



**Carryl MacLeod**  
Project Manager  
Marketing Business Unit

**Chevron Environmental  
Management Company**  
6001 Bollinger Canyon Road  
San Ramon, CA 94583  
Tel (925) 842-3201  
cmacleod@chevron.com

January 20, 2017

**RECEIVED**

By Alameda County Environmental Health 10:18 am, Jan 23, 2017

Mr. Mark Detterman  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Dear Mr. Detterman:

Attached for your review is the *Corrective Action Plan Addendum* for former Chevron 97127, located at 10 W. Grant Line Road, Mountain House, California (Case RO185). This report was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

If you have any further questions, please do not hesitate to contact me or the Stantec project manager, Travis Flora, at (408) 827-3876 or [travis.flora@stantec.com](mailto:travis.flora@stantec.com).

Sincerely,

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

**Carryl MacLeod**  
Project Manager

## **Corrective Action Plan Addendum**

Former Chevron 97127  
10 W. Grant Line Road  
Mountain House, California 95377  
Alameda County Environmental  
Health Case No. RO185



Prepared for:  
Chevron Environmental  
Management Company  
6001 Bollinger Canyon Road  
San Ramon, CA 94583


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

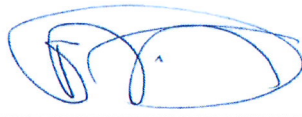
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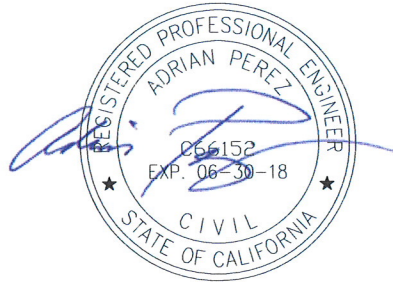
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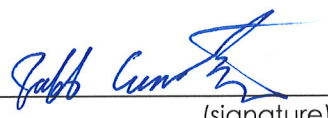
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Prepared by   
\_\_\_\_\_  
(signature)  
**Judith Salazar**  
Engineering Staff

Reviewed by   
\_\_\_\_\_  
(signature)  
**Travis L. Flora**  
Senior Project Manager

Reviewed by   
\_\_\_\_\_  
(signature)  
**Adrian Perez, P.E.**  
Senior Engineer



Reviewed by   
\_\_\_\_\_  
(signature)  
**Jaff Auchterlonie, P.G.**  
Principal Geologist



**Cc:** Ms. Carryl MacLeod, CEMC (electronic copy)  
Mr. Ardavan Onori, DM Livermore, Inc.  
Mr. and Mrs. Martin & Jeanne Moghadam  
Mr. and Mrs. Ahmad & Shala Mostofi, 37 Victoria Drive, Atherton, CA 94027



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January 20, 2017

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### 1.0 Introduction

On behalf of Chevron Environmental Management Company (CEMC), Stantec Consulting Services Inc. (Stantec) presents this *Corrective Action Plan Addendum* for the Former Chevron Service Station 97127, located at 10 Grant Line Road in Mountain House, California (the Site; shown on **Figure 1**). Associated correspondence from the Alameda County Department of Environmental Health (ACDEH) is included in **Appendix A**.

This report presents a summary of the AS/SVE pilot test activities, the data collected, an evaluation of remedial alternatives based on current Site conditions, an updated conceptual site model (CSM), and an evaluation of the Site compared to the California State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank (UST) Closure Policy (LTCP), effective August 17, 2012, under Resolution No. 2012-0016 (SWRCB, 2012a).

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## 2.0 Site Background

### 2.1 Site Location

The Site is currently a vacant parcel (Alameda County Assessor parcel number 99B-7700-12-2) located on the east side of Grant Line Road, south of Interstate 580 in Mountain House, California (shown on **Figure 1**). The Site is bordered by Grant Line Road to the west, an Interstate 580 on-ramp to the north, and undeveloped (grazing) land to the east and south. A former fuel-dispensing service station previously operated at the Site from 1971 to 1986, which included one 6,000-gallon and two 10,000-gallon fuel underground storage tanks (USTs), one 1,000-gallon used oil UST, one 750-gallon heating oil UST, product line piping, two dispenser islands, and a station building (shown on **Figure 2**). The USTs and associated piping were removed in April 1991 and the dispenser islands and station building were demolished soon after. The Site is currently undeveloped.

