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**Third Quarter 2014  
Semi-Annual Groundwater  
Monitoring Report**

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



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

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

October 20, 2014



**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

October 20, 2014

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

Dear Mr. Detterman:

Attached for your review is the *Third Quarter 2014 Semi-Annual 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 cursive script that reads "Carryl MacLeod".

**Carryl MacLeod**  
Project Manager



October 20, 2014

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

**Reference:**    **Third Quarter 2014 Semi-Annual 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 *Third Quarter 2014 Semi-Annual 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, Third Quarter 2014 Groundwater Monitoring and Sampling Program, and Conclusions and Recommendations.

#### **SITE BACKGROUND**

The Site is a former Chevron-branded service station located on the western corner at the intersection of San Leandro Street and 98th Avenue in Oakland, California. The Site is currently a large parking area staging semi-trucks for a distribution company. A former service station operated at the Site from approximately 1946 to 1978. According to available records, Chevron purchased and began operation of the service station in 1968. 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 all 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 followed by railroad tracks, and on the southeast by 98th Avenue followed by commercial businesses. A former Shell-branded service station was located immediately adjacent to and northwest of the Site.

In the *Third Quarter 2013 Semi-Annual Groundwater Monitoring Report*, dated November 1, 2013, Stantec recommended methyl tertiary-butyl ether (MtBE) analysis be discontinued and the frequency of monitored natural attenuation (MNA) evaluations be reduced to annual during Third Quarters. These recommendations were implemented commencing First Quarter 2014.

#### **THIRD QUARTER 2014 GROUNDWATER MONITORING AND SAMPLING PROGRAM**

Blaine Tech Services, Inc. (Blaine Tech) performed the Third Quarter 2014 groundwater monitoring and sampling event on September 11, 2014. Blaine Tech's standard operating

# THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-branded Service Station 91723

October 20, 2014

Page 2 of 7

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 Third Quarter 2014 groundwater monitoring and sampling event was transported by Clean Harbors Environmental Services to Seaport Environmental in Redwood City, California.

## Groundwater Elevation and Gradient

Well construction details and a screen interval assessment for each Site well are presented in **Table 1**. All wells are currently screened across the prevailing groundwater table with the exception of well MW-2, where the groundwater elevation is measured above the upper screen interval, and the entire screen interval is currently submerged. Groundwater elevation data from Third Quarter 2011 to present are included in **Table 2**. A groundwater elevation contour map (based on Third Quarter 2014 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 groundwater flow direction rose diagram on **Figure 3** illustrating the direction of groundwater flow from Third Quarter 1988 to present.

## Schedule of Laboratory Analysis

Groundwater samples were collected and analyzed for the presence of total petroleum hydrocarbons as gasoline range organics (TPH-GRO) and benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds) 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, total alkalinity by SM 2320 B-1997, methane ( $\text{CH}_4$ ) by US EPA Method 8015B modified (SW-846), ferrous iron ( $\text{Fe}^{2+}$ ) by SM 3500-Fe B modified-1997, and sulfide by SM 4500-S2 D-2000 to further evaluate if Site conditions are suitable for MNA. Field measurements of post-purge dissolved oxygen (DO) and oxidation-reduction potential (ORP) were collected at each Site well.

## Groundwater Analytical Results

During Third Quarter 2014, 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 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**.

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 present are included in **Attachment C**. A summary of Third Quarter 2014 groundwater analytical results follows:

- **TPH-GRO** was detected in four Site wells this quarter, at concentrations ranging from 52 micrograms per liter ( $\mu\text{g/L}$ ; well MW-6) to 3,000  $\mu\text{g/L}$  (well MW-8). Concentrations are

## THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-branded Service Station 91723

October 20, 2014

Page 3 of 7

within historical limits for each respective well with the exception of well MW-8, which is a historical high.

- **Benzene** was detected in one Site well this quarter, at a concentration of 44 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 13 µg/L (well MW-8), which is within historical limits for this well.
- **Total Xylenes** were detected in one Site well this quarter, at a concentration of 8 µg/L (well MW-8), which is within historical limits for this well.

### 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; NO<sub>3</sub><sup>-</sup>; Fe<sup>2+</sup>, a metabolite of Fe<sup>3+</sup> reduction; SO<sub>4</sub><sup>2-</sup>; sulfide, a metabolite of SO<sub>4</sub><sup>2-</sup> reduction; CH<sub>4</sub>, a metabolite of CO<sub>2</sub> reduction; alkalinity; 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 Third Quarter 2014, DO levels (post-purge) in Site wells ranged between 0.04 milligrams per liter (mg/L; well MW-8) and 0.35 mg/L (well MW-9). The DO levels indicate an anaerobic environment is present in all Site wells; consequently, alternative electron acceptors will be used for degradation.

ORP levels (post-purge) ranged between 28 millivolts (mV; well MW-8) and 134 mV (well MW-9). The positive ORP values in all Site wells indicate oxidizing conditions are present.

Concentrations of NO<sub>3</sub><sup>-</sup> ranged from below the method detection limit (MDL) of 250 µg/L (wells MW-2, MW-5, MW-6, and MW-8) to 2,700 µg/L (well MW-9). Lower NO<sub>3</sub><sup>-</sup> 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 NO<sub>3</sub><sup>-</sup> is likely being utilized as an electron acceptor for bioremediation of dissolved-phase petroleum hydrocarbons by indigenous microbes. NO<sub>3</sub><sup>-</sup> concentrations were below the MDL in wells MW-2, MW-5, MW-6, and MW-8, indicating the natural supply of NO<sub>3</sub><sup>-</sup> may be nearly exhausted.

Concentrations of Fe<sup>2+</sup> ranged from below the MDL of 10 µg/L (well MW-9) to 59,500 µg/L (well MW-8). Concentrations of CH<sub>4</sub> ranged from below the MDL of 3.0 µg/L (well MW-9) to 2,900 µg/L

### THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-branded Service Station 91723

October 20, 2014

Page 4 of 7

(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 such as well MW-8 (and vice versa; e.g., well MW-9). This indicates that  $\text{Fe}^{3+}$  and  $\text{CO}_2$  reduction are likely occurring.

Concentrations of  $\text{SO}_4^{2-}$  ranged from 3,700  $\mu\text{g/L}$  (well MW-8) to 35,300  $\mu\text{g/L}$  (well MW-9).  $\text{SO}_4^{2-}$  trends in all Site wells appear to be stable. Concentrations of sulfide were below the MDLs of 54  $\mu\text{g/L}$ , 270  $\mu\text{g/L}$ , and 540  $\mu\text{g/L}$  in all Site wells. The stable  $\text{SO}_4^{2-}$  concentrations and non-detect sulfide concentrations may indicate that  $\text{SO}_4^{2-}$  reduction has yet to begin at the Site.

Total alkalinity measurements ranged from 375,000  $\mu\text{g/L}$  as calcium carbonate ( $\text{CaCO}_3$ ; well MW-5) to 487,000  $\mu\text{g/L}$  as  $\text{CaCO}_3$  (well MW-2). The enrichment of alkalinity in all Site wells 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.  $\text{SO}_4^{2-}$  is available in Site wells; however, the metabolic byproduct sulfide is not detected. Biodegradation appears to be occurring within Site wells, and Site conditions are likely 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 the California Regional Water Quality Control Board – San Francisco Bay Region Environmental Screening Levels (ESLs) for groundwater that is a current or potential source of drinking water 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 the only detections of BTEX compounds are currently observed in well MW-8, which is located in the northern portion of the Site near the former second-generation USTs. TPH-GRO was also detected above the ESL in well MW-5, located near the former first-generation dispenser island. Due to TPH-GRO being reported below ESLs in well MW-6 (cross-gradient of well MW-8) and the potential for two distinct source areas, dissolved TPH-GRO is currently represented as two distinct plumes on **Figure 5**, the longest of which is currently defined to below ESLs within approximately 210 feet down-gradient of the source area. TPH-GRO concentrations fluctuate slightly with changes in groundwater elevations, but the dissolved-phase plume demonstrates an overall stable or decreasing extent.

Current and historical groundwater quality data indicate that the dissolved-phase petroleum hydrocarbon plume at the Site is stable or decreasing in overall size and concentration. Site groundwater conditions satisfy low-threat UST case closure policy (LTCP) Groundwater-Specific Criteria Scenario 2 as follows:

- The contaminant plume that exceeds water quality objectives (WQOs) is less than 250 feet in length. Based on dissolved-phase TPH-GRO concentrations that exceed the ESL for groundwater that is a current or potential source of drinking water of 100  $\mu\text{g/L}$ , a conservative estimate of the contaminant plume based on Third Quarter 2014 groundwater data is approximately 210 feet or less in length.

### THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-branded Service Station 91723

October 20, 2014

Page 5 of 7

- There is no free product. Free product was reportedly observed while advancing soil boring SB-8 at 7 feet below ground surface (bgs) in 1996; however, free product has not been measured or documented in any other borings or Site wells to-date.
- The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. As documented in the *Site Conceptual Model and Data Gap Work Plan*, dated March 31, 2014, during the active water supply well survey conducted in 2013, seven water supply wells were reported within a 0.25-mile radius of the Site and all were identified for industrial use. Although wells as close as 100 feet from the Site were reported, all wells at or in the vicinity of the Site were field verified to be no longer present. All other wells within a 0.25-mile radius (at distances ranging from 435 to 765 feet from the Site) are located up-gradient or cross-gradient based on the predominant direction of groundwater flow (west) and are unlikely to be impacted by the dissolved-phase petroleum hydrocarbon plume associated with the Site. As requested by Alameda County Environmental Health (ACEH) in correspondence dated May 29, 2014, a map and table showing all water supply well locations within a 0.25-mile radius of the Site were provided in the *Response to Technical Comments and Data Gap Work Plan Addendum*, dated August 15, 2014. No surface water bodies were identified within a 0.5-mile radius of the Site.
- The dissolved concentration of benzene is less than 3,000 µg/L, and the dissolved concentration of MtBE is less than 1,000 µg/L. During Third Quarter 2014, benzene was detected at a maximum concentration of 44 µg/L (well MW-8). MtBE is no longer analyzed in groundwater at the Site; however, when it was last analyzed during Third Quarter 2013, MtBE was not detected above the MDL of 0.5 µg/L in any Site well sampled.

Because Site conditions appear to meet groundwater-specific LTCP criteria, Stantec recommends that Site groundwater monitoring and sampling cease.

A *Site Conceptual Model and Data Gap Work Plan* was submitted to ACEH on March 31, 2014. Data gaps identified in the report included the status and condition of former Site wells MW-1, MW-4, MW-7, and MW-10 and the need for additional assessment to evaluate soil vapor quality at the Site and to determine if Site conditions meet the petroleum vapor intrusion to indoor air criteria set forth in the LTCP. To address the need for a soil vapor quality evaluation, Stantec proposed the resampling of permanent on-site soil vapor wells VP-1 through VP-5 and included a proposed scope of work for that sampling in the *Site Conceptual Model and Data Gap Work Plan*.

ACEH provided technical comments on the *Site Conceptual Model and Data Gap Work Plan* in a letter dated May 29, 2014, and requested a *Data Gap Work Plan Addendum*. The *Response to Technical Comments and Data Gap Work Plan Addendum* was submitted on August 15, 2014. In addition to the scope of work for soil vapor investigation already proposed, Stantec proposed the advancement of three shallow soil borings to evaluate petroleum hydrocarbons in soil near former fueling features. In an email dated October 1, 2014, ACEH responded to the *Response to Technical Comments and Data Gap Work Plan Addendum* and requested a meeting with Chevron to discuss the assessment approach at the Site. A meeting is currently scheduled for November 7, 2014.

