

**RECEIVED**

*12:45 pm, Feb 16, 2012*

Alameda County  
Environmental Health



**Fourth Quarter 2011 Quarterly  
Groundwater Monitoring Report**

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

**Submitted to:**

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

**Prepared for:**

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

**Submitted by:**

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

February 15, 2012



**David Patten**  
Project Manager  
Marketing Business Unit

**Chevron Environmental  
Management Company**  
6101 Bollinger Canyon Road  
San Ramon, CA 94583  
Tel (925) 790-6491  
drpatten@chevron.com

February 15, 2012

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

Dear Mr. Detterman:

Attached for your review is the *Fourth Quarter 2011 Quarterly Groundwater Monitoring Report* for former Chevron-branded service station 91723, located at 9757 San Leandro Street in Oakland, California. This report was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. I declare under penalty of perjury that the information and/or recommendations contained in the attached report are true and correct, to the best of my knowledge.

If you should have any further questions, please do not hesitate to contact me or the Stantec project manager, Travis Flora, at (408) 356-6124 ext. 238, or [travis.flora@stantec.com](mailto:travis.flora@stantec.com).

Sincerely,

A handwritten signature in blue ink that reads "David Patten" followed by "on behalf of" written in a smaller, less legible script.

**David Patten**  
Project Manager



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

**Stantec**

February 15, 2012

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

RE: **Fourth Quarter 2011 Quarterly Groundwater Monitoring Report**  
Former Chevron-branded Service Station 91723  
9757 San Leandro Street  
Oakland, California

Dear Mr. Detterman:

On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Services Inc. (Stantec) is pleased to submit the *Fourth Quarter 2011 Quarterly Groundwater Monitoring Report* for former Chevron-branded service station 91723, which was located at 9757 San Leandro Street, Oakland, California (the Site - shown on **Figure 1**). This report is presented in three sections: Site Background, Fourth Quarter 2011 Groundwater Monitoring and Sampling Program, and Conclusions and Recommendations.

## **SITE BACKGROUND**

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

## **FOURTH QUARTER 2011 GROUNDWATER MONITORING AND SAMPLING PROGRAM**

Blaine Tech Services, Inc. (Blaine Tech) performed the Fourth Quarter 2011 groundwater monitoring and sampling event on December 29, 2011. Blaine Tech's standard operating

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

Investigation-derived waste (IDW) generated during the Fourth Quarter 2011 groundwater monitoring and sampling event was collected by Blaine Tech and transported under bill-of-lading to Integrated Wastestream Management, Inc. (IWM) facilities in San Jose, California.

### **Groundwater Elevation and Gradient**

Well construction details and an assessment of whether groundwater samples were collected when groundwater elevations were measured across the well screen intervals are presented in **Table 1**. Groundwater elevation data from Third Quarter 2011 to the present are included in **Table 2**. A groundwater elevation contour map (based on Fourth Quarter 2011 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 ranging from 0.002 to 0.003 feet per foot (ft/ft). A Rose Diagram illustrating the direction of groundwater flow from Third Quarter 2011 to the present is shown on **Figure 3**.

### **Schedule of Laboratory Analysis**

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

### **Groundwater Analytical Results**

During the Fourth Quarter 2011 groundwater monitoring and sampling event, groundwater samples were collected from five Site wells (MW-2, MW-5, MW-6, MW-8, and MW-9). Groundwater analytical results from Third Quarter 2011 to the present are included in **Table 2**. A figure showing the latest groundwater analytical data plotted on a Site map is included as **Figure 4**. A TPH-GRO isoconcentration map is shown on **Figure 5**. A benzene isoconcentration map is shown on **Figure 6**. An isoconcentration map was not developed for MtBE as all detected concentrations were below the California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) Environmental Screening Level (ESL) of 5 micrograms per liter ( $\mu\text{g/L}$ ).

Certified laboratory analysis reports and chain-of-custody documents are presented as **Attachment B**. Historical groundwater analytical results are included in **Attachment C**. Hydrographs based on groundwater elevations and analytical results from Third Quarter 2011 to the present are included in **Attachment D**. A summary of Fourth Quarter 2011 groundwater analytical results follows. Historical trends were not analyzed as wells have only been sampled recently during two events.

- **TPH-GRO** was detected in three Site wells this quarter, at concentrations of 100  $\mu\text{g/L}$  (well MW-2), 180  $\mu\text{g/L}$  (well MW-5), and 1,300  $\mu\text{g/L}$  (well MW-8).

- **Benzene** was detected in one Site well this quarter, at a concentration of 31 µg/L (well MW-8).
- **Toluene** was detected in one Site well this quarter, at a concentration of 1 µg/L (well MW-8).
- **Ethylbenzene** was detected in two Site wells this quarter, at concentrations of 0.7 µg/L (well MW-2) and 5 µg/L (well MW-8).
- **Total Xylenes** were detected in two Site wells this quarter, at concentrations of 0.9 µg/L (well MW-2) and 5 µg/L (well MW-8).
- **MtBE** was detected in one Site well this quarter, at a concentration of 0.6 µg/L (well MW-6).

## CONCLUSIONS AND RECOMMENDATIONS

Concentrations of TPH-GRO and benzene were observed equal to or above ESLs as follows:

- TPH-GRO concentrations equal or exceed the ESL of 100 µg/L in wells MW-2, MW-5, and MW-8; and
- The benzene concentration exceeds the ESL of 1 µg/L in well MW-8.

Maximum concentrations of TPH-GRO and BTEX compounds were observed in well MW-8, which is located in the northern portion of the Site near the former second-generation USTs. TPH-GRO was also detected in well MW-5, near the former first-generation dispenser island, and potentially down-gradient at well MW-2. Due to detections below laboratory reporting limits (LRLs) for TPH-GRO and BTEX compounds in well MW-6 (directly down-gradient of well MW-5 as indicated by the direction of groundwater flow on **Figure 2** and **Figure 3**), and potentially two source distinct source areas, TPH-GRO has been represented as two distinct plumes. The maximum concentration of MtBE was observed in well MW-6; however, based on the years in which the former service station operated (1946 to 1978), MtBE detections are likely unrelated to historical service station operations.

Based on concentrations of TPH-GRO and benzene equal to exceeding ESLs, and to further evaluate groundwater quality and the prevailing direction of groundwater flow at the Site, Stantec recommends that the groundwater monitoring and sampling program continue. Though the Alameda County Environmental Health (ACEH) correspondence, dated July 24, 2009, recommended semi-annual groundwater monitoring and sampling during First and Third Quarters, Stantec recommends that quarterly groundwater monitoring and sampling be conducted for a period of one year (through Second Quarter 2012) due to the large gap since the last groundwater monitoring and sampling event (Third Quarter 1998) at the Site. In the ACEH correspondence, it was also requested that reports be submitted to ACEH within 60 days following groundwater monitoring and sampling events.

## Stantec

Fourth Quarter 2011 Quarterly Groundwater Monitoring Report  
Former Chevron-branded Service Station 91723  
February 15, 2012  
Page 4 of 5

In addition, Stantec recommends that the following analyses be added to the groundwater monitoring and sampling program beginning First Quarter 2012 for evaluation of intrinsic biodegradation indicators:

- Field measurements of oxidation-reduction potential (ORP) and dissolved oxygen (DO);
- Sulfate ( $\text{SO}_4^{2-}$ ) and nitrate ( $\text{NO}_3^-$ ) by US EPA Method 300.0;
- Ferrous iron ( $\text{Fe}^{2+}$ ) by SM20 3500 Fe B Modified;
- Methane ( $\text{CH}_4$ ) by US EPA Method 8015B Modified;
- Sulfide by SM20 4500 S2 D; and
- Alkalinity by US EPA Method 310.1.

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

Sincerely,  
**Stantec Consulting Services Inc.**



Travis L. Flora  
Project Manager

### Attachments:

Table 1 – Well Details / Screen Interval Assessment – Fourth Quarter 2011  
Table 2 – Groundwater Monitoring Data and Analytical Results

Figure 1 – Site Location Map  
Figure 2 – Groundwater Elevation Contour Map – Fourth Quarter 2011  
Figure 3 – Rose Diagram – Fourth Quarter 2011  
Figure 4 – Site Plan Showing Groundwater Concentrations – Fourth Quarter 2011  
Figure 5 – TPH-GRO Isoconcentration Map – Fourth Quarter 2011  
Figure 6 – Benzene Isoconcentration Map – Fourth Quarter 2011

Attachment A – Blaine Tech Services, Inc. Groundwater Monitoring Report – Fourth Quarter 2011  
Attachment B – Certified Laboratory Analysis Reports and Chain-of-Custody Documents  
Attachment C – Historical Groundwater Analytical Results  
Attachment D – Hydrographs

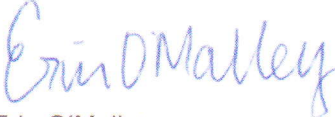
**Stantec**

Fourth Quarter 2011 Quarterly Groundwater Monitoring Report  
Former Chevron-branded Service Station 91723  
February 15, 2012  
Page 5 of 5

**LIMITATIONS AND CERTIFICATION**

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

**Prepared by:**

  
Erin O'Malley  
Project Engineer

**Reviewed by:**

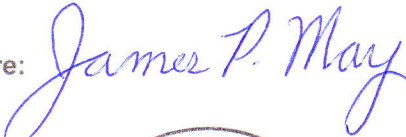
  
Marisa Patterson  
Associate Engineer

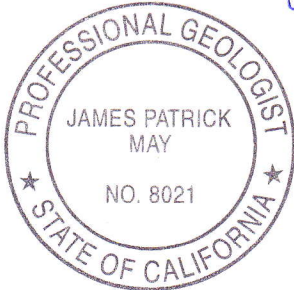
All information, conclusions, and recommendations provided by Stantec in this document regarding the Subject Property have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

**Licensed Approver:**

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

**Date:** 15 FEB 2012

**Signature:** 

**Stamp:** 

cc:

Mr. David Patten, Chevron Environmental Management Company, 6101 Bollinger Canyon Road, San Ramon, CA 94583 – Electronic Copy

Ms. Linda C. Hothem Trust, 104 Caledonia Street, Sausalito, CA 94965

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

# Tables



**Table 1**  
**Well Details / Screen Interval Assessment**  
**Fourth Quarter 2011**  
Former Chevron-Branded Service Station 91723  
9757 San Leandro Street, Oakland, California

Well ID	Date Installed	Well Type	Casing Diameter (inches)	Top of Casing (feet above msl)	Construction Well Depth (feet bgs)	Current Well Depth <sup>1</sup> (feet bgs)	Current Depth to Groundwater <sup>1</sup> (feet below TOC)	Screen Interval (feet bgs)	Screen Interval Assessment
MW-2	4/18/1987	Monitoring	2	21.31	22.00	21.74	9.73	12-22	Depth-to-groundwater above screen interval.
MW-5	5/18/1988	Monitoring	2	21.84	20.00	17.64	9.91	7-20	Depth-to-groundwater within screen interval.
MW-6	5/18/1988	Monitoring	2	21.71	20.00	19.68	9.93	7-20	Depth-to-groundwater within screen interval.
MW-8	5/19/1988	Monitoring	2	21.84	20.00	18.24	10.10	7-20	Depth-to-groundwater within screen interval.
MW-9	8/4/1989	Monitoring	4	20.55	20.00	20.05	9.51	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 December 29, 2011.