### 2.2 Site Geology

According to the Geologic Map of California (2010) provided by the California Department of Conservation (State of California, 2015), the Site is located at the border of Quaternary Deposits, which consist of Pliocene and/or Pleistocene sandstone, shale, and gravel deposits, mostly loosely consolidated; and Mesozoic Sedimentary and Metasedimentary Rocks, which consist of Upper Cretaceous sandstone, shale, and conglomerate. Data collected from previous investigations indicate subsurface materials consisting of interbedded fine (silt and silty clay) and coarse-grained (well-graded to clayey sand) strata to a depth of approximately 20 feet below ground surface (bgs). The Site subsurface is underlain by fractured sandstone that extends to the maximum depth explored of 40 feet bgs. Site boring logs are included in **Appendix B**. Generalized geologic cross-sections for the Site were included in ARCADIS's *Feasibility Study/Corrective Action Plan*, dated March 26, 2015, available in **Appendix C** (Arcadis, 2015a).

### 2.3 Site Hydrogeology

The Site is located in the Livermore Valley groundwater basin, as identified in the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR's) 2010 San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), dated December 31, 2011. This basin has been designated as having existing beneficial uses for municipal, domestic, industrial process, industrial service, and agricultural water supply.

Groundwater monitoring wells have been sampled from May 1995 to present. Groundwater at the Site has been encountered historically from approximately 10 to 32 feet bgs, with groundwater elevations ranging from approximately 292 to 306 feet above mean sea level (amsl). Based on October 2016 well gauging data, groundwater elevations ranged from 300.46 to 300.75 feet amsl (groundwater elevation is noted, because the parcel elevation is higher than the surrounding property, so the range of depth to water can be misleading; see **Table 1** and **Table 2**). Groundwater flow is generally to the north-northeast at a gradient of approximately



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0.002 foot per foot (ft/ft). Historically groundwater flow has been observed between north and north-northeast at gradients ranging between 0.0006 and 0.07 ft/ft, with an average groundwater gradient of approximately 0.009 ft/ft. Groundwater flow and gradient were not calculated prior to 2005 at the Site. Historical groundwater monitoring data and analytical results are presented in **Table 3** and the Groundwater Gradient and Flow Direction Data is summarized in **Table 4**.

### 2.4 Previous Assessment Work

A Site location map and Site plan are presented as **Figure 1** and **Figure 2**, respectively. The soil boring and well construction details are present in **Table 1**. Current and historical groundwater monitoring data and analytical results are summarized in **Table 2** and **Table 3**. The groundwater gradient and flow direction data are summarized in **Table 4**. Historical soil analytical data are summarized in **Table 5**. Historical soil vapor analytical results are summarized in **Table 6**. Historical bi-monthly light non-aqueous phase liquid (LNAPL) monitoring and recovery data are included in **Table 7**. Site history and previous investigations are included as **Appendix C**.

### 2.5 Remedial History

During April 1991, Blaine Tech Services, Inc. (BTS) demolished the service station removing two 10,000-gallon and one 6,000-gallon gasoline USTs, one 1,000-gallon used oil UST, a 750-gallon heating oil UST, two dispenser islands, and associated product piping. The USTs were all constructed of fiberglass, and no holes were observed during UST removal activities. Elevated petroleum hydrocarbons were observed during the initial confirmation soil sampling in the UST pit area and the product piping area, therefore, over excavation was conducted to depths ranging from 13 to 18 feet bgs. Final confirmation soil samples contained concentrations of hydrocarbons as gasoline (TPH) – gasoline range organics (GRO) at 710 mg/kg and benzene at 0.085 mg/kg at depths of 15 and 14 feet bgs, respectively. In an effort to reduce the concentrations of total petroleum hydrocarbons as gasoline range organics (TPH-GRO) in excavated soil to less than 10 mg/kg, Blaine Tech aerated the excavated soil on-Site. Blaine Tech then used the aerated excavation soil as backfill (BTS, 1991).

During 1993, Pacific Environmental Group (PEG) bailed LNAPL on a weekly basis from MW-1. In January 1993, PEG also installed a passive skimmer in monitoring well MW-1. As of March 1993, approximately 2 gallons total of LNAPL had been recovered from MW-1 (PEG, 1993a).