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

# THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-branded Service Station 91723

October 20, 2014

Page 6 of 7

## LIMITATIONS

This document entitled Third Quarter 2014 Semi-Annual Groundwater Monitoring Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Chevron Environmental Management Company (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by Erin O'Malley  
(signature)

**Erin O'Malley**  
Project Engineer

Reviewed by Marisa Kaffenberger  
(signature)

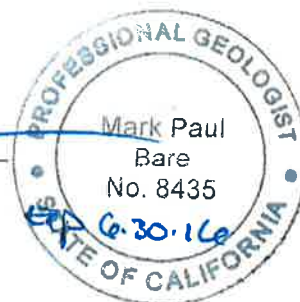
**Marisa Kaffenberger**  
Senior Engineer

Reviewed by [Signature]  
(signature)

**Travis L. Flora**  
Associate Project Manager

Reviewed by MPB  
(signature)

**Mark Bare, P.G.**  
Senior Geologist





## **THIRD QUARTER 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT**

Former Chevron-branded Service Station 91723

October 20, 2014

Page 7 of 7

### **Attachments:**

Table 1 – Well Details / Screen Interval Assessment – Third Quarter 2014

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 – Third Quarter 2014

Figure 3 – Groundwater Flow Direction Rose Diagram – Third Quarter 2014

Figure 4 – Site Plan Showing Groundwater Concentrations – Third Quarter 2014

Figure 5 – TPH-GRO Isoconcentration Map – Third Quarter 2014

Figure 6 – Benzene Isoconcentration Map – Third Quarter 2014

Attachment A – Blaine Tech Groundwater Monitoring Report – Third Quarter 2014

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

Attachment C – Hydrographs

### **cc:**

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

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

Ms. Jean Kida, Gerber Products, 12 Vreeland Road, Florham Park, NJ 07932

Francis Meynard, Pacific American Group, 104 Caledonia Street, Sausalito, CA 94965 – Electronic Copy

## **TABLES**

**Table 1**  
**Well Details / Screen Interval Assessment**  
**Third Quarter 2014**  
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	04/18/87	Monitoring	2	21.31	22.00	21.59	9.93	12-22	Depth-to-groundwater above screen interval.
MW-5	05/18/88	Monitoring	2	21.84	20.00	17.49	9.94	7-20	Depth-to-groundwater within screen interval.
MW-6	05/18/88	Monitoring	2	21.71	20.00	19.49	10.07	7-20	Depth-to-groundwater within screen interval.
MW-8	05/19/88	Monitoring	2	21.84	20.00	18.10	10.22	7-20	Depth-to-groundwater within screen interval.
MW-9	08/04/89	Monitoring	4	20.55	20.00	20.05	9.43	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 September 11, 2014.									

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

WELL ID/ DATE	TOC (ff.)	DTW (ff.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
	Groundwater ESL			100	1	40	30	20	5

**MW-2**

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
06/12/12	21.31	9.58	11.73	99	<0.5	<0.5	<0.5	<0.5	<0.5
09/27/12	21.31	9.81	11.50	93	<0.5	<0.5	<0.5	<0.5	<0.5
03/13/13	21.31	9.52	11.79	110	<0.5	<0.5	<0.5	<0.5	<0.5
09/17/13	21.31	9.96	11.35	94	<0.5	<0.5	<0.5	<0.5	<0.5
03/21/14	21.31	9.35	11.96	<22	<0.5	<0.5	<0.5	<0.5	--
<b>09/11/14</b>	<b>21.31</b>	<b>9.93</b>	<b>11.38</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>--</b>

**MW-5**

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
06/12/12	21.84	9.65	12.19	260	<0.5	<0.5	<0.5	<0.5	<0.5
09/27/12	21.84	9.83	12.01	230	<0.5	<0.5	<0.5	<0.5	<0.5
03/13/13	21.84	9.55	12.29	200	<0.5	<0.5	<0.5	<0.5	<0.5
09/17/13	21.84	9.93	11.91	140	<0.5	<0.5	<0.5	<0.5	<0.5
03/21/14	21.84	9.41	12.43	100	<0.5	<0.5	<0.5	<0.5	--
<b>09/11/14</b>	<b>21.84</b>	<b>9.94</b>	<b>11.90</b>	<b>150</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>--</b>

**MW-6**

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
06/12/12	21.71	9.76	11.95	66	<0.5	<0.5	<0.5	<0.5	<0.5
09/27/12	21.71	9.93	11.78	27	<0.5	<0.5	<0.5	<0.5	<0.5
03/13/13	21.71	9.70	12.01	<22	<0.5	<0.5	<0.5	<0.5	<0.5
09/17/13	21.71	10.06	11.65	34	<0.5	<0.5	<0.5	<0.5	<0.5
03/21/14	21.71	9.38	12.33	<22	<0.5	<0.5	<0.5	<0.5	--
<b>09/11/14</b>	<b>21.71</b>	<b>10.07</b>	<b>11.64</b>	<b>52</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>--</b>

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

WELL ID/ DATE	TOC (ff.)	DTW (ff.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
<b>Groundwater ESL</b>				<b>100</b>	<b>1</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>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
06/12/12	21.84	9.90	11.94	2,300	49	2	14	14	<0.5
09/27/12	21.84	10.12	11.72	1,900	43	2	10	8	<0.5
03/13/13	21.84	9.86	11.98	1,400	31	1	7	5	<0.5
09/17/13	21.84	10.34	11.50	2,100	60	2	11	9	<0.5
03/21/14	21.84	9.49	12.35	270	2	<0.5	<0.5	0.6	--
<b>09/11/14</b>	<b>21.84</b>	<b>10.22</b>	<b>11.62</b>	<b>3,000</b>	<b>44</b>	<b>2</b>	<b>13</b>	<b>8</b>	<b>--</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
06/12/12	20.55	9.14	11.41	<22	<0.5	<0.5	<0.5	<0.5	<0.5
09/27/12	20.55	9.24	11.31	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/13/13	20.55	9.07	11.48	<22	<0.5	<0.5	<0.5	<0.5	<0.5
09/17/13	20.55	9.51	11.04	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/21/14	20.55	8.87	11.68	<22	<0.5	<0.5	<0.5	<0.5	--
<b>09/11/14</b>	<b>20.55</b>	<b>9.43</b>	<b>11.12</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>--</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
06/12/12	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
09/27/12	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/13/13	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
09/17/13	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
03/21/14	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	--
<b>09/11/14</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>--</b>

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

---

**EXPLANATIONS:**

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

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

**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	300	290	12,900	460,000	<700	1,400	<220 <sup>1</sup>	0.86	135
09/27/12	250	710	14,200	448,000	<700	450	99	0.91	138
03/13/13	680	<250	13,000	503,000	--	700	<54	1.39	-7
09/17/13	370	<250	12,000	506,000	--	690	130	0.74	8
03/21/14	--	--	--	--	--	--	--	1.48	-36
<b>09/11/14</b>	<b>490</b>	<b>&lt;250</b>	<b>10,400</b>	<b>487,000</b>	<b>--</b>	<b>4,500</b>	<b>&lt;270<sup>1</sup></b>	<b>0.26</b>	<b>125</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	120	890	44,800	387,000	<700	7,300	<220 <sup>1</sup>	0.87	124
09/27/12	110	980	30,200	370,000	<700	7,400	<110 <sup>1</sup>	0.98	136
03/13/13	170	570	30,600	398,000	--	2,600	<54	1.19	-34
09/17/13	110	900	31,200	373,000	--	2,000	<54	0.46	-4
03/21/14	--	--	--	--	--	--	--	1.31	-28
<b>09/11/14</b>	<b>99</b>	<b>&lt;250</b>	<b>34,900</b>	<b>375,000</b>	<b>--</b>	<b>18,200</b>	<b>&lt;270<sup>1</sup></b>	<b>0.11</b>	<b>81</b>
<b>MW-6</b>									
03/30/12	62	<250	5,600	455,000	<460	210	<54	1.12	223
06/12/12	190	<250	6,300	458,000	<700	4,700	<110 <sup>1</sup>	0.84	115
09/27/12	170	640	8,500	434,000	<700	8,800	<110 <sup>1</sup>	0.96	133
03/13/13	190	<250	4,400	473,000	--	6,200	<54	2.61	7
09/17/13	120	<250	6,300	444,000	--	4,600	98	0.49	-14
03/21/14	--	--	--	--	--	--	--	1.16	26
<b>09/11/14</b>	<b>320</b>	<b>&lt;250</b>	<b>6,000</b>	<b>447,000</b>	<b>--</b>	<b>10,400</b>	<b>&lt;54</b>	<b>0.21</b>	<b>109</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	1,700	<250	9,200	441,000	<700	43,200	<220 <sup>1</sup>	0.98	47
09/27/12	1,900	420	7,900	444,000	<700	35,600	<270 <sup>1</sup>	1.21	50
03/13/13	1,800	<250	9,700	450,000	--	32,300	<540 <sup>1</sup>	1.61	-85
09/17/13	1,700	<250	5,700	468,000	--	22,300	<220 <sup>1</sup>	0.38	-78
03/21/14	--	--	--	--	--	--	--	1.09	-51
<b>09/11/14</b>	<b>2,900</b>	<b>&lt;250</b>	<b>3,700</b>	<b>417,000</b>	<b>--</b>	<b>59,500</b>	<b>&lt;540<sup>1</sup></b>	<b>0.04</b>	<b>28</b>

**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-9</b>									
03/30/12	<5.0	<250	7,400	381,000	<460	31	<54	1.34	179
06/12/12	<5.0	2,900	32,900	397,000	<700	340	<54	0.92	128
09/27/12	<5.0	1,700	32,200	398,000	<700	53	<54	1.10	141
03/13/13	<3.0	2,400	33,400	414,000	--	<8.0	<54	1.38	189
09/17/13	<3.0	910	29,200	414,000	--	<10	<54	1.41	124
03/21/14	--	--	--	--	--	--	--	1.04	72
<b>09/11/14</b>	<b>&lt;3.0</b>	<b>2,700</b>	<b>35,300</b>	<b>383,000</b>	<b>--</b>	<b>&lt;10</b>	<b>&lt;54</b>	<b>0.35</b>	<b>134</b>