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

WELL ID/ DATE	TOC (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MtBE (µg/L)
<b>MW-2</b>									
09/23/11	21.31	9.78	11.53	180	<0.5	<0.5	0.6	0.6	0.6
12/29/11	<b>21.31</b>	<b>9.73</b>	<b>11.58</b>	<b>100</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.7</b>	<b>0.9</b>	<b>&lt;0.5</b>
<b>MW-5</b>									
09/23/11	21.84	9.85	11.99	190	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	<b>21.84</b>	<b>9.91</b>	<b>11.93</b>	<b>180</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-6</b>									
09/23/11	21.71	9.99	11.72	<22	<0.5	<0.5	<0.5	<0.5	0.7
12/29/11	<b>21.71</b>	<b>9.93</b>	<b>11.78</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>0.6</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	<b>21.84</b>	<b>10.10</b>	<b>11.74</b>	<b>1,300</b>	<b>31</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>&lt;0.5</b>
<b>MW-9</b>									
09/23/11	20.55	9.30	11.25	<22	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	<b>20.55</b>	<b>9.51</b>	<b>11.04</b>	<b>&lt;22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>TRIP BLANK</b>									
<b>QA</b>									
09/23/11	--	--	--	<22	<0.5	<0.5	<0.5	<0.5	<0.5
12/29/11	--	--	--	<b>&lt;22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>

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

---

---

**EXPLANATIONS:**

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

TOC = Top of Casing

(ft.) = Feet

DTW = Depth to Water

GWE = Groundwater Elevation

(msl) = Mean Sea Level

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

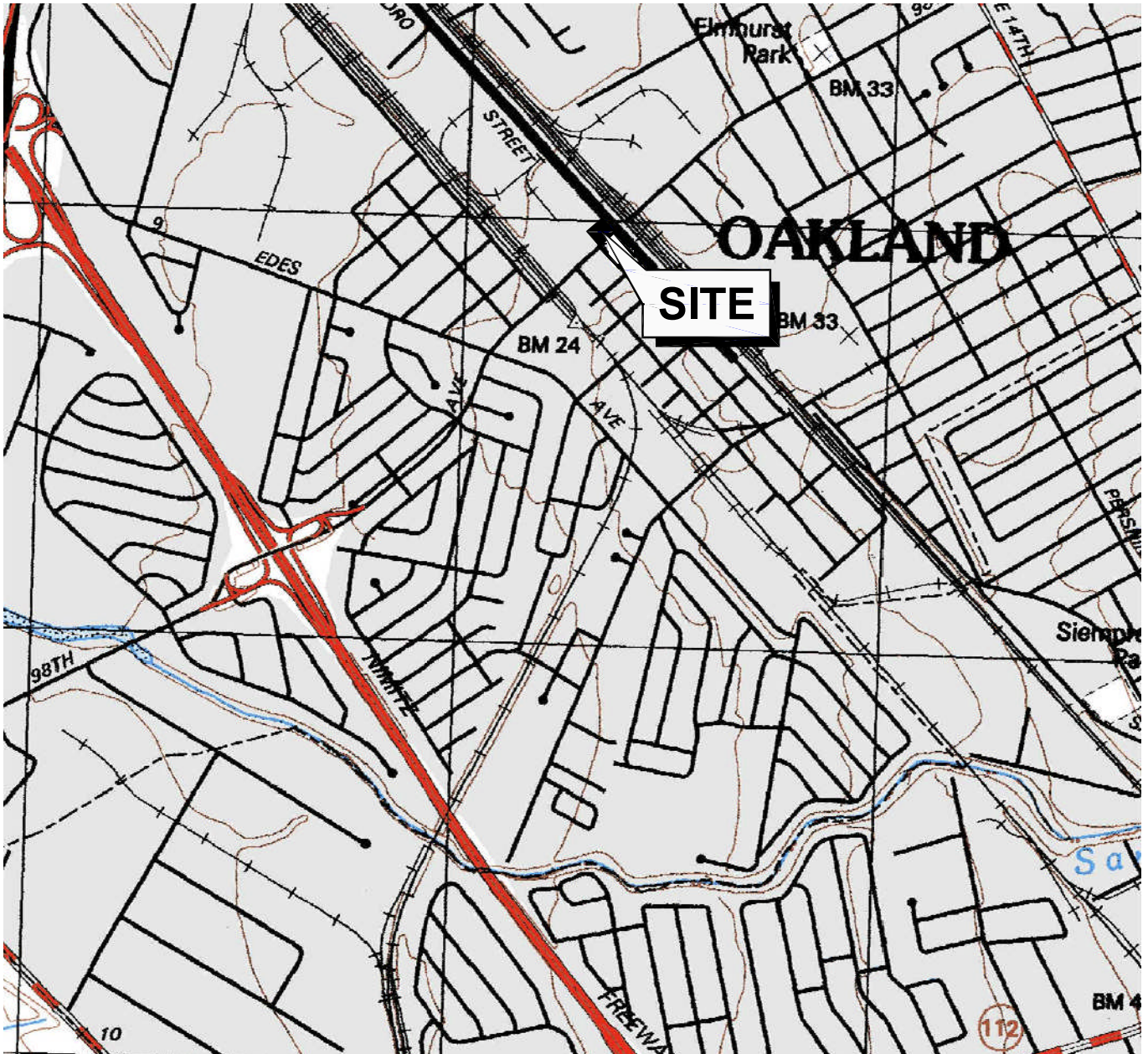
MtBE = Methyl tertiary-butyl ether

(µg/L) = Micrograms per liter

-- = Not Measured/Not Analyzed

QA = Quality Assurance/Trip Blank

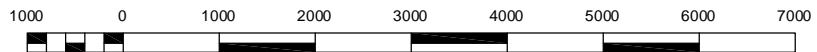
# Figures



CALIFORNIA



SCALE IN MILES



SCALE IN FEET

REFERENCE: USGS QUADTRIANGLE MAP:  
SAN LEANDRO, CA 1993



**Stantec**

15575 Los Gatos Blvd, Building C  
Los Gatos, CA 95032

Phone: (408) 356-6124 Fax: (408) 356-6138

FOR:  
FORMER CHEVRON-BRANDED  
SERVICE STATION 91723  
9757 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE:

1

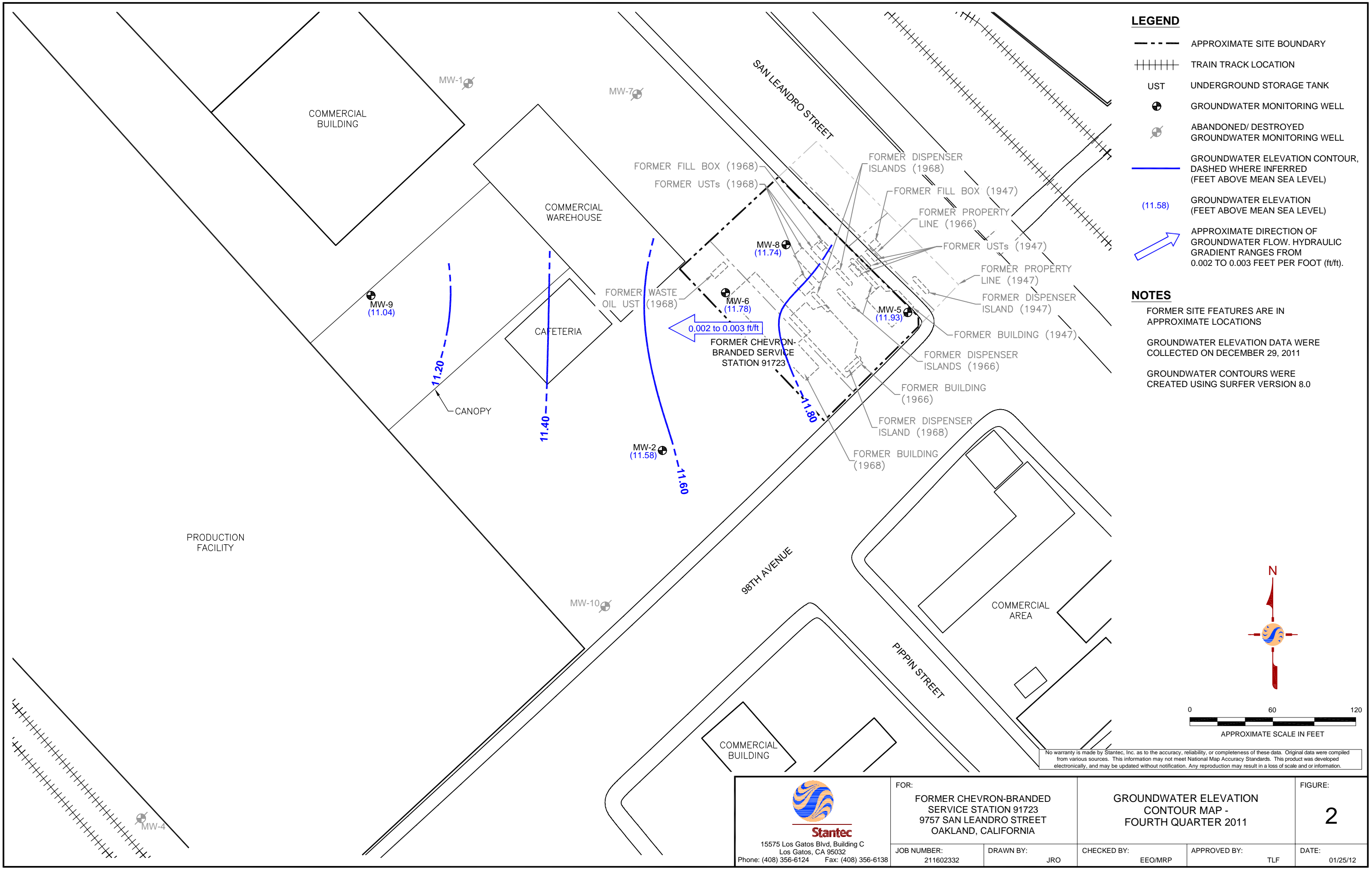
JOB NUMBER:  
211602332

DRAWN BY:  
JRO

CHECKED BY:  
EEO/MRP

APPROVED BY:  
TLF

DATE:  
01/25/12

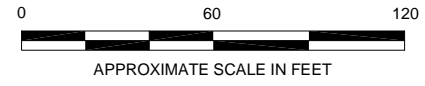


**LEGEND**


- APPROXIMATE SITE BOUNDARY
- ++++ TRAIN TRACK LOCATION
- UST UNDERGROUND STORAGE TANK
- ⊕ GROUNDWATER MONITORING WELL
- ⊗ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR, DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)
- (11.58) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- ➔ APPROXIMATE DIRECTION OF GROUNDWATER FLOW. HYDRAULIC GRADIENT RANGES FROM 0.002 TO 0.003 FEET PER FOOT (ft/ft).