In August 1998, Chevron's subcontractor installed Oxygen Release Compound® (ORC) socks in wells MW-1, MW-2, and MW-4 to enhance biodegradation and reduce petroleum hydrocarbon concentrations. PEG replaced the ORC sock in monitoring well MW-1 in July 2001 with a passive skimmer (Delta Environmental Consultants, Inc. [Delta], 2003). Chevron's subcontractor removed the ORC socks in the remaining wells at an unknown date.

Cambria Environmental Technology (Cambria), injected hydrogen peroxide at various concentrations in MW-1 and MW-3 in December 1999 to reduce LNAPL and petroleum hydrocarbon concentrations in groundwater at the Site (Cambria, 2000).

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In July 2001, Delta installed a passive skimmer in well MW-1 and seven groundwater vacuum extraction events were conducted through April 2002. During these vacuum extraction events, Delta removed approximately 8,300 gallons of groundwater and 2.19 gallons of LNAPL from well MW-1. Delta initiated vacuum extraction from well MW-3 in July 2002. Delta terminated vacuum extraction from both wells in October 2002 due to an increase in LNAPL thickness (Delta, 2003).

Delta submitted a Remedial Action Plan and Feasibility Study (RAP/FS) in April 2003. Based on data presented in the report, Delta suggested that a perched zone of groundwater was present at approximately 10 to 40 feet bgs with confining bedrock underlying the perched zone. Delta also suggested that impacted soil is limited in the areas near the former USTs of the capillary fringe zone at approximately 25 to 30 feet bgs. The preferred remedial alternative of this RAP/FS was the use of an active mechanical skimmer with monitored natural attenuation (Delta, 2003).

During March and April, Conestoga-Rovers & Associates (CRA) removed approximately 5,100 gallons of impacted groundwater from well MW-1 in a series of three batch groundwater extraction events. LNAPL thickness was 0.5 feet before the first event, 0.36 before the second event, and 0.39 before the third event.

During May 2007, CRA submitted a CAP which evaluated the following alternatives: oxygen injection, batch groundwater extraction, and surfactant-enhanced recovery. The preferred remedial alternative was surfactant-enhanced recovery with groundwater extraction (CRA, 2007a).

To further characterize hydrocarbon distribution, hydrogeologic conditions, and facilitate the remediation of groundwater and soil vapor from bedrock fracture, the October 2007 IRAP proposed the installation of three monitoring wells surrounding MW-1. In addition, surfactant-enhanced recovery was recommended to remove LNAPL from the pore space of the subsurface (CRA, 2007b).

In order to further evaluate the hydrogeologic conditions and behavior of groundwater at the Site, CRA recommended groundwater pumping tests in the December 2008 CAP Addendum and Proposed FS (CRA, 2008).

In May 2010, CRA performed a vacuum extraction pilot test in order to remove LNAPL and evaluate hydrogeologic conditions to evaluate if surfactant-enhanced recovery would be an effective remedial option for the removal of LNAPL. The results of the pilot test indicated that MW-1 and MW-3 were hydrogeologically connected, as evidence of drawdown and a reduction in LNAPL observed in MW-3. It was also observed that MW-5 through MW-7 were hydrogeologically connected with MW-1 and MW-3. It was assumed that if surfactant were placed in MW-1 and MW-3, the surfactant could be easily recovered. In addition, surrounding monitoring wells would be useful as observation wells. Surfactant-enhanced recovery was identified as a preferred and feasible alternative. A work plan outlining this method was submitted to ACDEH (CRA, 2010). ACDEH didn't agree with the proposed alternative.

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Bi-weekly LNAPL recovery events were performed by Arcadis and Stantec from January 2015 to August 2015, resulting in a total volume of approximately 289 liters of LNAPL removed from Site wells. LNAPL removal data are included in **Table 7** (Stantec, 2015).

On February 17, 2015, BTS attempted to complete an eight-hour pump test at MW-1 to determine the aquifer recovery rate. The results of the test would aid in determining if DPE would be a feasible technology at the Site. Monitoring well MW-1 was chosen as it is the only 4-inch diameter well installed at the Site. The test was stopped after approximately one hour of pumping because there was insufficient groundwater in the well casing to sustain a steady flow using a pneumatic pump. (Arcadis, 2015a)

On January 20, 2016 Stantec performed a groundwater yield rate test to determine the volume of water generated during groundwater extraction on monitoring well MW-1 with a QED AutoPump Ultra 4.0 Bottom Inlet short pneumatic pump. The water yielded a flow that exceed 4 gpm and was sustained for 5 hours and did not result in significant drawdown in the extraction or observation wells. Due to the Sites' lack of an infrastructure to discharge extracted water, Stantec recommended that an extraction of groundwater greater than 2.5 gpm and sustained for 5 hours or more would not be a viable option for a DPE system and recommended the pilot test of an air sparge and soil vapor extraction system. A full summary of the yield test is included in **Appendix D**.