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

---

**EXPLANATIONS:**

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

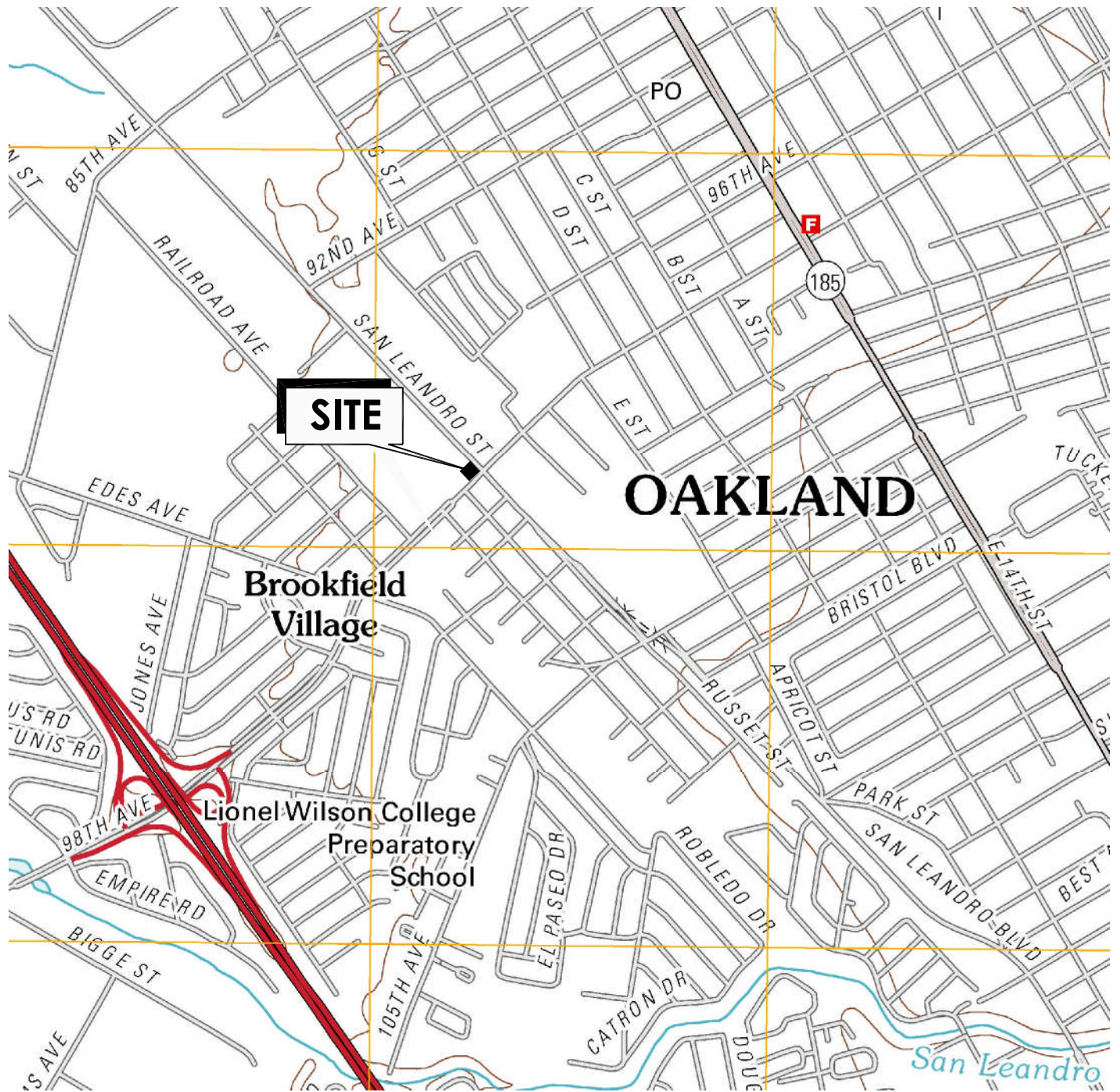
ORP = Oxidation Reduction Potential

(mV) = Millivolts

-- = Not Measured/Not Analyzed

<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 7.5 QUADRANGLE;  
SAN LEANDRO, CALIFORNIA; 2012



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

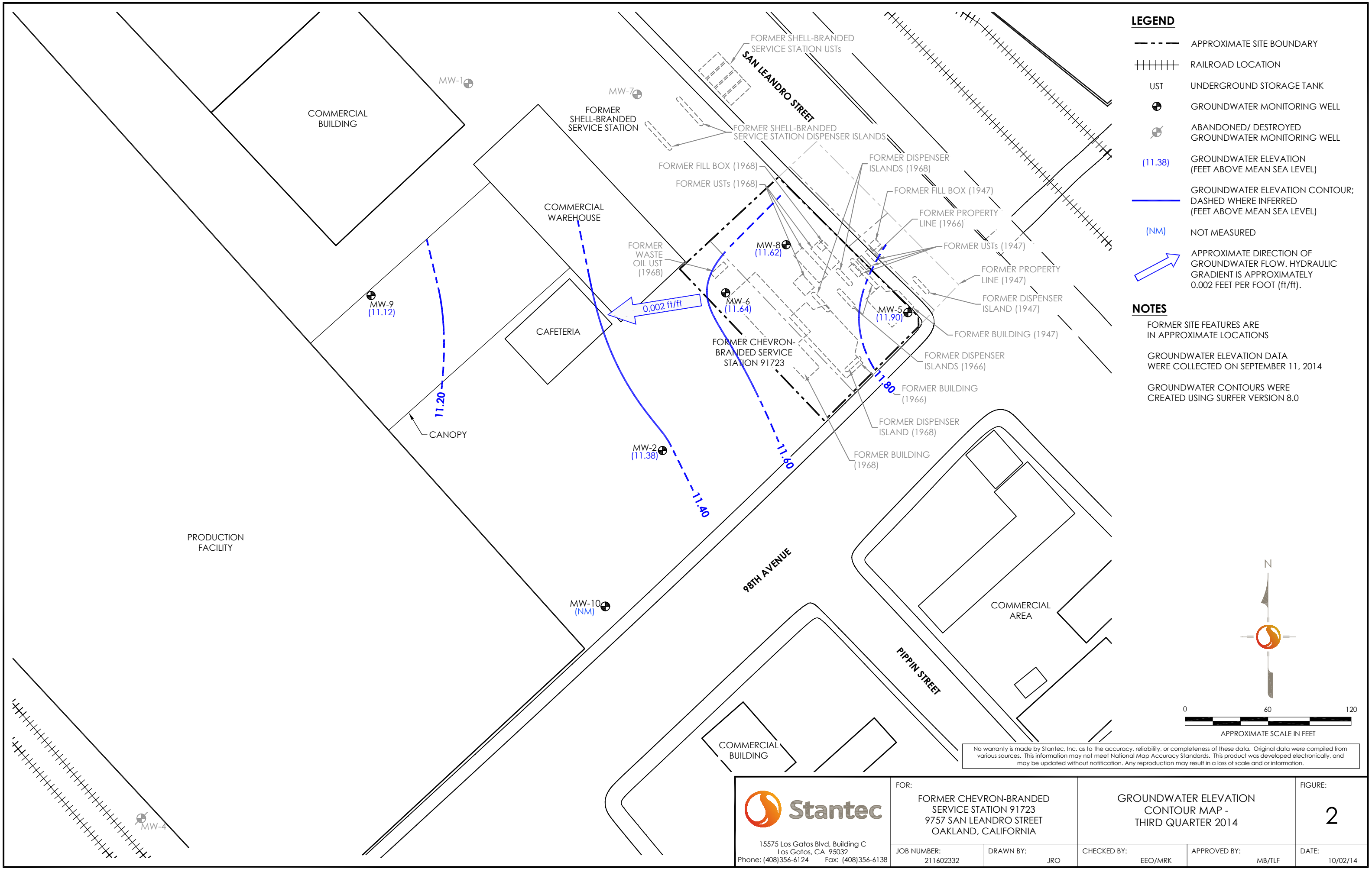
CHECKED BY:  
EEO/MRK

APPROVED BY:  
MB/TLF

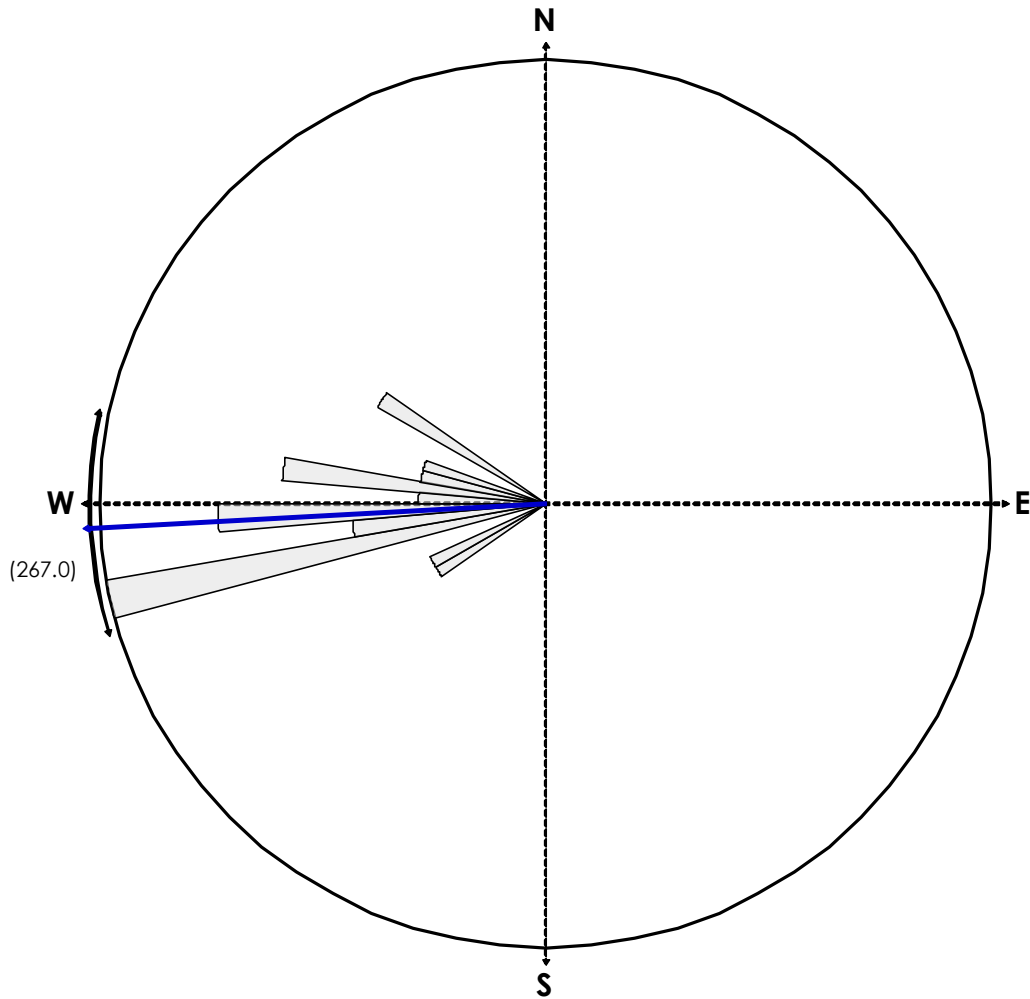
FIGURE:

1

DATE:  
10/02/14



<p>15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408)356-6124 Fax: (408)356-6138</p>	<p>FOR: FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA</p>	<p>GROUNDWATER ELEVATION CONTOUR MAP - THIRD QUARTER 2014</p>			<p>FIGURE: <b>2</b></p>
	<p>JOB NUMBER: 211602332</p>	<p>DRAWN BY: JRO</p>	<p>CHECKED BY: EEO/MRK</p>	<p>APPROVED BY: MB/TLF</p>	<p>DATE: 10/02/14</p>