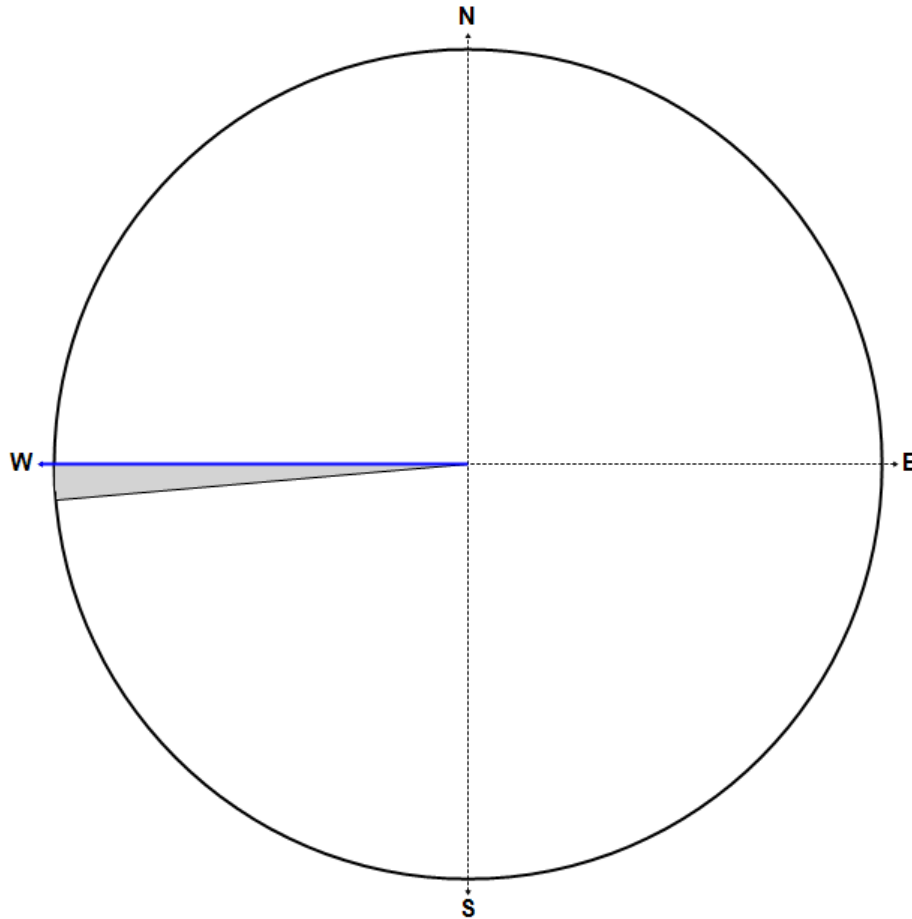
**NOTES**

- FORMER SITE FEATURES ARE IN APPROXIMATE LOCATIONS
- GROUNDWATER ELEVATION DATA WERE COLLECTED ON DECEMBER 29, 2011
- GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 8.0



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


 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723</b> <b>9757 SAN LEANDRO STREET</b> <b>OAKLAND, CALIFORNIA</b>		<b>GROUNDWATER ELEVATION CONTOUR MAP -</b> <b>FOURTH QUARTER 2011</b>		FIGURE: <b>2</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRP	APPROVED BY: TLF	DATE: 01/25/12

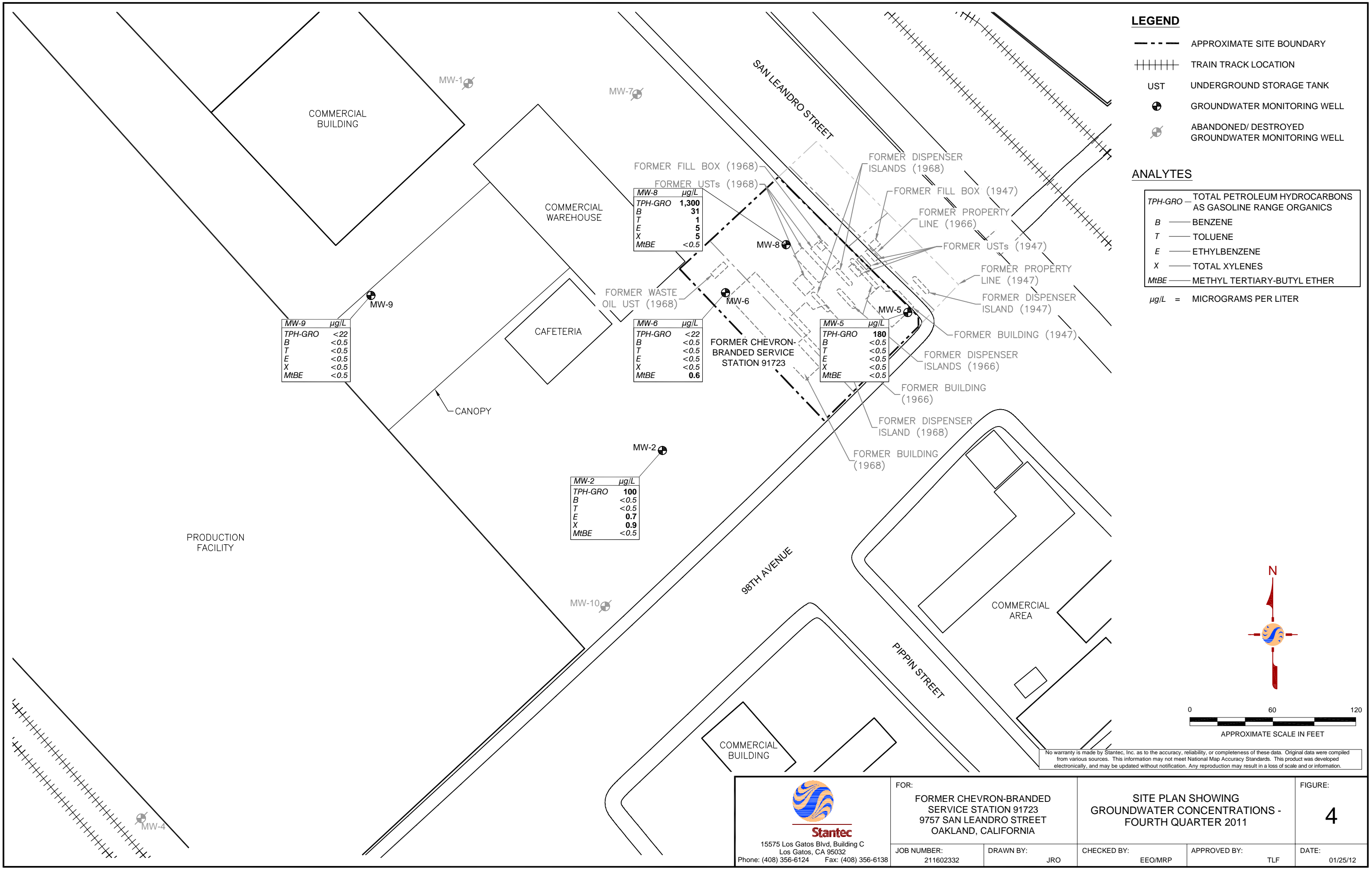


Equal Area Plot

Number of Points 2  
 Class Size 5  
 Vector Mean 270.00  
 Vector Magnitude 2.00  
 Consistency Ratio 1.00

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

 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA		ROSE DIAGRAM - FOURTH QUARTER 2011		FIGURE:  <b>3</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRP	APPROVED BY: TLF	DATE: 01/25/12



**LEGEND**

- APPROXIMATE SITE BOUNDARY
- ++++ TRAIN TRACK LOCATION
- UST UNDERGROUND STORAGE TANK
- ⊕ GROUNDWATER MONITORING WELL
- ⊖ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL

**ANALYTES**

- TPH-GRO — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
  - B — BENZENE
  - T — TOLUENE
  - E — ETHYLBENZENE
  - X — TOTAL XYLENES
  - MtBE — METHYL TERTIARY-BUTYL ETHER
- µg/L = MICROGRAMS PER LITER

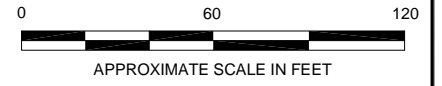
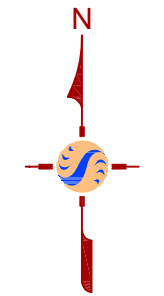
MW-9	µg/L
TPH-GRO	<22
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

MW-8	µg/L
TPH-GRO	1,300
B	31
T	1
E	5
X	5
MtBE	<0.5


MW-6	µg/L
TPH-GRO	<22
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	0.6

MW-5	µg/L
TPH-GRO	180
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MtBE	<0.5

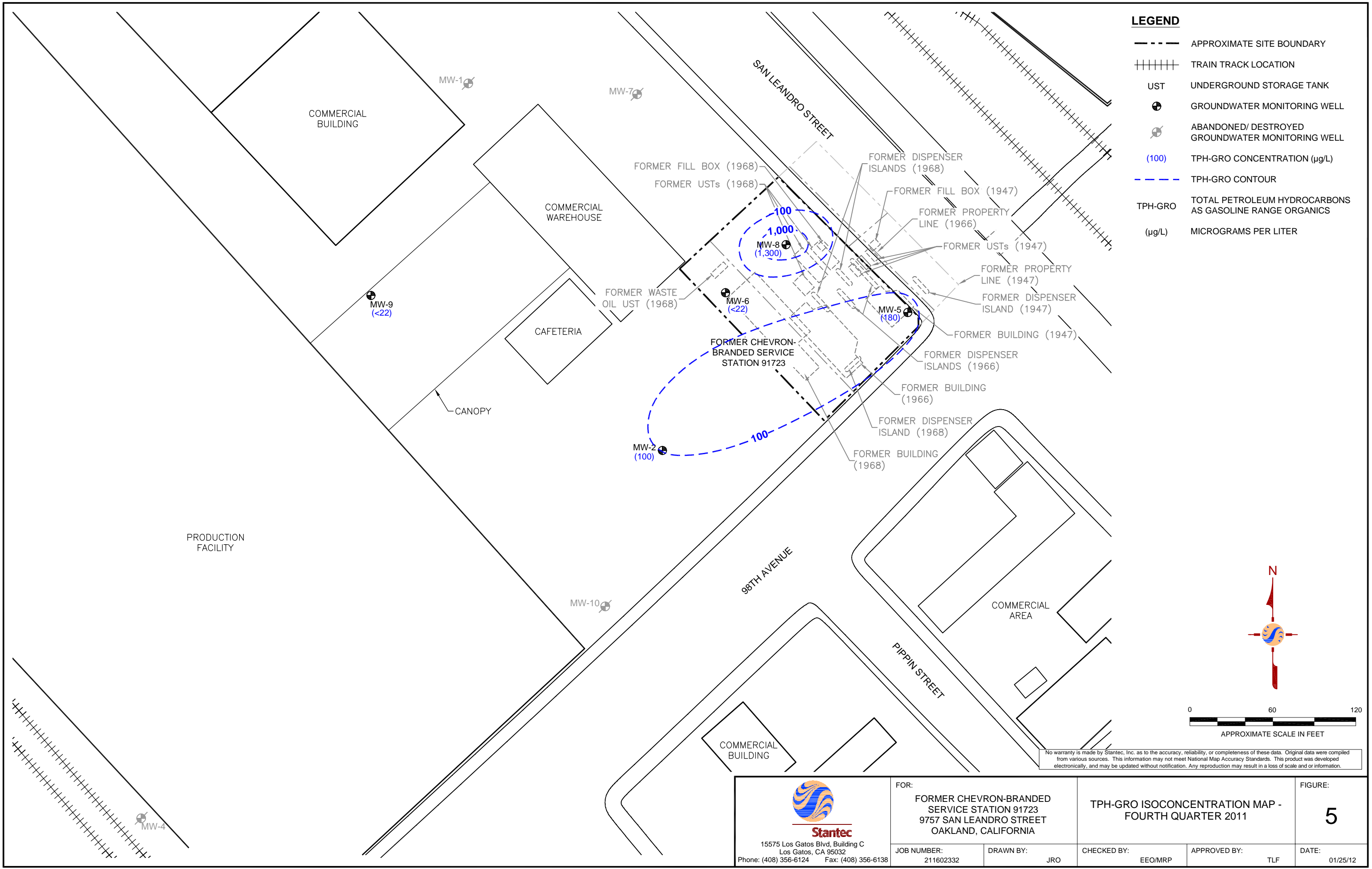
MW-2	µg/L
TPH-GRO	100
B	<0.5
T	<0.5
E	0.7
X	0.9
MtBE	<0.5