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### **3.0 Well Installation Activities**

From April 18 through April 21, 2016, Stantec observed Gregg Drilling and Testing (Gregg) install one AS well (AS-1) and three piezometers (PZ-1, PZ-2, and PZ-3) between groundwater monitoring wells MW-1 and MW-10 within the former UST complex. The locations of the AS well and piezometers are shown on **Figure 2**.

#### **3.1 Health and Safety Plan**

As required by the Occupational Safety and Health Administration Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120), and by California Occupational Safety and Health Administration "Hazardous Waste Operations and Emergency Response" guidelines (CCR Title 8, Section 5192), Stantec prepared a site-specific Health and Safety Plan prior (HASP) to the commencement of all field work. The HASP was reviewed by the field staff and contractors before beginning field operations at the site. In addition, Stantec produced a journey management plan (JMP) in an attempt to prevent losses associated with motor vehicle incidents.

Subcontractors also developed a site-specific HASP for tasks applicable to them (e.g., driving, air-knifing, advancing soil borings, etc.). Stantec reviewed subcontractor HASPs prior to commencing field activities. Appropriate subcontractor HASPs were also available on Site.

#### **3.2 Permitting and Notification**

Prior to well installation activities, a sub-surface drilling permit was obtained from the Zone 7 Water Agency for the installation of AS-1, PZ-1 through PZ-3. EMC has previously obtained an access agreement with the owner of the property (Mr. Ardavan Onsori). Stantec notified the Zone 7 Water Agency at least 72 hours prior to the initiation of field work. Permits are included in **Appendix E**.

#### **3.3 Underground Utility Location and Clearance**

Stantec marked the locations of the proposed wells and contacted Underground Service Alert (USA) North at least 48 hours prior to drilling activities to allow the USA member to mark subsurface utility locations. Additionally, Stantec contracted a private utility locator, Pacific Coast Locators, to verify the subsurface utility locations marked by USA members and investigate the presence of other subsurface utilities not owned or operated by USA members. The top 8 feet of soil was removed from the proposed boreholes using an air-knife to prevent damaging undiscovered subsurface utilities.

#### **3.4 Well Installation**

The boreholes for wells AS-1, PZ-1, PZ-2, and PZ-3 were advanced in April 2016 using 8-inch diameter sonic drilling equipment. For AS-1, the sparge screen was set to a depth of approximately 36 to 38 feet bgs, which is approximately 5 feet below the base of the identified

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smear zone and 2 feet above the total drilled depth of 40 feet bgs. The smear zone was evaluated using a photoionization detector (PID) on soil cuttings that were removed from the borehole. Well AS-1 was constructed using 2-inch diameter schedule 40 PVC casing with a 2-foot long 0.020-inch factory slotted screen interval. The lower two feet of the boring and annular space around the slotted screen was filled with number 3 sand from 40 feet bgs to two feet above the screen at 36 feet bgs. A 3-foot bentonite seal was emplaced above the sand filter pack, and neat cement grout was emplaced above the annular seal to surface. The well was completed at the surface with a traffic rated well box set in concrete and a locking well cap.

Boreholes for wells PZ-1, PZ-2, and PZ-3 were advanced to a terminal depth of 37 feet bgs. The wells were constructed using 1-inch diameter schedule 40 PVC casing and a 15-foot long (from 22 feet bgs to 37 feet bgs) 0.020-inch factory slotted screen interval. The annular space around the bottom 2 feet of the slotted screen was filled with #3 sand, and the annular space around the slotted screen from 35 feet bgs to 20 feet bgs was filled with #30 sand. A 3-foot bentonite seal was emplaced above the sand filter pack, and neat cement grout was emplaced above the annular seal to surface. The well was completed at the surface with a traffic rated well box set in concrete and a locking well cap. Soil boring logs are provided in **Appendix B**.