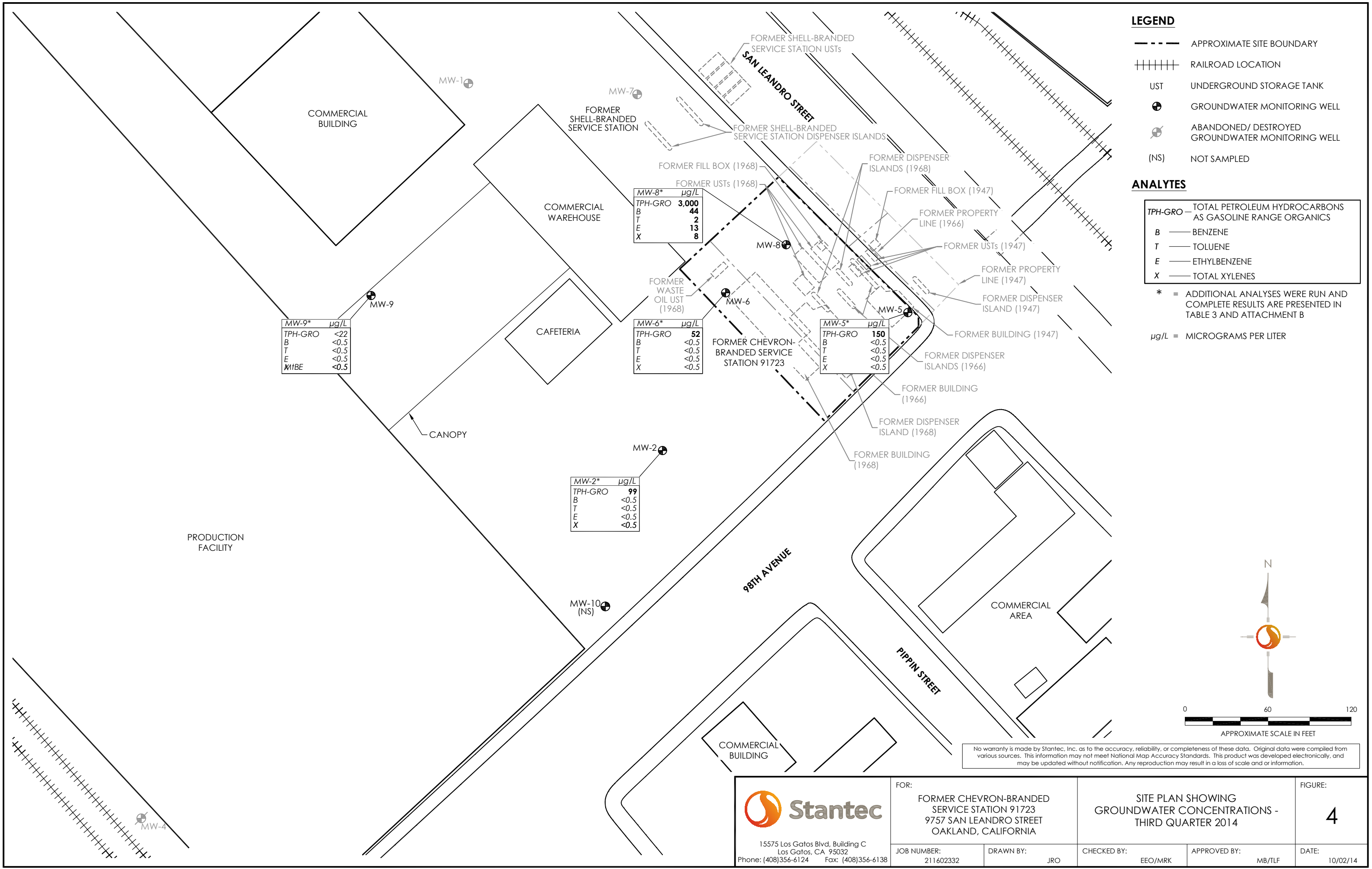
EQUAL AREA PLOT

Number of Points 30  
 Class Size 5  
 Vector Mean 267.00  
 Vector Magnitude 29.05  
 Consistency Ratio 0.97

NOTE: ROSE DIAGRAM IS BASED ON THE DIRECTION OF GROUNDWATER FLOW BEGINNING THIRD QUARTER 1988.

 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	GROUNDWATER FLOW DIRECTION ROSE DIAGRAM - THIRD QUARTER 2014		FIGURE: <b>3</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: MB/TLF





**LEGEND**

- APPROXIMATE SITE BOUNDARY
- ++++ RAILROAD LOCATION
- UST UNDERGROUND STORAGE TANK
- ⊕ GROUNDWATER MONITORING WELL
- ⊖ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- (NS) NOT SAMPLED

**ANALYTES**

TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

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

µg/L = MICROGRAMS PER LITER

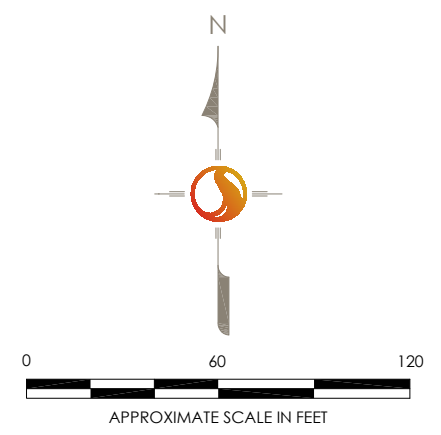
MW-9*	µg/L
TPH-GRO	<22
B	<0.5
T	<0.5
E	<0.5
X	<0.5

MW-8*	µg/L
TPH-GRO	3,000
B	44
T	2
E	13
X	8


MW-6*	µg/L
TPH-GRO	52
B	<0.5
T	<0.5
E	<0.5
X	<0.5

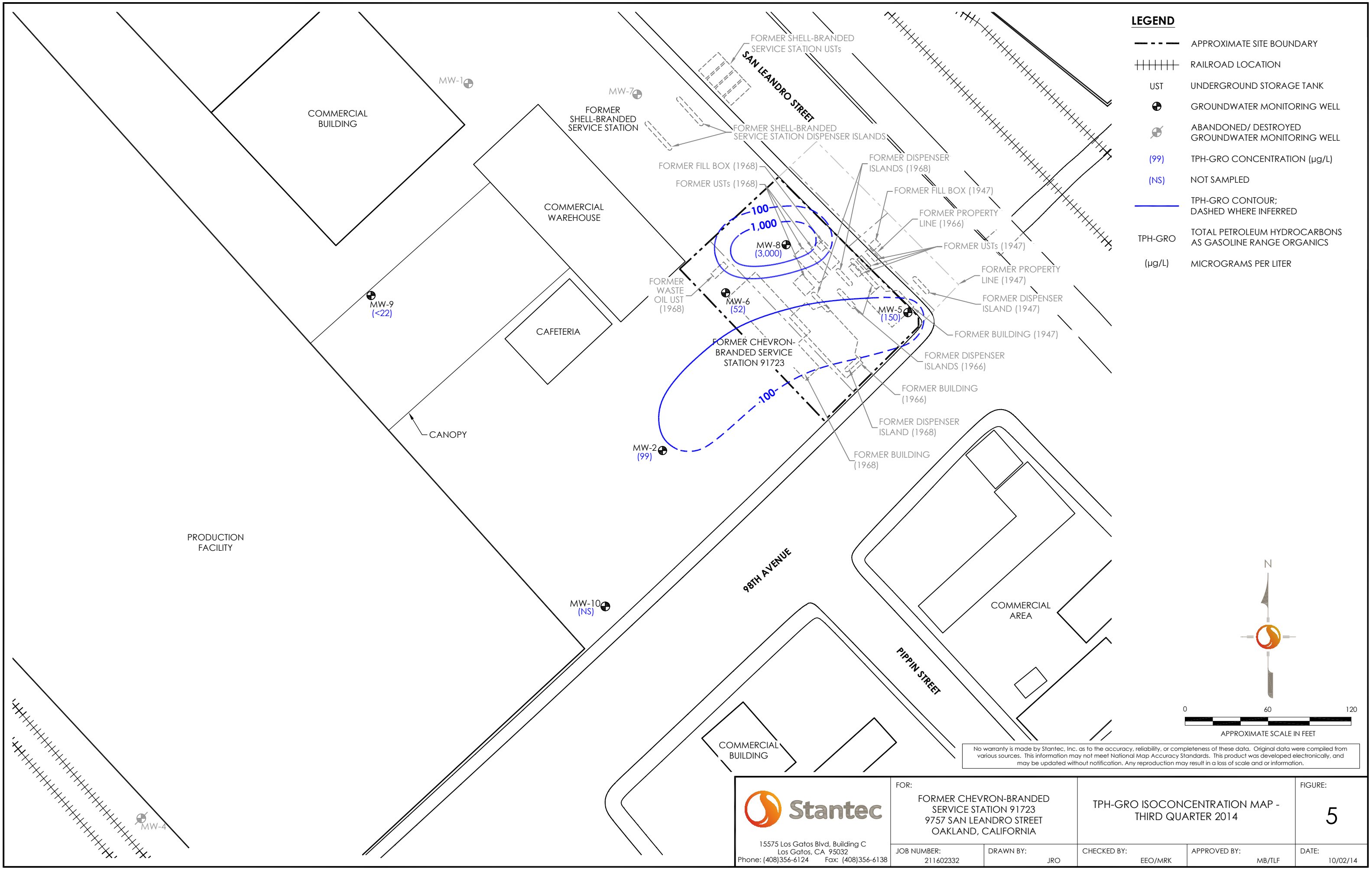
MW-5*	µg/L
TPH-GRO	150
B	<0.5
T	<0.5
E	<0.5
X	<0.5

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

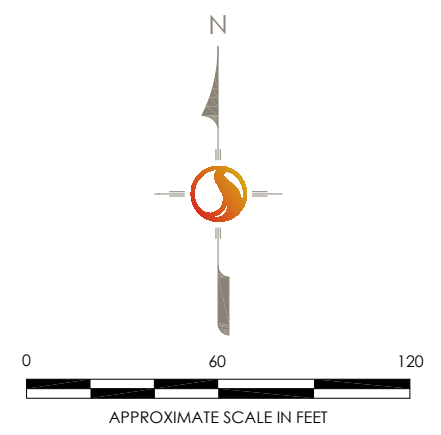


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 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408)356-6124 Fax: (408)356-6138	FOR: FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA	SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - THIRD QUARTER 2014		FIGURE: <b>4</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: MB/TLF

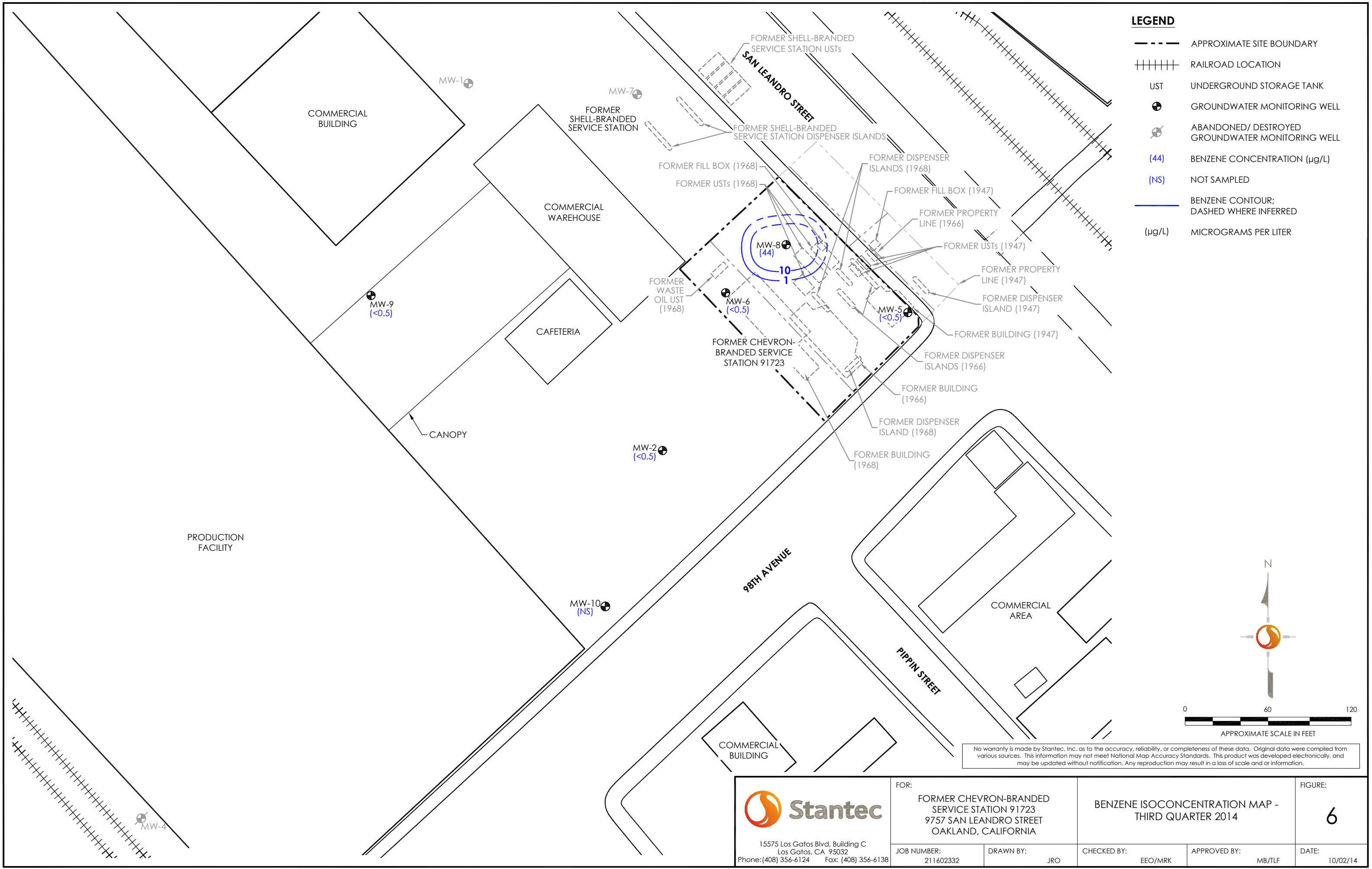


- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - ++++ RAILROAD LOCATION
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊖ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
  - (99) TPH-GRO CONCENTRATION (µg/L)
  - (NS) NOT SAMPLED
  - TPH-GRO CONTOUR; DASHED WHERE INFERRED
  - TPH-GRO TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS (µg/L)
  - MICROGRAMS PER LITER