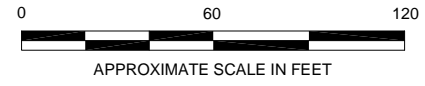
No warranty is made by Stantec, Inc. as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any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

 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723 9757 SAN LEANDRO STREET OAKLAND, CALIFORNIA</b>	<b>SITE PLAN SHOWING GROUNDWATER CONCENTRATIONS - FOURTH QUARTER 2011</b>		FIGURE: <b>4</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRP	APPROVED BY: TLF




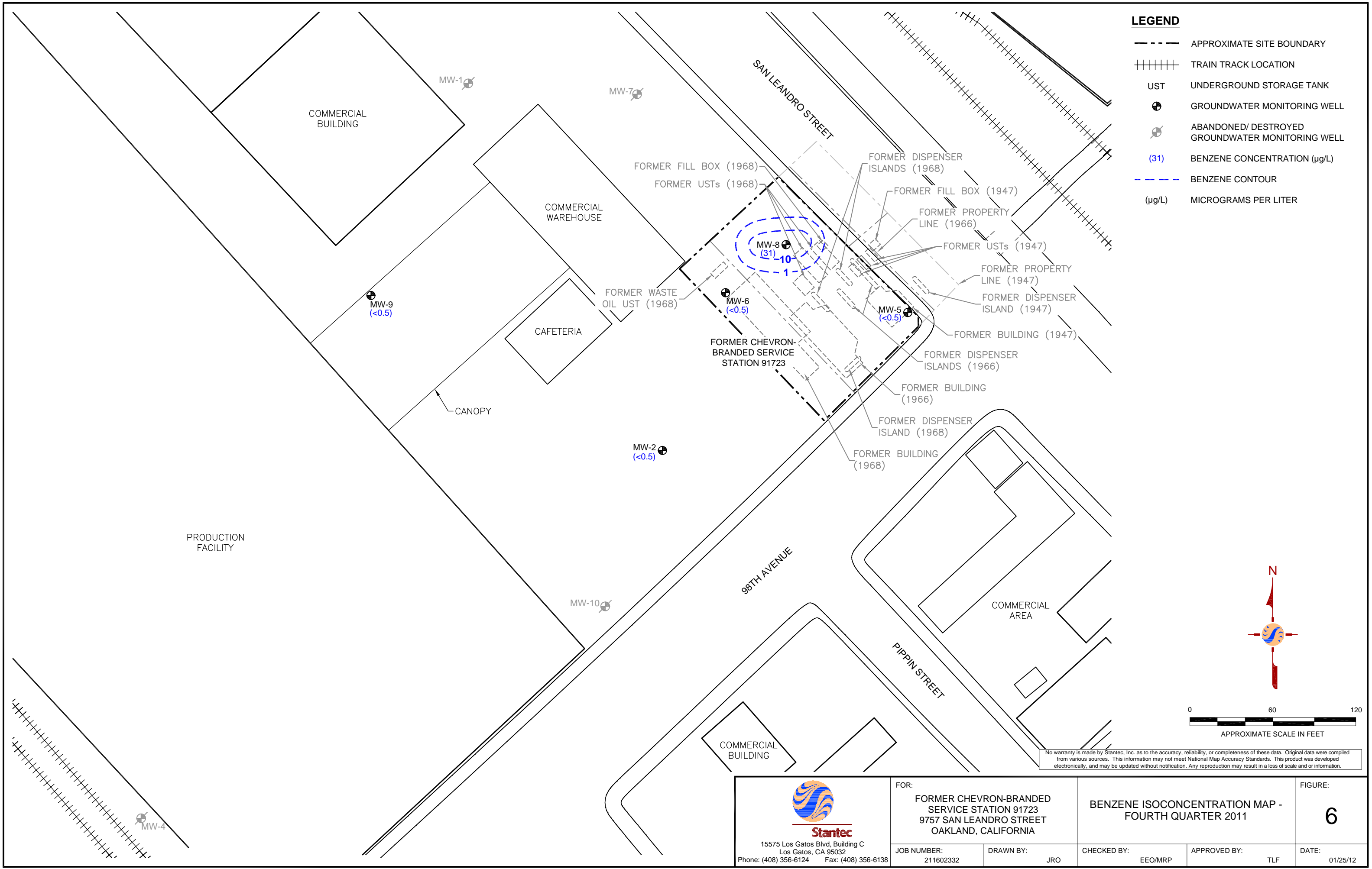


- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - ++++ TRAIN TRACK LOCATION
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊕ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
  - (100) TPH-GRO CONCENTRATION (µg/L)
  - TPH-GRO CONTOUR
  - TPH-GRO TOTAL PETROLEUM HYDROCARBONS AS GASOLINE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

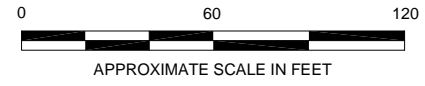


No warranty is made by Stantec, Inc. as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any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


 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723</b> <b>9757 SAN LEANDRO STREET</b> <b>OAKLAND, CALIFORNIA</b>		<b>TPH-GRO ISOCONCENTRATION MAP -</b> <b>FOURTH QUARTER 2011</b>		FIGURE: <b>5</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRP	APPROVED BY: TLF	DATE: 01/25/12



- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - ++++ TRAIN TRACK LOCATION
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊗ ABANDONED/ DESTROYED GROUNDWATER MONITORING WELL
  - (31) BENZENE CONCENTRATION (µg/L)
  - - - BENZENE CONTOUR
  - (µg/L) MICROGRAMS PER LITER



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

 <b>Stantec</b> 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: <b>FORMER CHEVRON-BRANDED SERVICE STATION 91723</b> <b>9757 SAN LEANDRO STREET</b> <b>OAKLAND, CALIFORNIA</b>		<b>BENZENE ISOCONCENTRATION MAP -</b> <b>FOURTH QUARTER 2011</b>		FIGURE: <b>6</b>
	JOB NUMBER: 211602332	DRAWN BY: JRO	CHECKED BY: EEO/MRP	APPROVED BY: TLF	DATE: 01/25/12

## **Attachment A**

### **Blaine Tech Services, Inc. Groundwater Monitoring Report – Fourth Quarter 2011**



January 5, 2012

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

Fourth Quarter 2011 Monitoring at  
Chevron Service Station 91723  
9757 San Leandro Blvd.  
Oakland, CA

Monitoring performed on December 29, 2011

---

**Blaine Tech Services, Inc. Groundwater Monitoring Event 111229-PH2**

This submission covers the routine monitoring of groundwater wells conducted on December 29, 2011 at this location. Five monitoring wells were measured for depth to groundwater (DTW). Five monitoring wells were sampled. All sampling activities were performed in accordance with local, state and federal guidelines.

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

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

SAN JOSE

SACRAMENTO

LOS ANGELES

SAN DIEGO

1680 ROGERS AVENUE

SAN JOSE, CA 95112-1105

(408) 573-0555

FAX (408) 573-7771

LIC. 746684

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

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

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

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

Please call if you have any questions.

Sincerely,



Dustin Becker  
Blaine Tech Services, Inc.  
Senior Project Manager

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

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

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

SAN JOSE

SACRAMENTO

LOS ANGELES

SAN DIEGO

1680 ROGERS AVENUE

SAN JOSE, CA 95112-1105

(408) 573-0555

FAX (408) 573-7771

LIC. 746684

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

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

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

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

---

## SAMPLING PROCEDURES OVERVIEW

### SAFETY

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

### INSPECTION AND GAUGING

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

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

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

### EVACUATION

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

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

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

## PARAMETER STABILIZATION

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

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

## DEWATERED WELLS

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

## MEASURING RECHARGE

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

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

## PURGEWATER CONTAINMENT

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

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

## SAMPLE COLLECTION DEVICES

All samples are collected using disposable bailers.

## SAMPLE CONTAINERS

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

## TRIP BLANKS

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

## DUPLICATES

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

## SAMPLE STORAGE

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

## DOCUMENTATION CONVENTIONS

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

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



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

## DECONTAMINATION

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

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

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

## DISSOLVED OXYGEN READINGS

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

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

## OXYIDATON REDUCTION POTENTIAL READINGS

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

## FERROUS IRON MEASUREMENTS

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



## CHEVRON WELL MONITORING DATA SHEET

Project #: 111229-PH2	Station #: 9-1723
Sampler: PH	Date: 12/29/11
Weather: cloudy	Ambient Air Temperature: 60°F
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 21.74	Depth to Water: 9.73
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]: 12.13	

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: \_\_\_\_\_

1.9 (Gals.) X	3	= 5.7 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
1104	67.1	7.0	901	690	2	
1108	67.9	7.0	897	>1000	4	
1112	68.2	6.9	896	>1000	6	

Did well dewater? Yes  No  Gallons actually evacuated: 6

Sampling Date: 12/29/11 Sampling Time: 1115 Depth to Water: 9.75

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

Analyzed for: (TPH-G) (BTEX) (MTBE) OXYS Other:

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

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

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>111229-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>12/29/11</u>
Weather: <u>cloudy</u>	Ambient Air Temperature: <u>60°F</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>(2)</u> 3 4 6 8 ____
Total Well Depth: <u>17.64</u>	Depth to Water: <u>9.91</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.45</u>	

Purge Method: Disposab~~le~~ Bailer      Waterra      Peristaltic      Extraction Pump      Other \_\_\_\_\_

Sampling Method: Bailer  
Disposab~~le~~ Bailer      Extraction Port      Dedicated Tubing      Other: \_\_\_\_\_

1.2 (Gals.) X 3 = 3.7 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1143</u>	<u>65.3</u>	<u>7.4</u>	<u>787</u>	<u>&gt;1000</u>	<u>1.2</u>	
<u>1146</u>	<u>66.2</u>	<u>7.0</u>	<u>795</u>	<u>&gt;1000</u>	<u>2.5</u>	
<u>1149</u>	<u>65.9</u>	<u>7.1</u>	<u>796</u>	<u>&gt;1000</u>	<u>3.7</u>	

