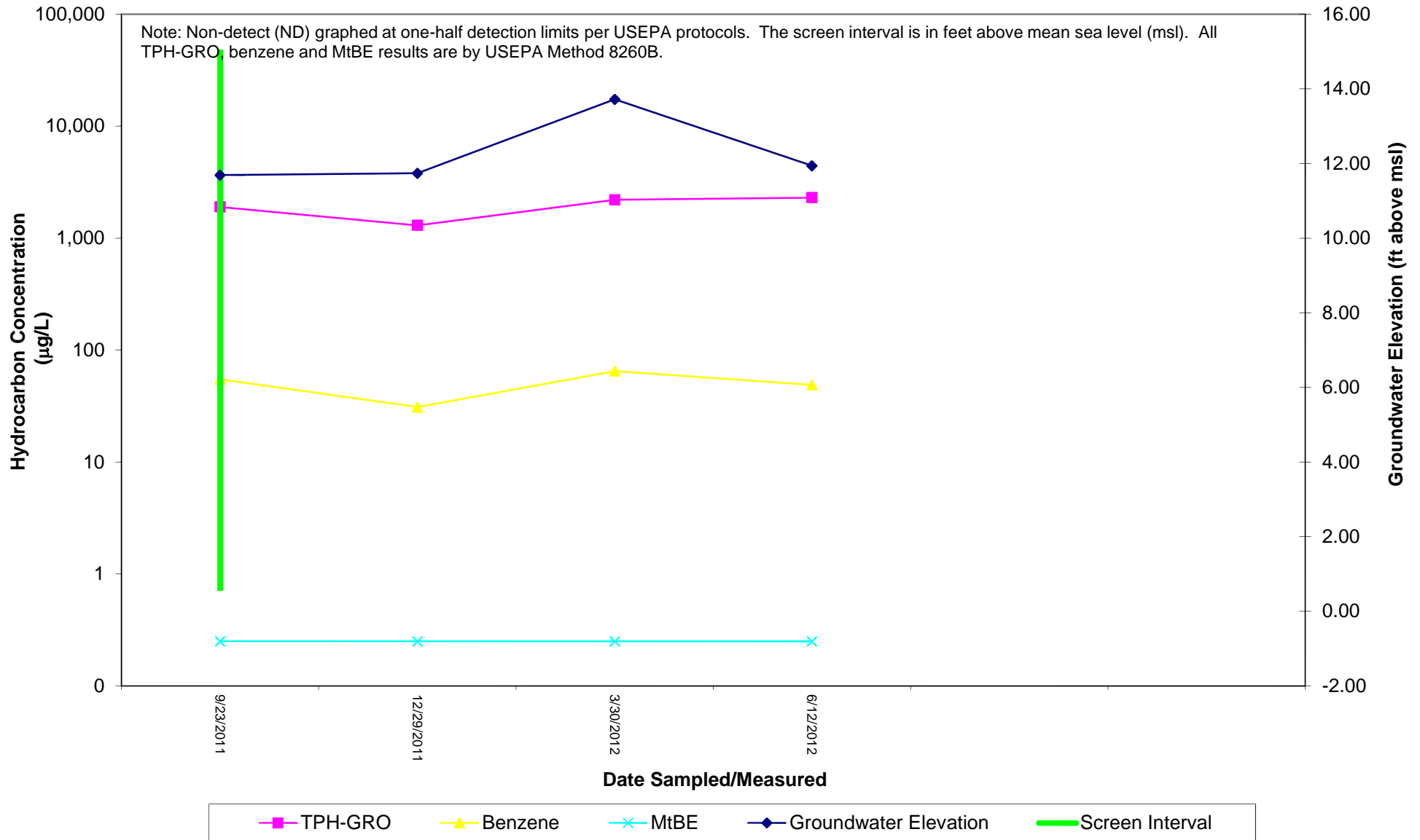
**MW-5 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



**MW-6 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
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**MW-8 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
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**MW-9 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
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