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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	TPH-GRO ISOCONCENTRATION MAP - THIRD QUARTER 2014		FIGURE: <b>5</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRK	APPROVED BY: MB/TLF



<p>15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138</p>	FOR:	FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA		BENZENE ISOCONCENTRATION MAP - THIRD QUARTER 2014		FIGURE:	6		
	JOB NUMBER:	211602332	DRAWN BY:	JRO	CHECKED BY:	EEO/MRK	APPROVED BY:	MB/TLF	DATE:



**ATTACHMENT A**  
**Blaine Tech Groundwater Monitoring Report –**  
**Third Quarter 2014**



September 29, 2014

Chevron Environmental Management Company  
Caryl MacLeod  
6101 Bollinger Canyon Rd.  
San Ramon, CA 94583

Third Quarter 2014 Monitoring at  
Chevron Service Station 91723  
9757 San Leandro St  
Oakland, CA

Monitoring performed on September 11, 2014

---

**Blaine Tech Services, Inc. Groundwater Monitoring Event 140911-WW2**

This submission covers the routine monitoring of groundwater wells conducted on September 11, 2014 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. 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.

Third Quarter Groundwater Monitoring at Chevron 91723, 9757 San Leandro St., 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 Blaine Tech 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  
Wellhead Inspection Form  
Bill of Lading  
Calibration Log

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

Third Quarter Groundwater Monitoring at Chevron 91723, 9757 San Leandro St., 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

# 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 product.

### **TRADITIONAL PURGING & SAMPLING**

#### **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.

### **Sample Collection**

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.

### **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.

### **Dissolved Oxygen Measurements**

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

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.

### **Oxidation Reduction Potential Measurements (ORP)**

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

## **LOW FLOW SAMPLING USING SAMPLE-PRO BLADDER PUMP**

### **Calibration**

Calibrate YSI Flow Cell as per manufacturer's specifications. Thoroughly rinse probe and cup between parameters. Calibration order as follows:

1. pH (use 3-point calibration of 7, 4, 10)
2. Specific Conductance
3. Temperature

### **Purging & Sampling Collection**

1. Insert new bladder into Sample-Pro pump housing.
2. Remove dedicated PE tubing from the well or start with new PE tubing cut to the required length.
3. Attach the PE tubing to the Sample-Pro Bladder Pump.
4. Gently lower the Sample-Pro Bladder Pump, and PE tubing into the well, placing the Sample-Pro Bladder Pump intake at the specified screened interval. Take care to minimize disturbance to the water column.
5. Direct effluent line into YSI 556 Flow Cell.
6. Set Sample-Pro Bladder Pump speed at 100 - 500 ml/min.
7. Collect water quality parameter measurements for temperature, pH, conductivity, turbidity, DO and ORP every 3-5 minutes.
8. Monitor drawdown during purging with electronic water level meter. Record water level with each parameter measurement. **MAXIMUM DRAWDOWN IS 0.33 FEET.**
9. Collect parameter measurements until stability is achieved. Stability is defined as three consecutive measurements where:

Temp	± 1° Celsius
pH	± 0.1
Conductivity	± 3%

10. Sample may be collected once one system has been removed and stability readings have been achieved after the system volume has been removed.
11. Disconnect effluent line from YSI 556 Flow Cell.
12. Sample through effluent line while maintaining constant flow rate.
13. Remove Sample-Pro Bladder Pump, and PE tubing from well.
14. Detach and reinstall dedicated PE tubing in well.

## **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 or Non-Hazardous Waste Manifest to a Blaine Tech Services, Inc. facility before being transported to a Chevron approved disposal facility

### **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.

### **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. Field documentation is contemporaneous.

### **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 such as hose reels, pumps and bailers 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. 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.

### **FERROUS IRON MEASUREMENTS**

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





## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>140911-mw2</u>	Station #: <u>9-1723</u>
Sampler: <u>ww</u>	Date: <u>9/11/14</u>
Weather: <u>sunny</u>	Ambient Air Temperature: <u>78.8°F</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>21.59</u>	Depth to Water: <u>9.93</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>RVC</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>12.26</u>	

Purge Method:	Sampling Method: <u>Bailer</u>
Bailer <input checked="" type="checkbox"/> <u>Disposable Bailer</u> Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____
	<u>Disposable Bailer</u> 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
1329	74.9	7.36	947	282	1.9	gray, cloudy
1331	73.8	7.22	948	981	3.8	"
1333	72.8	7.20	939	>1000	5.7	"

Did well dewater? Yes   NO Gallons actually evacuated: 5.7

Sampling Date: 9/11/14 Sampling Time: 1340 Depth to Water: 9.98

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

Analyzed for: TPH-G BTEX MTBE OXYS Other: see s/w

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>0.26</u> mg/L
------------------	------------	------	-------------	------------------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	<u>125</u> mV
--------------------	------------	----	-------------	---------------

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>120911-MW2</u>	Station #: <u>9-1723</u>
Sampler: <u>MW</u>	Date: <u>9/11/14</u>
Weather: <u>Sunny</u>	Ambient Air Temperature: <u>75.6 °F</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth: <u>17.49</u>	Depth to Water: <u>9.94</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PWC</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>11.45</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>1.2</u> (Gals.) X	<u>3</u>	= <u>3.6</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
1354	75.2	7.52	809	>1000	1.2	gray, cloudy
1356	73.5	7.18	815	>1000	2.4	"
1358	73.0	7.13	818	>1000	3.6	"

Did well dewater? Yes  No  Gallons actually evacuated: 3.6

Sampling Date: 9/11/14 Sampling Time: 1405 Depth to Water: 9.98

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

Analyzed for: TPH-G BTEX MTBE OXYS Other: see saw

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.11 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	81 mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: 140911-1112	Station #: 9-1723
Sampler: WW	Date: 9/11/14
Weather: sunny	Ambient Air Temperature: 72.7 °F
Well I.D.: MW-6	Well Diameter: ② 3 4 6 8 _____
Total Well Depth: 1949	Depth to Water: 10.07
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]: 1195	

Purge Method:	Sampling Method: Bailer
Bailer	<u>Disposable Bailer</u>
<u>Disposable Bailer</u>	Extraction Port
Positive Air Displacement	Dedicated Tubing
Electric Submersible	Other: _____
Waterra	
Peristaltic	
Extraction Pump	
Other: _____	

1.5 (Gals.) X	3	= 4.5 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
1304	74.7	7.40	871	>1000	1.5	gray cloudy
1306	74.7	7.17	883	>1000	3	"
1308	73.8	7.23	871	>1000	4.5	"

Did well dewater? Yes  No  Gallons actually evacuated: 4.5

Sampling Date: 9/11/14      Sampling Time: 1315      Depth to Water: 10.11

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

Analyzed for: TPH-G BTEX MTBE OXYS Other: see saw

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.21 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	109 mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: 140911-LW2	Station #: 9-1723
Sampler: LW	Date: 9/11/14
Weather: Sunny	Ambient Air Temperature: 79.2°F
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 _____
Total Well Depth: 18.10	Depth to Water: 10.22
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 11.80	

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: \_\_\_\_\_

1.3 (Gals.) X	3	= 3.9 Gals.
I 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 <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
1417	74.1	7.34	780	>1000	13	odor, gray, cloudy
1419	77.8	7.04	793	>1000	26	"
1421	78.5	7.10	805	>1000	3.9	"

Did well dewater? Yes  No  Gallons actually evacuated: 3.9

Sampling Date: 9/11/14 Sampling Time: 1430 Depth to Water: 10.29

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

Analyzed for: TPH-G BTEX MTBE OXYS Other: See 50w

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	0.04	mg/L
	O.R.P. (if req'd):	Pre-purge:	mV	(Post-purge):	28

## CHEVRON WELL MONITORING DATA SHEET

Project #: 140911-ww2	Station #: 9-1723
Sampler: ww	Date: 9/11/14
Weather: Sunny	Ambient Air Temperature: 74.8°F
Well I.D.: MW-9	Well Diameter: 2 3 (4) 6 8
Total Well Depth: 20.05	Depth to Water: 9.43
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.24 11.55	

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: \_\_\_\_\_

6.9 (Gals.) X 3	= 20.7 Gals.	
I 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 <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
1234	69.3	7.60	831	188	6.9	odor
1236	67.4	7.41	846	104	13.8	"
1237	66.6	7.31	849	108	20.7	"

Did well dewater? Yes  No

Gallons actually evacuated: 20.7

Sampling Date: 9/11/14 Sampling Time: 1245 Depth to Water: 9.52

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

Analyzed for: TPH-G BTEX MTBE OXYS Other: see below

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.35	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	134	mV