Did well dewater? Yes (No) Gallons actually evacuated: 3.7

Sampling Date: 12/29/11 Sampling Time: 1155 Depth to Water: 9.93

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

Analyzed for: TPH-G BTEX MTBE OXYS Other:

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

D.O. (if req'd): Pre-purge: \_\_\_\_\_ mg/L Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd): Pre-purge: \_\_\_\_\_ mV Post-purge: \_\_\_\_\_ mV



## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>111229-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>12/29/11</u>
Weather: <u>cloudy</u>	Ambient Air Temperature: <u>60°F</u>
Well I.D.: <u>MW-8</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>18.24</u>	Depth to Water: <u>10.6</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.72</u>	

Purge Method:

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

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

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

<u>1.3</u> (Gals.) X	<u>3</u>	<u>=</u>	<u>3.9</u> 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 $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>1205</u>	<u>66.3</u>	<u>7.1</u>	<u>869</u>	<u>&gt;1000</u>	<u>1.5</u>	
<u>1205</u>	<u>66.4</u>	<u>6.9</u>	<u>874</u>	<u>&gt;1000</u>	<u>2.7</u>	
<u>1211</u>	<u>66.3</u>	<u>6.9</u>	<u>875</u>	<u>&gt;1000</u>	<u>4.0</u>	

Did well dewater? Yes  No  Gallons actually evacuated: 4

Sampling Date: 12/29/11 Sampling Time: 1215 Depth to Water: 10.12

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

Analyzed for: ~~TPH-G~~ ~~BTEX~~ ~~MTBE~~ OXYS Other:

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

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

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>111229-PH2</u>	Station #: <u>9-1723</u>
Sampler: <u>PH</u>	Date: <u>12/29/11</u>
Weather: <u>cloudy</u>	Ambient Air Temperature: <u>60°F</u>
Well I.D.: <u>MW-9</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth: <u>20.05</u>	Depth to Water: <u>9.51</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVG</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.61</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>6.8</u> (Gals.) X	<u>3</u>	= <u>20.5</u> Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>1046</u>	<u>63.4</u>	<u>6.4</u>	<u>788</u>	<u>587</u>	<u>7</u>	
<u>1048</u>	<u>63.8</u>	<u>6.7</u>	<u>851</u>	<u>151</u>	<u>14</u>	
<u>1050</u>	<u>64.0</u>	<u>6.7</u>	<u>859</u>	<u>120</u>	<u>20.5</u>	

Did well dewater? Yes  No  Gallons actually evacuated: 20.5

Sampling Date: 12/29/11 Sampling Time: 1055 Depth to Water: 9.51

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

Analyzed for:  TPH-G  BTEX  MTBE OXYS Other:

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

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

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

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

Chevron Consultant: STANTEC  
 Address: 15575 Los Gatos Blvd., Bldg. C Los Gatos, CA  
 Consultant Contact: Travis Flora  
 Consultant Phone No. 408-356-8124  
 Consultant Project No. 111229-PHZ  
 Sampling Company: Blaine Tech Services  
 Sampled By (Print): Patrick Harner  
 Sampler Signature: [Signature]

ANALYSES REQUIRED												Preservation Codes	
<input checked="" type="checkbox"/> H	<input type="checkbox"/> OXYGENATES	<input type="checkbox"/> HYDRO	<input type="checkbox"/> DRO	<input type="checkbox"/> ORO	<input type="checkbox"/> HC SCREEN							H = HCL T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other	
<input type="checkbox"/> BIEX	<input type="checkbox"/> GRO	<input type="checkbox"/> MTBE				<input type="checkbox"/> TILC	<input type="checkbox"/> STLC	EPA 310.1 ALKALINITY		<input type="checkbox"/> EPA 413.1 OIL & GREASE	Special Instructions Must meet lowest detection limits possible for 8260 Compounds		
<input type="checkbox"/> BIEX	<input type="checkbox"/> GRO	<input type="checkbox"/> MTBE				EPA 6010/7000 TITLE 22 METALS		SM2510B SPECIFIC CONDUCTIVITY		<input type="checkbox"/> EPA 418.1 TRPH		<input type="checkbox"/> ETHANOL	<input type="checkbox"/> TPH-D
<input type="checkbox"/> BIEX	EPA 8260B/GC/MS		EPA 8015B		EPA 8021B BTEX		EPA 6010 Ca, Fe, K, Mg, Mn, Na		EPA 150.1 PH				

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

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

Other Lab	Temp. Blank	Check Time	Temp.
_____	1000	_____	40c
_____	1100	_____	40c
_____	1200	_____	40c
_____	1300	_____	40c

SAMPLE ID				Sample Time	# of Containers	Container Type
Field Point Name	Matrix	Top Depth	Date (yyymmdd)			
MW-2	W		111229	1115	6	HCL VOA
MW-5	↓		↓	1155	↓	↓
MW-6	↓		↓	1135	↓	↓
MW-8	↓		↓	1215	↓	↓
MW-9	↓		↓	1050	↓	↓
QA	T		↓	1040	2	↓

Relinquished By <u>[Signature]</u>	Company <u>BTS</u>	Date/Time: <u>12/29/11 1330</u>	Relinquished To <u>[Signature]</u>	Company <u>LLI</u>	Date/Time <u>12/29/11 1330</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	
Relinquished By	Company	Date/Time	Relinquished To	Company	Date/Time	Intact: _____ On Ice: _____ Temp: _____ COC # _____









## **Attachment B**

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

## ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

ChevronTexaco  
6001 Bollinger Canyon Rd L4310  
San Ramon CA 94583

January 11, 2012

Project: 91723

Submittal Date: 01/03/2012  
Group Number: 1283496  
PO Number: 0015087639  
Release Number: HORNE  
State of Sample Origin: CAClient Sample DescriptionMW-2-W-111229 NA Water  
MW-5-W-111229 NA Water  
MW-6-W-111229 NA Water  
MW-8-W-111229 NA Water  
MW-9-W-111229 NA Water  
QA-T-111229 NA WaterLancaster Labs (LLI) #6513688  
6513689  
6513690  
6513691  
6513692  
6513693

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

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

Attn: Laura Viesselman

Attn: Travis Flora

Attn: Erin O'Malley

Attn: Marisa Patterson

Questions? Contact your Client Services Representative  
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,



**Robin C. Runkle**  
**Senior Specialist**

**Sample Description:** MW-2-W-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-2

LLI Sample # WW 6513688  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 11:15 by PH

ChevronTexaco

6001 Bollinger Canyon Rd L4310  
 San Ramon CA 94583

Submitted: 01/03/2012 11:35

Reported: 01/11/2012 18:02

17232

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>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.	100	22	1
10945	Ethylbenzene	100-41-4	0.7	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	0.9	0.5	1

### General Sample Comments

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 13:30	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 13:30	Daniel H Heller	1

**Sample Description:** MW-5-W-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-5

LLI Sample # WW 6513689  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 11:55 by PH

ChevronTexaco

6001 Bollinger Canyon Rd L4310  
 San Ramon CA 94583

Submitted: 01/03/2012 11:35

Reported: 01/11/2012 18:02

17235

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>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.	180	22	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

### General Sample Comments

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 14:42	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 14:42	Daniel H Heller	1



**Sample Description:** MW-6-W-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-6

LLI Sample # WW 6513690  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 11:35 by PH

ChevronTexaco

6001 Bollinger Canyon Rd L4310  
 San Ramon CA 94583

Submitted: 01/03/2012 11:35

Reported: 01/11/2012 18:02

17236

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>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	Methyl Tertiary Butyl Ether	1634-04-4	0.6	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

### General Sample Comments

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 15:06	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 15:06	Daniel H Heller	1

**Sample Description:** MW-8-W-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-8

LLI Sample # WW 6513691  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 12:15 by PH

ChevronTexaco

6001 Bollinger Canyon Rd L4310  
 San Ramon CA 94583

Submitted: 01/03/2012 11:35

Reported: 01/11/2012 18:02

17238

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
10945	Benzene	71-43-2	31	0.5	1
10945	C6-C12-TPH-GRO	n.a.	1,300	22	1
10945	Ethylbenzene	100-41-4	5	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	1	0.5	1
10945	Xylene (Total)	1330-20-7	5	0.5	1

### General Sample Comments

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 15:30	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 15:30	Daniel H Heller	1

**Sample Description:** MW-9-W-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 MW-9

LLI Sample # WW 6513692  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 10:50 by PH

ChevronTexaco

6001 Bollinger Canyon Rd L4310  
 San Ramon CA 94583

Submitted: 01/03/2012 11:35

Reported: 01/11/2012 18:02

17239

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>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	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

**General Sample Comments**

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

**Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 15:54	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 15:54	Daniel H Heller	1

**Sample Description:** QA-T-111229 NA Water  
 Facility# 91723 BTST  
 9757 San Leandro-Oakland T0600101789 QA

LLI Sample # WW 6513693  
 LLI Group # 1283496  
 Account # 10869

**Project Name:** 91723

Collected: 12/29/2011 10:40

ChevronTexaco

Submitted: 01/03/2012 11:35

6001 Bollinger Canyon Rd L4310

Reported: 01/11/2012 18:02

San Ramon CA 94583

1723Q

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS</b>	<b>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	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

### General Sample Comments

State of California Lab Certification No. 2501  
 The temperature of the temperature blank bottle(s) upon receipt at the lab was >10C using a Hg thermometer. The sample bottles were then measured using an IR thermometer and were recorded at 12.9-14.6 C.