### **3.5 Well Development**

At least 48 hours following installation, the new wells were developed by surging and bailing to remove fine-grained sediments from the wells and sand pack, and to restore groundwater properties that may have been disturbed during the well installation process. Periodic measurements of pH, conductivity, turbidity and temperature were collected during development of each well, and purging continued until readings stabilized and the water was visually clear of suspended solids. At least 10 well casing volumes were removed from each well during development.

### **3.6 Surveying**

Following well installation, a Stantec registered civil engineer surveyed the newly installed wells. The top of casing of the wells were surveyed within the California State Plane Coordinate System for horizontal and vertical control to meet the State of California Water Resources Control Board requirements. The coordinates were referenced to a known benchmark according to the North American Datum of 1983 (NAD83) and the North American Vertical Datum of 1988 (NAVD 88).

### **3.7 Waste Handling and Storage**

Investigation derived waste (IDW; e.g. soil cuttings, decontamination rinsate water, and purged groundwater) generated during drilling operations were containerized in Department of Transportation (DOT) approved 55-gallon drums, properly labeled, and stored on-site at a temporary staging area pending proper disposal. Belshire removed the waste from the Site on June 30, 2016, and disposed of the waste at Veolia ES Technical Solutions in Azusa, California, and at Waste Management, Inc. Altamont facility in Livermore, California. Copies of the waste manifests are included in **Appendix F**.

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### **3.8 Results**

Results of analyses for the soil samples collected from boreholes AS-1, PZ-1, PZ-2, and PZ-3 are included in **Table 5**. Soil boring logs are included in **Appendix B**. Certified laboratory analytical reports with chain-of-custody (COC) documentation are provided in **Appendix G**.

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### 4.0 AS/SVE Pilot Test

Following the groundwater yield test, which determined a high groundwater yield rate at the Site, a AS/SVE pilot test was conducted to evaluate the effectiveness and technical feasibility of AS/SVE. A CalClean Inc. (CalClean) mobile remediation system mobilized to the Site and operated from August 15 through August 19, 2016. Stantec conducted a AS/SVE pilot test to evaluate the feasibility of AS/SVE as a potential remedial option to remediate LNAPL on Site. The AS/SVE pilot test was conducted according to Stantec's *Pilot Test Work Plan*, dated October 29, 2015, with minor deviations to address Site-specific conditions and/or equipment limitations.

Stantec performed a series of tests to assess the following:

- Operational parameters and implementability;
- Constituent concentrations and mass removal rates in extracted vapors;
- Vacuum radius of influence (ROI);
- The relationship between applied vacuum and vapor extraction flow rate, screen extracted vapor for potential catalyst deactivation agents (CDAAs);
- The ability to inject sufficient air through the saturated zone and effectively capture the injected air.

#### 4.1 PERMITTING AND NOTIFICATION

Stantec obtained a permit exemption from the Bay Area Air Quality Management District (BAAQMD) for conducting the AS/SVE pilot test. A copy of an email from the BAAQMD confirming the permit exemption is included in **Appendix E**.

#### 4.2 EQUIPMENT AND SETUP

CalClean provided the mobile remediation system, which consisted of the following equipment:

- A Dekker liquid-ring pump (LRP) rated at 400 actual cubic feet per minute (acfm) at up to 27 inches mercury (in Hg) with 25 horsepower (hp) motor.
- 1.75-hp AS system Becker air compressor, rated at 15 standard cubic feet per minute (scfm) at 15 pounds per square inch (psi)
- Thermal catalytic oxidizer with a burner rating of 400,000 British thermal units per hour (btu/hr) for propane.
- An air/water separator with high liquid level shutdown and a secondary storage tank.
- Two 55 gallon drums for water containment.

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- A majority of the pilot test equipment was contained within CalClean truck.

Per the work plan, the selected system provided the flexibility and capability of treating the extracted vapors without limiting the vacuum/flow rates from the extraction well. The equipment was staged at the location shown on **Figure 3**.

System measurements included: vacuum at the blower, wellhead, and dilution; pressure post blower; flow rate and temperature post blower, at the wellhead and dilution air; FID meter measurements calibrated to hexane and multi-meter readings were additionally collected at the wellhead, pressure side of the blower, and effluent (FID only).

### 4.3 AS/SVE PILOT TEST OPERATIONS

#### 4.3.1 Short-Circuiting Test

To evaluate whether the grout seals in the well boxes were free of leaks, a hydrostatic test was conducted on wells MW-1 and AS-1 prior to initiating the pilot test. On August 15, 2016, the outside of the well casings were marked at both well locations and distilled water was poured into the well box surrounding the well casing. The water drained from both well boxes indicating additional grout was required. Additional grout was added to the well boxes, and the water level was then observed throughout the morning and found to remain stable.