**CHAIN OF CUSTODY FORM**

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

COC 1 of 1

Chevron Site Number: <u>91723</u>				Chevron Consultant: <u>STANTEC</u>				<b>ANALYSES REQUIRED</b>																											
Chevron Site Global ID: <u>T0690101789</u>				Address: <u>15575 Los Gatos Blvd., Bldg. C, Los Gatos,</u>				H		H		H		H		Preservation Codes																			
Chevron Site Address: <u>9757 San Leandro St.,</u>				CA Consultant Contact: <u>Travis Flora</u>				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		H = HCL T = Thiosulfate																			
<u>Oakland, CA</u>				Consultant Phone No. <u>408-356-6124</u>				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		N = HNO <sub>3</sub> B = NaOH																			
Chevron PM: <u>CARRYL MACLEOD</u>				Consultant Project No. _____				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		S = H <sub>2</sub> SO <sub>4</sub> O = Other																			
Chevron PM Phone No.: <u>(925)790-6506</u>				Sampling Company: <u>Blaine Tech Services</u>				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		CCC #1086A Cap #1502943 Sample # 7597317-02																			
<input checked="" type="checkbox"/> Retail and Terminal Business Unit (RTBU) Job				Sampled By (Print): <u>William Wong</u>				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		Special Instructions																			
<input checked="" type="checkbox"/> Construction/Retail Job				Sampler Signature: <u>[Signature]</u>				<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		Must meet lowest detection limits possible for 8250 Compounds																			
Charge Code: <u>NWRTB 00SITE NUMBER-0- WBS</u> <b>(WBS ELEMENTS:</b> 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 <input checked="" type="checkbox"/> Lancaster, PA Lab Contact: Jill Parker 2425 New Holland Pike, Lancaster, PA 17601 Phone No: (717)856-2300		Other Lab _____ _____ _____ _____		Temp. Blank Check Time Temp. 1140 10 1340 20 _____ _____		EPA 8260B/GC/MS TPH-G <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MIBED <input type="checkbox"/> OXYGENATES <input type="checkbox"/> HMOC <input type="checkbox"/> EPA 8015B <input type="checkbox"/> GROUSE <input type="checkbox"/> DRO <input type="checkbox"/> ORO <input type="checkbox"/> HCSCREEN <input type="checkbox"/>		EPA 8021B <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE <input type="checkbox"/> SULFIDE <input type="checkbox"/> EPA 8010 Cat. Fe, K, Mg, Mn, Ni, Pb <input type="checkbox"/> SMO <input type="checkbox"/> <u>Sulfide (3500 mg/L)</u> EPA 6010/7000 TITLE 22 METALS <input type="checkbox"/> TILC <input type="checkbox"/> STLC <input type="checkbox"/>		EPA 310.1 ALKALINITY <input checked="" type="checkbox"/>		EPA 418.1 TRPH <input type="checkbox"/> EPA 413.1 OIL & GREASE <input type="checkbox"/>		EPA 8260 <input type="checkbox"/> ETHANOL <input type="checkbox"/> EPA 8015 <input type="checkbox"/> TPH-O <input type="checkbox"/> <u>540FA Fe, Ni (Pb) (3500)</u>		Notes/Comments S															
SAMPLE ID				Sample Time	# of Containers	Container Type																													
Field Point Name	Matrix	Top Depth	Date (yymmdd)				EPA 8260B/GC/MS	TPH-G	BTEX	MIBED	OXYGENATES	HMOC	EPA 8015B	GROUSE	DRO	ORO	HCSCREEN	EPA 8021B	BTEX	MTBE	SULFIDE	EPA 6010/7000	TITLE 22 METALS	TILC	STLC	EPA 310.1	ALKALINITY	EPA 418.1	TRPH	EPA 413.1	OIL & GREASE	EPA 8260	ETHANOL	EPA 8015	TPH-O
MW-2	W		140911	1340	13	VARIOUS	X	X	X	X						X																			X
MW-5				1405	13		X																												
MW-6				1315	13		X																												
MW-8				1430	13																														
MW-9				1245	13																														
QA				1140	2	HCL WASH	X																												
Relinquished By: <u>[Signature]</u>				Company: <u>BLAINE TECH SERVICES</u>		Date/Time: <u>9/11/14 1455</u>		Relinquished To: <u>[Signature]</u>				Company: <u>ELLE</u>		Date/Time: <u>9/11/14 1455</u>		Turnaround Time: Standard <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Other <input type="checkbox"/>																			
Relinquished By:				Company:		Date/Time:		Relinquished To:				Company:		Date/Time:		Sample Integrity: (Check by lab on arrival)																			
Relinquished By:				Company:		Date/Time:		Relinquished To:				Company:		Date/Time:		Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> Temp: <u>02-1.6</u>																			
Relinquished By:				Company:		Date/Time:		Relinquished To:				Company:		Date/Time:		COC #																			









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

## ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

ChevronTexaco  
L4310  
6001 Bollinger Canyon Rd.  
San Ramon CA 94583

September 24, 2014

Project: 91723

Submittal Date: 09/12/2014  
Group Number: 1502943  
PO Number: 0015141332  
Release Number: CMACLEOD

State of Sample Origin: CA

### Client Sample Description

MW-2-W-140911 NA Water  
MW-5-W-140911 NA Water  
MW-6-W-140911 NA Water  
MW-8-W-140911 NA Water  
MW-9-W-140911 NA Water  
QA-T-140911 NA Water

### Lancaster Labs (LL) #

7597317  
7597318  
7597319  
7597320  
7597321  
7597322

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

ELECTRONIC COPY TO	Stantec	Attn: Laura Viesselman
ELECTRONIC COPY TO	Blaine Tech Services, Inc.	Attn: Dustin Becker
ELECTRONIC COPY TO	Stantec	Attn: Travis Flora
ELECTRONIC COPY TO	Stantec	Attn: Marisa Kaffenberger
ELECTRONIC COPY TO	Stantec	Attn: Erin O'Malley

Respectfully Submitted,



Natalie R. Luciano  
Senior Specialist

(717) 556-7258

Sample Description: MW-2-W-140911 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789

LL Sample # WW 7597317  
LL Group # 1502943  
Account # 10869

Project Name: 91723

Collected: 09/11/2014 13:40 by WW ChevronTexaco  
L4310  
Submitted: 09/12/2014 09:15 6001 Bollinger Canyon Rd.  
Reported: 09/24/2014 13:03 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</b>					
	<b>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.	99	22	1
10945	Ethylbenzene	100-41-4	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</b>					
	<b>SW-846 8015B modified</b>		<b>ug/l</b>	<b>ug/l</b>	
07105	Methane	74-82-8	490	3.0	1
<b>Wet Chemistry</b>					
	<b>EPA 300.0</b>		<b>ug/l</b>	<b>ug/l</b>	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	10,400	1,500	5
<b>SM 2320 B-1997</b>					
		n.a.	<b>ug/l as CaCO3</b>	<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	487,000	700	1
<b>SM 3500-Fe B modified-1997</b>					
		n.a.	<b>ug/l</b>	<b>ug/l</b>	
08344	Ferrous Iron	n.a.	4,500	100	10
<b>SM 4500-S2 D-2000</b>					
			<b>ug/l</b>	<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	270	5
Reporting limits were raised due to interference from the sample matrix.					

### General Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 09:17	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 09:17	Anita M Dale	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	142610033A	09/18/2014 19:12	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14255347602A	09/13/2014 02:43	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	14255347602A	09/13/2014 02:43	Clinton M Wilson	5
12150	Total Alkalinity	SM 2320 B-1997	1	14259004103A	09/17/2014 00:38	Yolunder Y Bunch	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	14262834401A	09/19/2014 21:30	Daniel S Smith	10
00230	Sulfide	SM 4500-S2 D-2000	1	14259023002A	09/16/2014 13:00	Michele L Graham	5

Sample Description: MW-5-W-140911 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789

LL Sample # WW 7597318  
LL Group # 1502943  
Account # 10869

Project Name: 91723

Collected: 09/11/2014 14:05 by WW ChevronTexaco  
L4310  
Submitted: 09/12/2014 09:15 6001 Bollinger Canyon Rd.  
Reported: 09/24/2014 13:03 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</b>					
	<b>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.	150	22	1
10945	Ethylbenzene	100-41-4	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</b>					
	<b>SW-846 8015B modified</b>		<b>ug/l</b>	<b>ug/l</b>	
07105	Methane	74-82-8	99	3.0	1
<b>Wet Chemistry</b>					
	<b>EPA 300.0</b>		<b>ug/l</b>	<b>ug/l</b>	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	34,900	1,500	5
<b>SM 2320 B-1997</b>					
		<b>ug/l as CaCO3</b>		<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	375,000	700	1
<b>SM 3500-Fe B modified-1997</b>					
		<b>ug/l</b>		<b>ug/l</b>	
08344	Ferrous Iron	n.a.	18,200	500	50
<b>SM 4500-S2 D-2000</b>					
		<b>ug/l</b>		<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	270	5
Reporting limits were raised due to interference from the sample matrix.					

### General Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 11:06	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 11:06	Anita M Dale	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	142610033A	09/18/2014 20:07	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14255347602A	09/13/2014 02:59	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	14255347602A	09/13/2014 02:59	Clinton M Wilson	5
12150	Total Alkalinity	SM 2320 B-1997	1	14259004103A	09/17/2014 00:59	Yolunder Y Bunch	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	14262834401A	09/19/2014 21:30	Daniel S Smith	50
00230	Sulfide	SM 4500-S2 D-2000	1	14259023002A	09/16/2014 13:00	Michele L Graham	5

**Sample Description:** MW-6-W-140911 NA Water  
**Facility#** 91723 BTST  
**9757 San Leandro-Oakland T0600101789**

**LL Sample #** WW 7597319  
**LL Group #** 1502943  
**Account #** 10869

**Project Name:** 91723

Collected: 09/11/2014 13:15 by WW ChevronTexaco  
 L4310  
 Submitted: 09/12/2014 09:15 6001 Bollinger Canyon Rd.  
 Reported: 09/24/2014 13:03 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</b>					
	<b>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.	52	22	1
10945	Ethylbenzene	100-41-4	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</b>					
	<b>SW-846 8015B modified</b>		<b>ug/l</b>	<b>ug/l</b>	
07105	Methane	74-82-8	320	3.0	1
<b>Wet Chemistry</b>					
	<b>EPA 300.0</b>		<b>ug/l</b>	<b>ug/l</b>	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	6,000	1,500	5
	<b>SM 2320 B-1997</b>		<b>ug/l as CaCO3</b>	<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	447,000	700	1
	<b>SM 3500-Fe B modified-1997</b>		<b>ug/l</b>	<b>ug/l</b>	
08344	Ferrous Iron	n.a.	10,400	500	50
	<b>SM 4500-S2 D-2000</b>		<b>ug/l</b>	<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	54	1

**General Sample Comments**

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

**Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 09:39	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 09:39	Anita M Dale	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	142610033A	09/18/2014 20:26	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14255347602A	09/13/2014 03:15	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	14255347602A	09/13/2014 03:15	Clinton M Wilson	5
12150	Total Alkalinity	SM 2320 B-1997	1	14259004103A	09/17/2014 00:52	Yolunder Y Bunch	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	14262834401A	09/19/2014 21:30	Daniel S Smith	50
00230	Sulfide	SM 4500-S2 D-2000	1	14259023002A	09/16/2014 13:00	Michele L Graham	1



Sample Description: MW-8-W-140911 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789

LL Sample # WW 7597320  
LL Group # 1502943  
Account # 10869

Project Name: 91723

Collected: 09/11/2014 14:30 by WW ChevronTexaco  
L4310  
Submitted: 09/12/2014 09:15 6001 Bollinger Canyon Rd.  
Reported: 09/24/2014 13:03 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	44	0.5	1
10945	C6-C12-TPH-GRO	n.a.	3,000	22	1
10945	Ethylbenzene	100-41-4	13	0.5	1
10945	Toluene	108-88-3	2	0.5	1
10945	Xylene (Total)	1330-20-7	8	0.5	1
<b>GC Miscellaneous</b>			<b>SW-846 8015B modified</b>	<b>ug/l</b>	
07105	Methane	74-82-8	2,900	60	20
<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	3,700	1,500	5
			<b>SM 2320 B-1997</b>	<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	417,000	700	1
			<b>SM 3500-Fe B modified-1997</b>	<b>ug/l</b>	
08344	Ferrous Iron	n.a.	59,500	1,000	100
			<b>SM 4500-S2 D-2000</b>	<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	540	10
Reporting limits were raised due to interference from the sample matrix.					