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	GRO/BTEX/MTBE 8260 Water	SW-846 8260B	1	Z120091AA	01/09/2012 16:18	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z120091AA	01/09/2012 16:18	Daniel H Heller	1

## Quality Control Summary

Client Name: ChevronTexaco  
Reported: 01/11/12 at 06:02 PM

Group Number: 1283496

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: Z120091AA	Sample number(s): 6513688-6513693							
Benzene	N.D.	0.5	ug/l	97		79-120		
C6-C12-TPH-GRO	N.D.	22.	ug/l	127	125	68-166	1	30
Ethylbenzene	N.D.	0.5	ug/l	105		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	103		76-120		
Toluene	N.D.	0.5	ug/l	98		79-120		
Xylene (Total)	N.D.	0.5	ug/l	101		80-120		

### 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: Z120091AA	Sample number(s): 6513688-6513693 UNSPK: 6513688								
Benzene	102	105	80-126	3	30				
Ethylbenzene	111	110	71-134	1	30				
Methyl Tertiary Butyl Ether	108	113	72-126	4	30				
Toluene	104	106	80-125	2	30				
Xylene (Total)	107	109	79-125	1	30				

### Surrogate Quality Control

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

Analysis Name: UST VOCs + GRO by 8260B-Water  
Batch number: Z120091AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6513688	102	96	103	94
6513689	103	97	103	96
6513690	106	98	102	95
6513691	103	98	101	99
6513692	107	100	101	93
6513693	105	98	101	94
Blank	102	101	96	93
LCS	105	101	100	100

\*- 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: 01/11/12 at 06:02 PM

Group Number: 1283496

### Surrogate Quality Control

LCSD	104	97	102	96
MS	103	99	104	102
MSD	103	100	102	99
Limits:	80-116	77-113	80-113	78-113

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

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

Chevron Consultant: STANTEC  
 Address: 15575 Los Gatos Blvd., Bldg. C Los Gatos, CA  
 Consultant Contact: Travis Flora  
 Consultant Phone No. 408-356-6124  
 Consultant Project No. 111229-PH2  
 Sampling Company: Blaine Tech Services  
 Sampled By (Print): Patrick Harms  
 Sampler Signature: [Signature]

ANALYSES REQUIRED												Preservation Codes	
#	<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"/>	H = HCL T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other
EPA 8260B/GC/MS TPH-G	<input 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"/>	
EPA 8015B	<input 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"/>	Notes/Comments
EPA 8021B BTEX	<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"/>	
EPA 6010 Ca, Fe, K, Mg, Mn, Na	<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"/>	
EPA 6010/7000 TITLE 22 METALS	<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"/>	
EPA 150.1 PH	<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"/>	
SM2510B SPECIFIC CONDUCTIVITY	<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"/>	
EPA 418.1 TRPH	<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"/>	
EPA 8260 ETHANOL	<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"/>	
EPA 8015 TPH-D	<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"/>	

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

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

Other Lab	Temp.	Blank	Check
		Time	Temp.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SAMPLE ID				Sample Time	# of Containers	Container Type	ANALYSES REQUIRED												Notes/Comments
Field Point Name	Matrix	Top Depth	Date (yyymmdd)				EPA 8260B/GC/MS TPH-G	EPA 8015B	EPA 8021B BTEX	EPA 6010 Ca, 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			
MW-2	W		111229	1115	6	TKL VOA	<input checked="" type="checkbox"/>												
MW-5	↓		↓	1155	↓	↓	<input checked="" type="checkbox"/>												
MW-6	↓		↓	1135	↓	↓	<input checked="" type="checkbox"/>												
MW-8	↓		↓	1215	↓	↓	<input checked="" type="checkbox"/>												
MW-9	↓		↓	1050	↓	↓	<input checked="" type="checkbox"/>												
QA	T		↓	1040	2	↓	<input checked="" type="checkbox"/>												

Relinquished By <u>[Signature]</u>	Company <u>BTS</u>	Date/Time: <u>12/29/11 1330</u>	Relinquished To <u>[Signature]</u>	Company <u>LLI</u>	Date/Time <u>12/29/11 1330</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 <u>[Signature]</u>	Company <u>LLI</u>	Date/Time <u>29 DEC 11 1636</u>	Relinquished To <u>[Signature]</u>	Company <u>DHL</u>	Date/Time <u>[Blank]</u>	Sample Integrity: (Check by lab on arrival) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> Temp: <u>12.9-14.6 C</u> (see method) COC #
Relinquished By <u>[Signature]</u>	Company <u>[Blank]</u>	Date/Time <u>[Blank]</u>	Relinquished To <u>[Signature]</u>	Company <u>LL</u>	Date/Time <u>1/2/12 1135</u>	

# Explanation of Symbols and Abbreviations

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

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>µg</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>mL</b>	milliliter(s)	<b>L</b>	liter(s)
<b>m<sup>3</sup></b>	cubic meter(s)	<b>µL</b>	microliter(s)
		<b>pg/L</b>	picogram/liter
<b>&lt;</b>	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>J</b>	estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

## U.S. EPA CLP Data Qualifiers:

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

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

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

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

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

**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 LANCASTER LABORATORIES 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 LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES 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 Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



## **Attachment C**

# **Historical Groundwater Analytical Results**

Table 2. Summary of Chemical Results from Ground-water Samples

WELL NUMBER	SAMPLING DATE	TPH	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	OTHER DETECTABLE VOLATILE COMPOUNDS			
		(GASOLINE) mg/l	ug/l	ug/l	ug/l	ug/l	1,1-DCE ug/l	1,1-DCA ug/l	1,1,1-TCA ug/l	1,2-DCA ug/l
MW-1	18-Apr-87	NT	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	61	9.5	93.1	0.5
	03-Jun-88	NT	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	8	40	ND(5)
	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	47	9	21	ND(1)
MW-2	18-Apr-87	NT	76.9	121	93.4	477	ND(0.2)	ND(0.5)	ND(0.5)	ND(0.5)
	03-Jun-88	NT	64	18	48	60	ND(5)	ND(5)	ND(5)	ND(5)
	08-Aug-89	1.1	48	9	33	55	ND(1)	ND(1)	ND(1)	ND(1)
MW-4	18-Apr-87	NT	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.5)	ND(0.5)	ND(0.5)
	03-Jun-88	NT	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
MW-5	03-Jun-88	NT	93	ND(5)	100	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	08-Aug-89	ND(0.05)	49	8	15	63	ND(1)	ND(1)	ND(1)	ND(1)
MW-6	03-Jun-88	NT	110	140	35	210	ND(5)	ND(5)	ND(5)	ND(5)
	08-Aug-89	1.0	45	8	15	74	ND(1)	ND(1)	ND(1)	ND(1)
MW-7	03-Jun-88	NT	ND(5)	ND(5)	ND(5)	ND(5)	25	5	18	ND(5)
	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	39	8	13	ND(1)
MW-8	03-Jun-88	NT	2300	2000	950	4100	ND(5)	ND(5)	ND(5)	ND(5)
	08-Aug-89	77	1900	820	1000	3600	ND(1)	ND(1)	ND(1)	ND(1)
MW-9	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	3	ND(1)	ND(1)	ND(1)
MW-10	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
Field	03-Jun-88	NT	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
Blank	08-Aug-89	ND(0.05)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)

## NOTES:

mg/l: milligrams per liter (equivalent to parts per million)

ug/l: micrograms per liter (equivalent to parts per billion)

NT: Not Tested

ND: Not detected; Limit of detection indicated in parenthesis

1,1-DCE: 1,1-Dichloroethene

1,1-DCA: 1,1-Dichloroethane

1,1,1-TCA: 1,1,1-Trichloroethane

1,2-DCA: 1,2-Dichloroethane

Volatile Organics in Water by EPA Method 624  
 Total Petroleum Hydrocarbons (TPH) as Gasoline  
 in Aqueous Solutions by EPA Method 8015 (Modified)  
 Extraction by EPA Method 5030, Purge and Trap

April 18, 1987 Results from Beta Associates (1987)

June 3, 1988 Results from Groundwater Technology (1988)

August 8, 1989 Results from Curtis &amp; Tompkins, Ltd.

Table 3. Water-Level Elevations

WELL NUMBER	MW-1	MW-2	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Top of Casing Elevation	18.05	18.42	18.74	18.96	18.71	18.05	18.97	17.66	18.36
DATE	DEPTH TO WATER (FEET) FROM TOP OF CASING								
20-Apr-87	10.28	10.38	NA	10.84	NA	NA	NA	NA	NA
22-Jul-88	10.48	10.71	11.43	10.86	11.00	10.39	11.04	NM	NM
04-Aug-89	10.41	NM	NM	10.63	10.91	NM	10.95	NM	NM
08-Aug-89	10.40	10.56	11.19	10.77	10.89	10.27	10.98	10.11	10.53
DATE	GROUND-WATER ELEVATION (FEET) ABOVE MEAN SEA LEVEL								
20-Apr-87	7.77	8.04	NA	8.12	NA	NA	NA	NA	NA
22-Jul-88	7.57	7.71	7.31	8.10	7.71	7.66	7.93	NM	NM
04-Aug-89	7.64	NM	NM	8.33	7.80	NM	8.02	NM	NM
08-Aug-89	7.65	7.86	7.55	8.19	7.82	7.78	7.99	7.55	7.83

## NOTES:

NA: Not Applicable, Monitoring Well Not Yet Installed  
 NM: Not Measured

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>MW-1</b>											
11/02/93	20.92	10.68	10.24	--	--	--	--	--	--	--	--
02/10/94	20.92	--	--	--	--	--	--	--	--	--	--
05/12/94	20.92	--	--	--	--	--	--	--	--	--	--
08/26/94	20.92	--	--	--	--	--	--	--	--	--	--

NO LONGER MONITORED OR SAMPLED

### MW-2

11/02/93	21.31	10.83	10.48	--	--	--	--	--	--	--	--
02/10/94	21.31	--	--	--	--	--	--	--	--	--	--
05/12/94	21.31	11.94	9.37	--	390	6.8	2.0	6.3	14	--	--
08/26/94	21.31	--	--	Sampled biannually	--	--	--	--	--	--	--
02/01/95	21.31	13.76	7.55	--	78	10	1.2	<0.5	0.51	--	--
08/02/95	21.31	11.53	9.78	--	100	3.5	<0.5	2.6	4.1	--	--
01/31/96	21.31	14.38	6.93	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
08/01/96	21.31	11.49	9.82	--	73	<0.5	<0.5	<0.5	<0.5	--	610
12/17/96	21.31	12.75	8.56	--	--	--	--	--	--	--	--
02/20/97	21.31	12.30	9.01	--	280	6.7	0.56	1.5	2.9	--	11
05/02/97	21.31	11.78	9.53	--	--	--	--	--	--	--	--
07/23/97	21.31	11.23	10.08	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
02/04/98	21.31	16.06	5.25	--	<50	1.1	<0.5	<0.5	<0.5	--	5.6
07/17/98	21.31	11.71	9.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5

### MW-4

11/02/93	--	--	10.23	--	--	--	--	--	--	--	--
02/10/94	--	--	--	--	--	--	--	--	--	--	--
05/12/94	--	--	--	--	--	--	--	--	--	--	--
08/26/94	--	--	--	--	--	--	--	--	--	--	--

NO LONGER MONITORED OR SAMPLED

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>MW-5</b>											
11/02/93	21.84	11.15	10.69	--	790	43	3.4	22	12	<400	--
02/10/94	21.84	13.10	8.74	--	1400	52	3.0	50	40	--	--
05/12/94	21.84	12.40	9.44	--	1800	87	6.2	77	66	--	--
08/26/94	21.84	--	--	--	--	--	--	--	--	--	--
11/11/94	21.84	13.50	8.34	--	380	18	<1.0	18	11	--	--
02/01/95	21.84	14.32	7.52	--	570	36	0.59	21	11	--	--
05/18/95	21.84	12.87	8.97	--	590	29	1.0	16	9.8	--	--
08/02/95	21.84	11.98	9.86	--	210	9.2	<0.5	4.0	1.2	--	--
11/01/95	21.84	11.58	10.26	--	210	5.6	<0.5	1.9	<0.5	--	<2.5
01/31/96	21.84	14.72	7.12	--	1200	50	<5.0	19	29	--	<25
05/16/96	21.84	14.22	7.62	--	440	14	<0.5	17	8.6	--	11
08/01/96	21.84	11.86	9.98	--	58	1.4	<0.5	<0.5	<0.5	--	2.5
12/17/96	21.84	13.13	8.71	--	300	9.7	<0.5	11	6.3	--	6.9
02/20/97	21.84	12.81	9.03	--	350	6.7	<0.5	4.3	1.9	--	5.0
05/02/97	21.84	12.50	9.34	--	270	4.8	<0.5	3.5	1.3	--	7.3
07/23/97	21.84	11.70	10.14	--	290	3.4	<0.5	<0.5	<0.5	--	3.1
11/04/97	21.84	11.69	10.15	--	180	3.8	<0.5	1.5	<0.5	--	8.6
02/04/98	21.84	16.54	5.30	--	140	4.3	<0.5	8.5	<0.5	--	<2.5
05/01/98	21.84	12.77	9.07	--	1200	19	<1.0	9.7	1.7	--	25
07/17/98	21.84	12.19	9.65	--	900	3.6	<2.0	12	2.6	--	11