### General Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 10:00	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 10:00	Anita M Dale	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	142610033A	09/19/2014 11:30	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14255347602A	09/13/2014 03:31	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	14255347602A	09/13/2014 03:31	Clinton M Wilson	5
12150	Total Alkalinity	SM 2320 B-1997	1	14259004103A	09/17/2014 00:31	Yolunder Y Bunch	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	14262834401A	09/19/2014 21:30	Daniel S Smith	100
00230	Sulfide	SM 4500-S2 D-2000	1	14259023002A	09/16/2014 13:00	Michele L Graham	10

Sample Description: MW-9-W-140911 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789

LL Sample # WW 7597321  
LL Group # 1502943  
Account # 10869

Project Name: 91723

Collected: 09/11/2014 12:45 by WW ChevronTexaco  
L4310  
Submitted: 09/12/2014 09:15 6001 Bollinger Canyon Rd.  
Reported: 09/24/2014 13:03 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</b>					
	<b>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	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
<b>GC Miscellaneous</b>					
	<b>SW-846 8015B modified</b>		<b>ug/l</b>	<b>ug/l</b>	
07105	Methane	74-82-8	N.D.	3.0	1
<b>Wet Chemistry</b>					
	<b>EPA 300.0</b>		<b>ug/l</b>	<b>ug/l</b>	
00368	Nitrate Nitrogen	14797-55-8	2,700	250	5
00228	Sulfate	14808-79-8	35,300	1,500	5
<b>SM 2320 B-1997</b>					
			<b>ug/l as CaCO3</b>	<b>ug/l as CaCO3</b>	
12150	Total Alkalinity	n.a.	383,000	700	1
<b>SM 3500-Fe B modified-1997</b>					
			<b>ug/l</b>	<b>ug/l</b>	
08344	Ferrous Iron	n.a.	N.D.	10	1
<b>SM 4500-S2 D-2000</b>					
			<b>ug/l</b>	<b>ug/l</b>	
00230	Sulfide	18496-25-8	N.D.	54	1

### General Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 10:22	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 10:22	Anita M Dale	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	142610033A	09/18/2014 21:03	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14255347602B	09/13/2014 03:47	Clinton M Wilson	5
00228	Sulfate	EPA 300.0	1	14255347602B	09/13/2014 03:47	Clinton M Wilson	5
12150	Total Alkalinity	SM 2320 B-1997	1	14259004103A	09/17/2014 00:45	Yolunder Y Bunch	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	14262834401A	09/19/2014 21:30	Daniel S Smith	1
00230	Sulfide	SM 4500-S2 D-2000	1	14259023002A	09/16/2014 13:00	Michele L Graham	1

Sample Description: QA-T-140911 NA Water  
Facility# 91723 BTST  
9757 San Leandro-Oakland T0600101789

LL Sample # WW 7597322  
LL Group # 1502943  
Account # 10869

Project Name: 91723

Collected: 09/11/2014 11:40

ChevronTexaco

Submitted: 09/12/2014 09:15

L4310

Reported: 09/24/2014 13:03

6001 Bollinger Canyon Rd.  
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</b>			<b>SW-846 8260B</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	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

### General Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	8260 BTEX+ GRO C6-C12	SW-846 8260B	1	F142601AA	09/17/2014 07:27	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F142601AA	09/17/2014 07:27	Anita M Dale	1

## Quality Control Summary

Client Name: ChevronTexaco  
Reported: 09/24/14 at 01:03 PM

Group Number: 1502943

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: F142601AA	Sample number(s): 7597317-7597322							
Benzene	N.D.	0.5	ug/l	90		78-120		
C6-C12-TPH-GRO	N.D.	22.	ug/l	119	126	80-152	6	30
Ethylbenzene	N.D.	0.5	ug/l	93		79-120		
Toluene	N.D.	0.5	ug/l	92		80-120		
Xylene (Total)	N.D.	0.5	ug/l	95		80-120		
Batch number: 142610033A	Sample number(s): 7597317-7597321							
Methane	N.D.	3.0	ug/l	105		85-115		
Batch number: 14255347602A	Sample number(s): 7597317-7597320							
Nitrate Nitrogen	N.D.	50.	ug/l	99		90-110		
Sulfate	N.D.	300.	ug/l	102		90-110		
Batch number: 14255347602B	Sample number(s): 7597321							
Nitrate Nitrogen	N.D.	50.	ug/l	99		90-110		
Sulfate	N.D.	300.	ug/l	102		90-110		
Batch number: 14259004103A	Sample number(s): 7597317-7597321							
Total Alkalinity	770	700.	ug/l as CaCO3	95		90-110		
Batch number: 14259023002A	Sample number(s): 7597317-7597321							
Sulfide	N.D.	54.	ug/l	102		90-110		
Batch number: 14262834401A	Sample number(s): 7597317-7597321							
Ferrous Iron	N.D.	10.	ug/l	99		93-105		

### 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: F142601AA	Sample number(s): 7597317-7597322 UNSPK: 7597317								
Benzene	99	95	72-134	4	30				
Ethylbenzene	103	100	71-134	4	30				
Toluene	101	98	80-125	3	30				
Xylene (Total)	103	100	79-125	4	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: 09/24/14 at 01:03 PM

Group Number: 1502943

### Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD RPD	BKG MAX Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 142610033A Methane	47 (2)	97 (2)	46-129	6	20			
Batch number: 14255347602A Nitrate Nitrogen	116*		90-110		1,200	1,200	1 (1)	20
Sulfate	120*		90-110		N.D.	N.D.	0 (1)	20
Batch number: 14255347602B Nitrate Nitrogen	98		90-110		N.D.	N.D.	0 (1)	20
Sulfate	102		90-110		N.D.	N.D.	0 (1)	20
Batch number: 14259004103A Total Alkalinity	22		17-146		174,000	175,000	0	5
Batch number: 14259023002A Sulfide	79	73	42-131	7	16	N.D.	N.D.	0 (1)
Batch number: 14262834401A Ferrous Iron	115*	101	73-111	13*	6	N.D.	60	200* (1)

### 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: F142601AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7597317	102	97	101	101
7597318	103	95	101	102
7597319	101	97	102	102
7597320	100	98	100	103
7597321	101	97	100	100
7597322	104	97	99	98
Blank	101	97	100	99
LCS	103	98	100	101
LCSD	101	95	99	100
MS	103	97	100	101
MSD	102	99	99	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: Volatile Headspace Hydrocarbon  
Batch number: 142610033A

	Propene
7597317	76
7597318	82
7597319	74
7597320	95
7597321	67

\*- 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: 09/24/14 at 01:03 PM

Group Number: 1502943

### Surrogate Quality Control

Blank	103
LCS	99
MS	74
MSD	76

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Limits: 47-116

\*- 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: CARRYL MACLEOD Chevron PM Phone No.: (925)790-6506 <input checked="checked" type="checkbox"/> Retail and Terminal Business Unit (RTBU) Job <input checked="checked" type="checkbox"/> 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. _____ Sampling Company: Blaine Tech Services Sampled By (Print): <u>William Wong</u> Sampler Signature:			<b>ANALYSES REQUIRED</b> <table style="width:100%; font-size: 8px;"> <tr> <td>H</td><td>H</td><td>O</td><td>I</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><input checked="checked" type="checkbox"/></td><td><input checked="checked" type="checkbox"/></td><td><input checked="checked" type="checkbox"/></td><td><input checked="checked" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>												H	H	O	I																				<input checked="checked" type="checkbox"/>	<input checked="checked" type="checkbox"/>	<input checked="checked" type="checkbox"/>	<input checked="checked" 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Charge Code: NWRTB 00SITE NUMBER-0- WBS <b>(WBS ELEMENTS:</b> SITE ASSESSMENT: A1L REMEDIATION IMPLEMENTATION: R5L SITE MONITORING: OML OPERATION MAINTENANCE & MONITORING: M1L <i>THIS IS A LEGAL DOCUMENT. ALL FIELDS MUST BE FILLED OUT CORRECTLY AND COMPLETELY.</i>			<b>Lancaster Laboratories</b> <input checked="checked" type="checkbox"/> 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. _____ 1140 10 1340 20			EPA 8260B(GC/MS) _____ TP4L-G _____ EPA 8015B _____ EPA 8021B-ATEX _____ EPA 8010 Cat, Fe, K, Mg, Mn, Na EPA 6010/7000 TITLE 22 METALS _____ EPA 150.1 PH _____ SM2510B SPECIFIC CONDUCTIVITY _____ EPA 418.1 TRPH _____ EPA 8260 ETHANOL _____ EPA 8015 TPH-D _____ SULFATE, NITRATE (350.0) _____																																																						
<b>SAMPLE ID</b>																																																															
Field Point Name	Matrix	Top Depth	Date (yy/mm/dd)	Sample Time	# of Containers	Container Type																																																									
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MW-5				1405	13		X	0	0	0	0		0																																																		
MW-6				1315	13		X	0	0	0	0		0																																																		
MW-8				1430	13		0	0	0	0		0																																																			
MW-9				1245	13		0	X	0	0		0																																																			
QA				1140	2	HCl wash	0																																																								
Relinquished By:  Company: BLAINE TECH SERVICES Date/Time: 9/11/14 1455 Relinquished To:  Company: ELLE Date/Time: 9/11/14 1455 Turnaround Time: Standard <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Other <input type="checkbox"/>																																																															
Relinquished By: _____ Company: _____ Date/Time: _____ Relinquished To: _____ Company: _____ Date/Time: _____ Sample Integrity: (Check by lab on arrival) Intact: <input checked="checked" type="checkbox"/> On Ice: <input checked="checked" type="checkbox"/> Temp: 0.8 - 1.6 COC # _____																																																															
Relinquished By: _____ Company: _____ Date/Time: _____ Relinquished To:  Company: ELLE Date/Time: 9/12/14 915																																																															

# 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

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

> greater than

**ppm** parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

*Data Qualifiers:*

**C** – result confirmed by reanalysis.

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

*U.S. EPA CLP Data Qualifiers:*

**Organic Qualifiers**

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

**Inorganic Qualifiers**

- B** Value is  $<$ CRDL, but  $\geq$ IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- \*** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA  $<0.995$

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

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

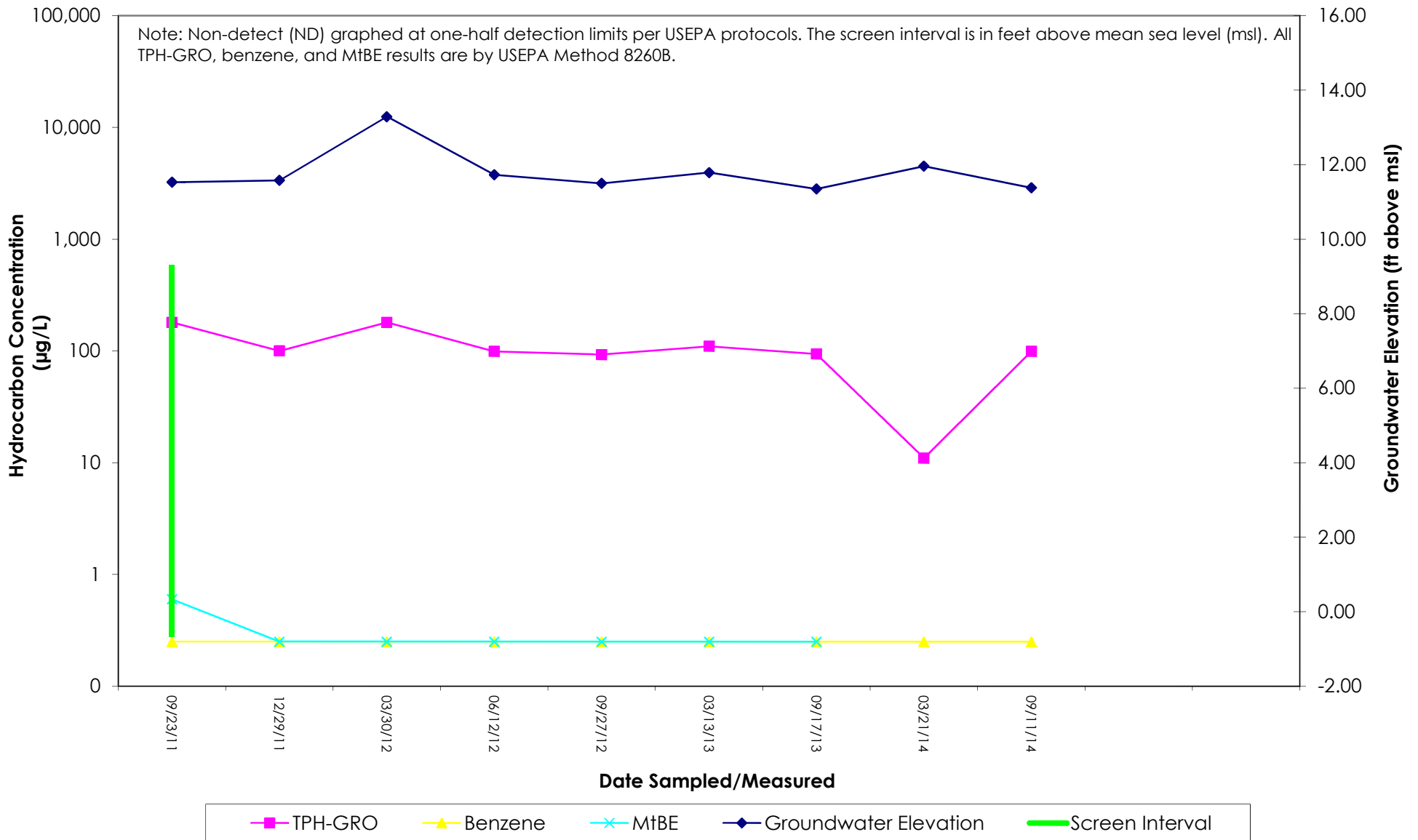
Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