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>MW-6</b>											
11/02/93	21.71	10.93	10.78	--	300	19	1.8	2.5	5.0	<400	--
02/10/94	21.71	12.86	8.85	--	200	10	0.9	2.0	4.0	--	--
05/12/94	21.71	12.08	9.63	--	210	10	1.1	1.2	3.1	--	--
08/26/94	21.71	10.82	10.89	--	310	16	1.4	2.3	7.1	--	--
11/11/94	21.71	13.25	8.46	--	<50	1.3	<0.5	<0.5	1.0	--	--
02/01/95	21.71	14.02	7.69	--	<50	1.9	<0.5	<0.5	0.51	--	--
05/18/95	21.71	12.43	9.28	--	<50	8.2	<0.5	<0.5	<0.5	--	--
08/02/95	21.71	11.64	10.07	--	<50	2.3	<0.5	<0.5	<0.5	--	--
11/01/95	21.71	11.31	10.40	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
01/31/96	21.71	13.63	8.08	--	<50	0.98	<0.5	<0.5	<0.5	--	<2.5
05/16/96	21.71	13.91	7.80	--	<50	1.6	<0.5	<0.5	<0.5	--	<2.5
08/01/96	21.71	11.56	10.15	--	<50	0.82	<0.5	<0.5	<0.5	--	<2.5
12/17/96	21.71	13.26	8.45	--	63	2.6	<0.5	<0.5	<0.5	--	<2.5
02/20/97	21.71	--	--	Inaccessible	--	--	--	--	--	--	--
05/02/97	21.71	--	--	Inaccessible	--	--	--	--	--	--	--
05/29/97	21.71	11.72	9.99	--	120	1.8	<0.5	<0.5	<0.5	--	2.6
07/23/97	21.71	11.31	10.40	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
11/04/97	21.71	11.38	10.33	--	63	1.2	<0.5	<0.5	<0.5	--	<2.5
02/04/98	21.71	16.19	5.52	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
05/01/98	21.71	12.40	9.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
07/17/98	21.71	11.84	9.87	--	<50	1.0	<0.5	<0.5	<0.5	--	<2.5

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>MW-7</b>											
11/02/93	20.95	10.88	10.07	--	--	--	--	--	--	--	--
02/10/94	20.95	--	--	--	--	--	--	--	--	--	--
05/12/94	20.95	--	--	--	--	--	--	--	--	--	--
08/26/94	20.95	--	--	--	--	--	--	--	--	--	--

NO LONGER MONITORED OR SAMPLED

<b>MW-8</b>											
11/02/93	21.84	11.02	10.82	--	15,000	2000	440	420	1400	<400	--
02/10/94	21.84	12.97	8.87	--	6500	1200	380	250	7900	--	--
05/12/94	21.84	12.19	9.65	--	30,000	1400	2900	800	3800	--	--
08/26/94	21.84	10.90	10.94	--	17,000	720	200	330	930	--	--
11/11/94	21.84	13.38	8.46	--	6800	250	170	190	650	--	--
02/01/95	21.84	14.36	7.48	--	330	68	2.8	2.7	4.3	--	--
05/18/95	21.84	12.54	9.30	--	540	120	12	11	23	--	--
08/02/95	21.84	11.73	10.11	--	1100	150	9.7	20	40	--	--
11/01/95	21.84	11.36	10.48	--	1700	120	15	16	39	--	<5.0
01/31/96	21.84	14.64	7.20	--	57	5.3	<0.5	<0.5	<0.5	--	<2.5
05/16/96	21.84	13.99	7.85	--	2100	260	43	56	130	--	64
08/01/96	21.84	11.59	10.25	--	1100	45	0.92	8.9	25	--	7.4
12/17/96	21.84	12.95	8.89	--	2000	280	30	51	88	--	22
02/20/97	21.84	--	--	Inaccessible	--	--	--	--	--	--	--
05/02/97	21.84	--	--	Inaccessible	--	--	--	--	--	--	--
05/29/97	21.84	11.79	10.05	--	3400	280	31	53	120	--	<50
07/23/97	21.84	11.48	10.36	--	760	20	2.2	2.6	5.0	--	9.7
11/04/97	21.84	11.49	10.35	--	1100	150	13	22	39	--	49
02/04/98	21.84	16.29	5.55	--	270	6.8	<0.5	3.3	<0.5	--	<2.5
05/01/98	21.84	12.62	9.22	--	190	5.3	<0.5	<0.5	0.75	--	2.8
07/17/98	21.84	11.89	9.95	--	1400	210	20	24	54	--	<25

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>MW-9</b>											
11/02/93	20.55	10.53	10.02	--	--	--	--	--	--	--	--
02/10/94	20.55	--	--	--	--	--	--	--	--	--	--
05/12/94	20.55	11.60	8.95	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/26/94	20.55	--	--	Sampled biannually	--	--	--	--	--	--	--
02/01/95	20.55	13.35	7.20	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/02/95	20.55	11.22	9.33	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/31/96	20.55	14.10	6.45	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
08/01/96	20.55	11.20	9.35	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
12/17/96	20.55	12.29	8.26	--	--	--	--	--	--	--	--
02/20/97	20.55	12.09	8.46	--	55*	1.1	<0.5	<0.5	<0.5	--	<2.5
05/02/97	20.55	11.45	9.10	--	--	--	--	--	--	--	--
07/23/97	20.55	10.95	9.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
02/04/98	20.55	15.51	5.04	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
07/17/98	20.55	11.37	9.18	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5

### MW-10

11/02/93	21.25	10.93	10.32	--	--	--	--	--	--	--	--
02/10/94	21.25	--	--	--	--	--	--	--	--	--	--
05/12/94	21.25	--	--	--	--	--	--	--	--	--	--
08/26/94	21.25	--	--	--	--	--	--	--	--	--	--

NO LONGER MONITORED OR SAMPLED

\* Chromatogram pattern indicates an unidentified hydrocarbon.



## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	Lead	MTBE
<b>TRIP BLANK</b>											
02/10/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/12/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/26/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/11/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/01/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/18/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/02/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/01/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/31/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
05/16/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
08/01/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
12/17/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
02/20/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
05/02/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
07/23/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
02/04/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
05/01/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5
07/17/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<2.5

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on November 1, 1994.  
 Earlier field data and analytical results are drawn from the September 14, 1994 Groundwater Technology, Inc. report.