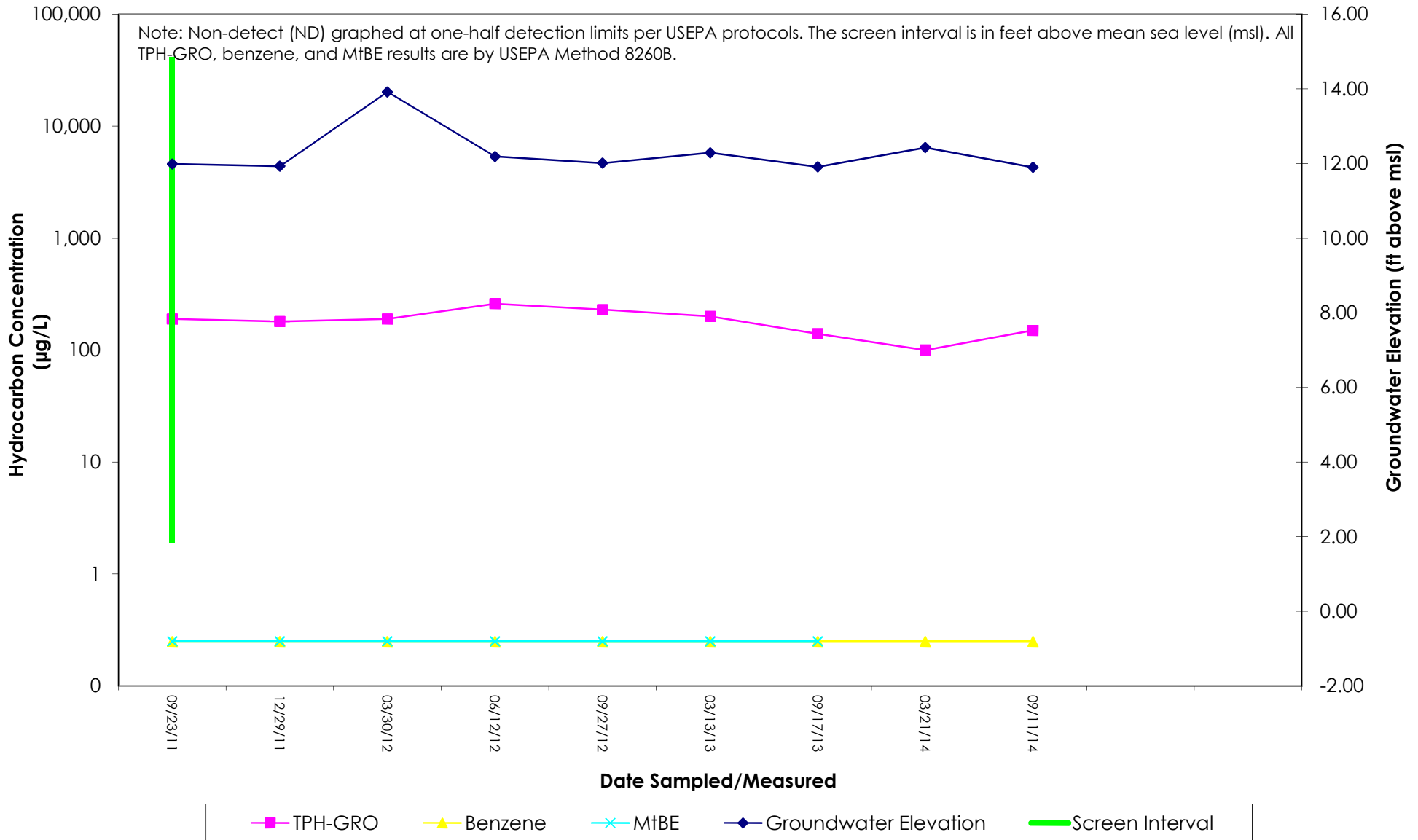


**ATTACHMENT C**  
**Hydrographs**

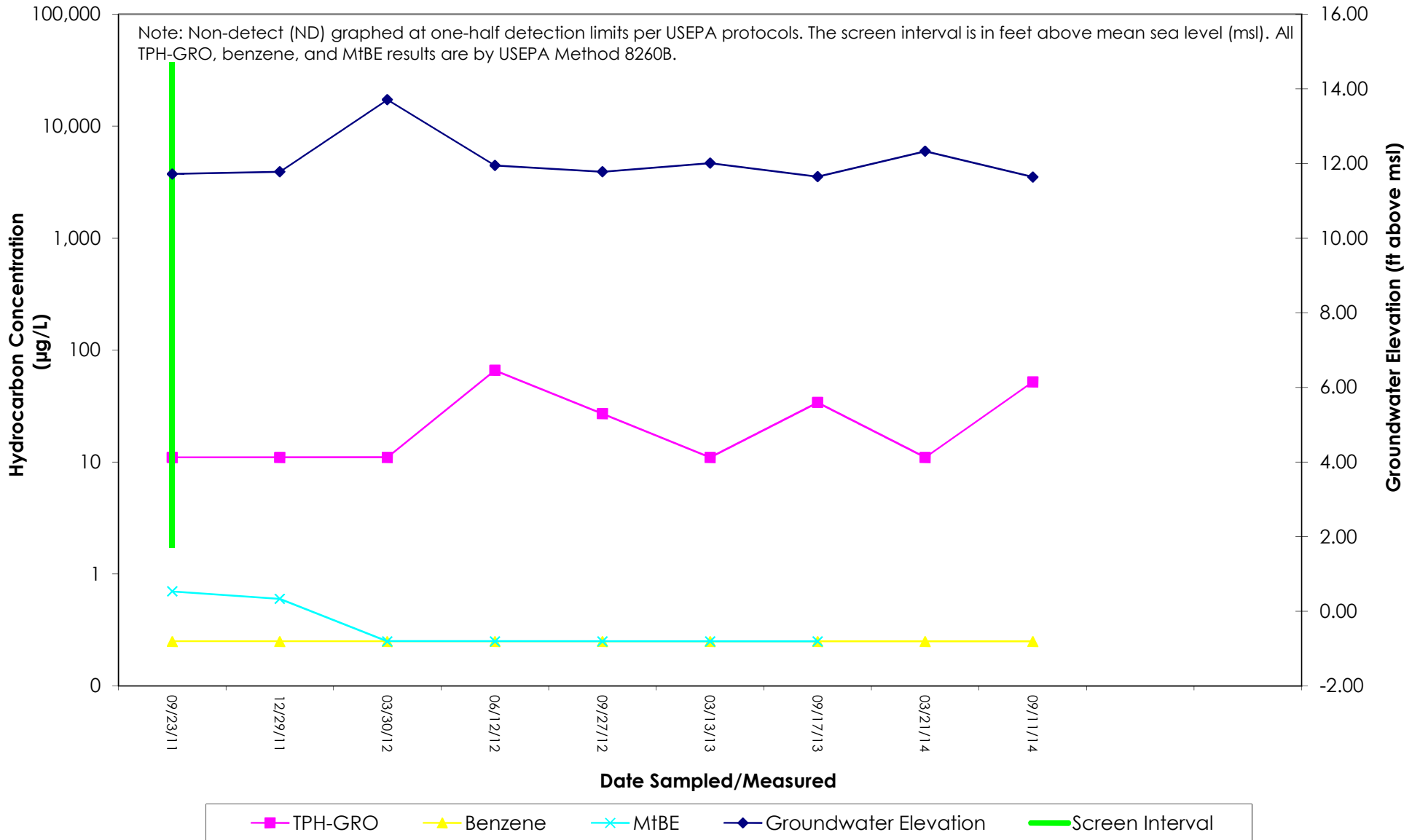
**MW-2 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



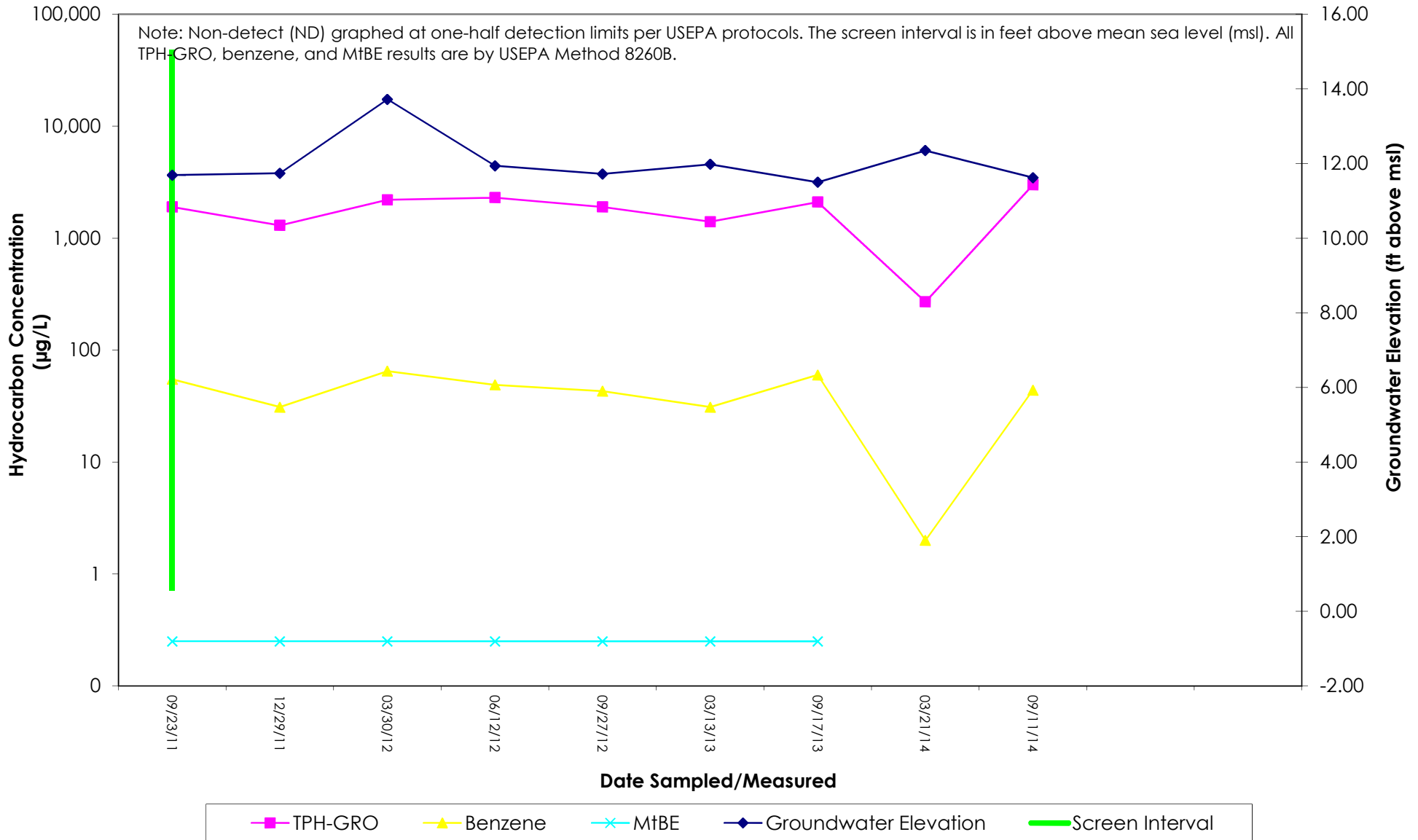
**MW-5 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
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 Oakland, California



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



**MW-8 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



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

Former Chevron-branded Service Station 91723

9757 San Leandro Street

Oakland, California