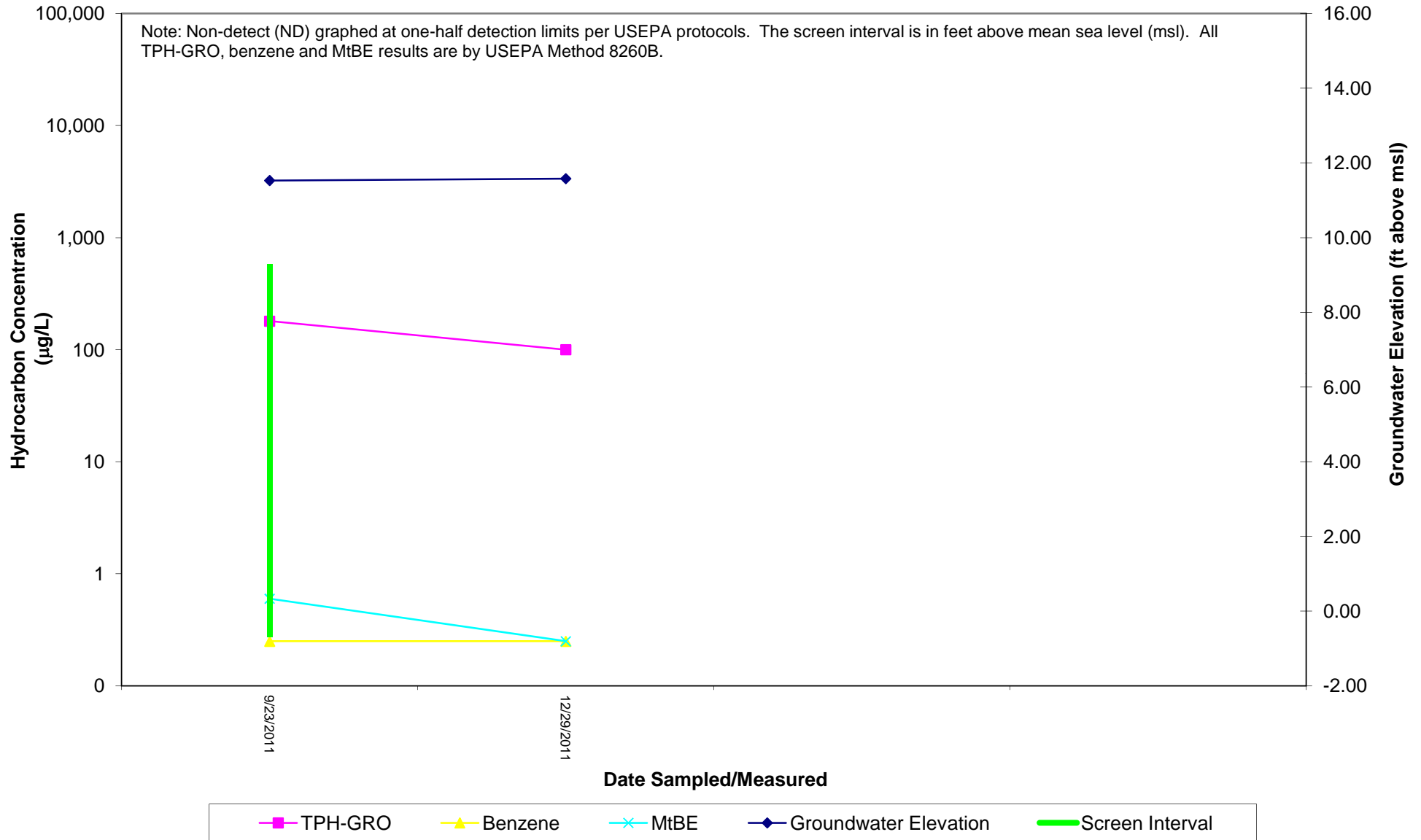
**ABBREVIATIONS:**

TPH = Total Petroleum Hydrocarbons  
 MTBE = Methyl t-Butyl Ether

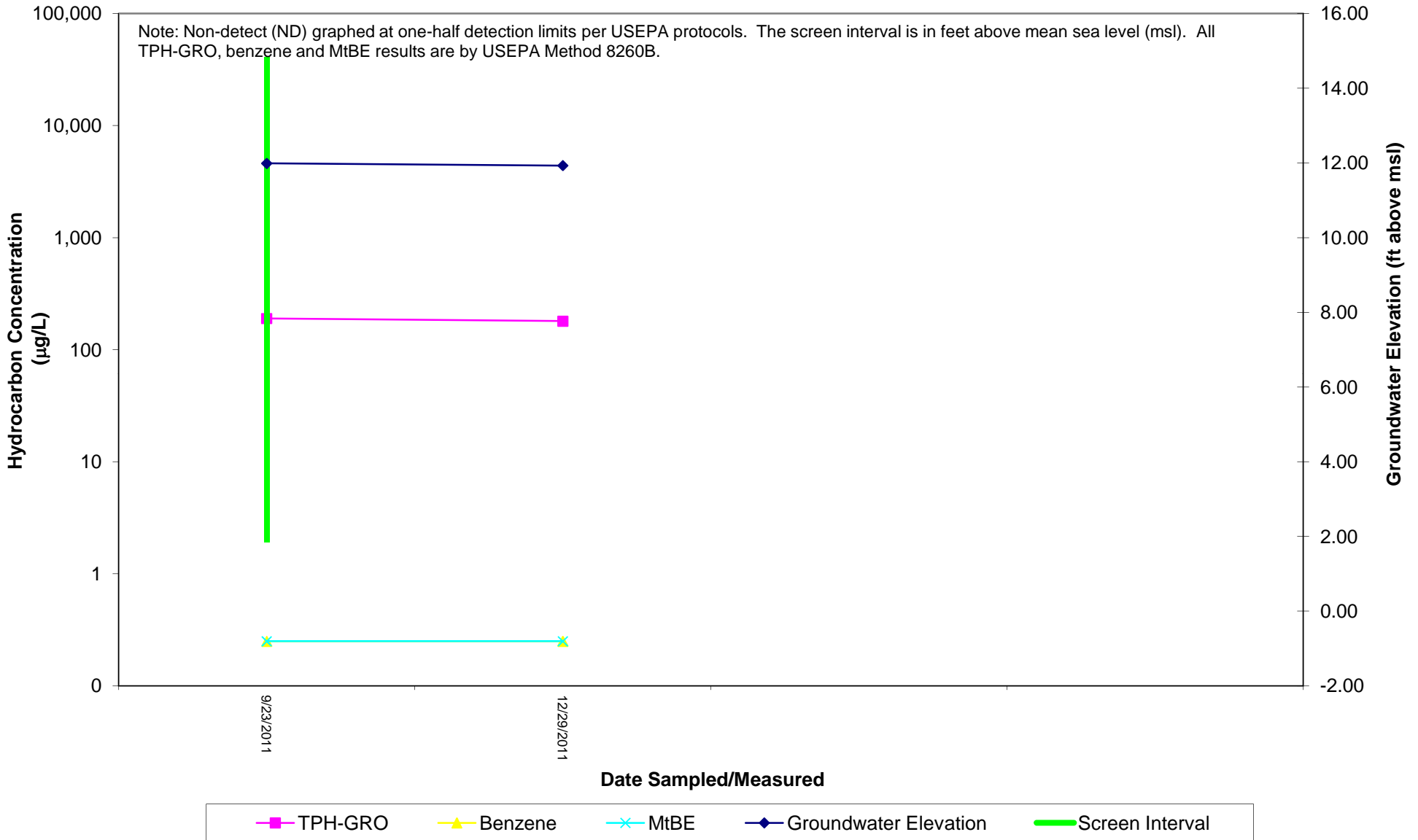
**Attachment D**

**Hydrographs**

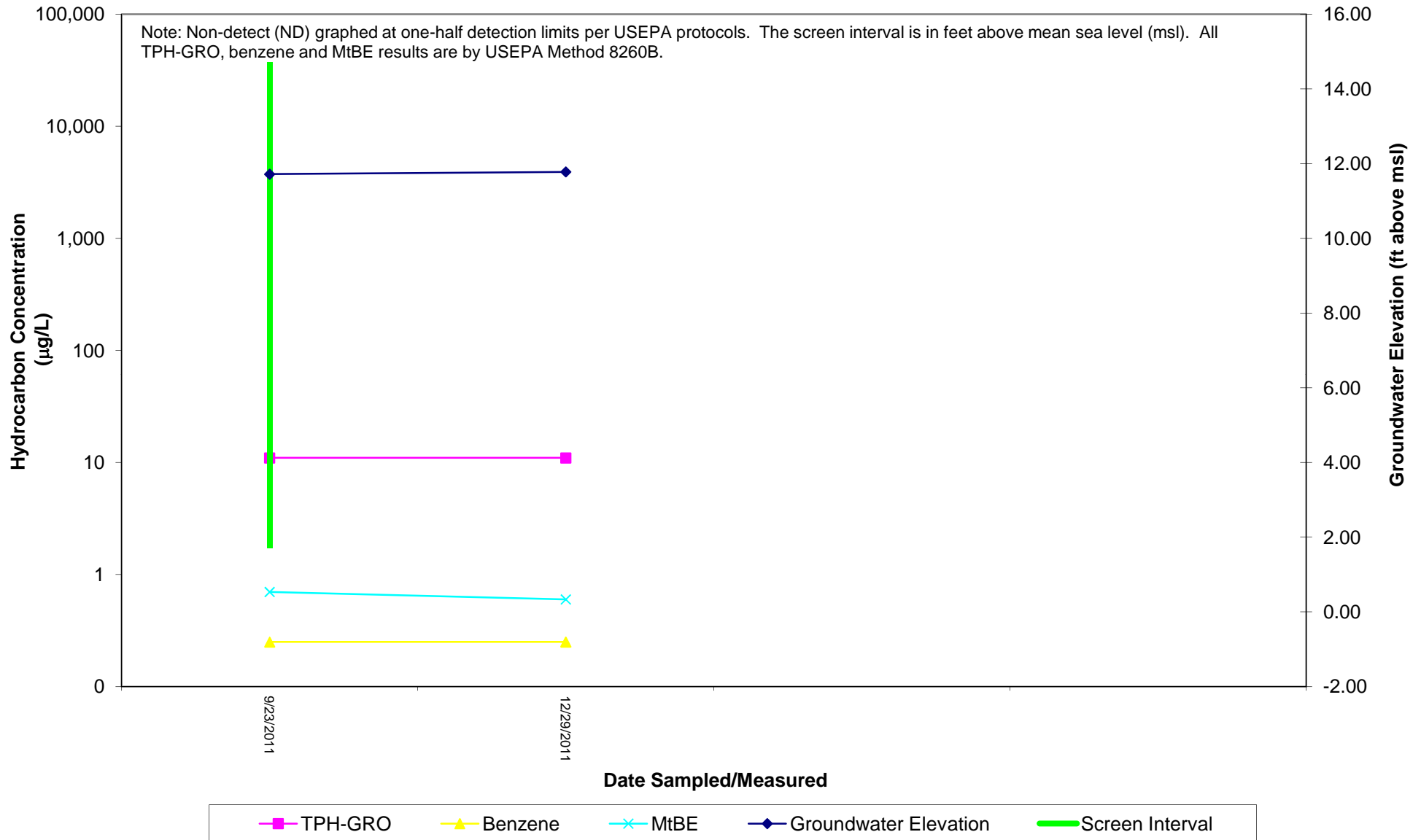
**MW-2 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



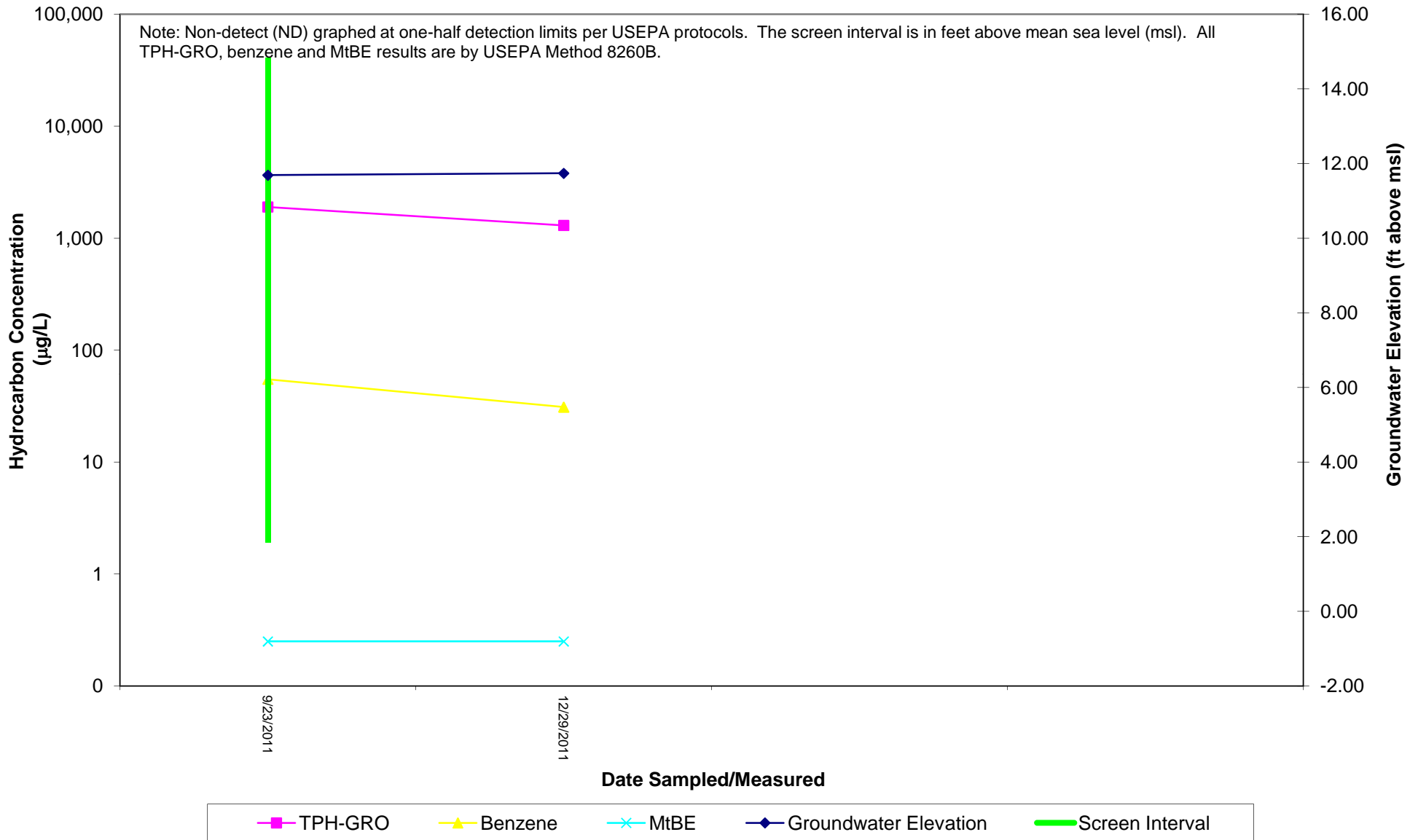
**MW-5 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 Oakland, California



**MW-6 TPH-GRO, Benzene, & MtBE Concentrations and Groundwater Elevations vs. Time**  
 Former Chevron-branded Service Station 91723  
 9757 San Leandro Street  
 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