#### 4.3.2 Baseline Data Collection

Baseline field observations were collected prior to the start of the pilot test on August 15, 2016, including depth-to-groundwater (DTW), depth-to-product (DTP), lower explosive limit (LEL), volatile organic compounds (VOCs) using a flame ionization detector (FID), oxygen (O<sub>2</sub>), carbon dioxide (CO<sub>2</sub>). Observation well details and baseline LNAPL thickness are summarized in Section 4.4.6 below. LEL concentrations ranged from 0% (MW-9) to 100% (PZ-1) LEL. FID concentrations ranged from 44 to 3,233 parts per million by volume (ppmv) but were not measurable in most wells due to flame out conditions caused by the low oxygen concentrations. O<sub>2</sub> concentrations were ranged from 2.2 to 20.9 percent (%). CO<sub>2</sub> concentrations ranged from 0% to 7.7%. Complete baseline observation data are presented in **Table 8**.

#### 4.3.3 SVE Feasibility Testing

Initiation of SVE testing began on August 15, 2016, by testing the system critical safety devices operating on ambient air. Following verification of the functionality of all critical safety devices, baseline parameters were taken.

The step test was initiated the following day on August 16, 2016, beginning with a maximum vacuum test in order to establish step intervals for the step rate test. Vacuum was increased slowly until water was extracted from the well, at that point the engineer determined based on this maximum vacuum of the step intervals as approximately 2.5, 5, 8, 10, and 12.5 in Hg. System measurements collected throughout the SVE test included: vacuum at the blower, wellhead, and dilution; pressure post blower; flow rate and temperature post blower, wellhead and dilution



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air; FID measurements calibrated to hexane and multi-meter readings were additionally collected at the wellhead, pressure side of the blower, and effluent (FID only). SVE system field data is presented in **Table 9**, and MW-1 observation well data is presented in **Table 10**.

On August 17, 2016 the constant rate test was performed on MW-1 at approximately 8.8 in Hg for the remainder of the testing. The constant rate testing continued through the night and was completed the morning of August 18, 2016. Induced vacuum readings observed at the adjacent observation wells are presented in **Table 11**. Influent vapor samples were collected from the post blower location after five hours of constant rate testing and submitted to a California state-certified laboratory for analysis. These samples were analyzed for TPH-GRO by United States Environmental Protection Agency (US EPA) Method TO-3 Modified; and for benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds) and fuel oxygenates by US EPA Method TO-15 Modified. Analytical results and mass removal rates for MW-1 can be found in **Table 12**. Additional vapor analytical data are included in **Table 13**. Certified laboratory analytical reports are included in **Appendix G**.

### 4.3.4 AS/SVE Feasibility Testing

Prior to initiation of the AS test, the SVE system was operated on MW-1 for approximately 24 hours at an average of 8.9 in Hg to obtain steady state conditions. The AS/SVE test on MW-1 and AS-1 began on August 18, 2016. The SVE system continued to operate during the start of the AS system. The AS/SVE test was performed during the day and was then left operational overnight for a total of approximately 22 hours of operation. AS/SVE observation well data are included in **Table 8**.

AS/SVE test operations were completed on August 19, 2016. A final set of samples were collected at the end of the AS/SVE test. The samples were analyzed for TPH-GRO using US EPA TO-3 Modified, and full scan using US EPA TO-15. To evaluate whether a catalytic oxidizer can be used at the Site, the final sample was also analyzed for tetraethyl lead (TEL) and tetramethyl lead (TML) via NIOSH Method 2533 Modified and for sulfur compounds by ASTM Method D-5504. Lead, sulfides, and chlorinated hydrocarbons are potential CDAAs. Vapor analytical data related to the CDAAs are included in **Table 13**.

## 4.4 AS/SVE Pilot Test Results

### 4.4.1 Field Data

The SVE system operated on MW-1 for 54 hours, and field monitoring was performed at the well head and post dilution. FID concentrations could not be determined during a majority of readings during operation on MW-1 due to flame outs conditions. Initial LEL concentrations were observed at 100% LEL at the beginning of the test and stayed consistent throughout the majority of the test until the last reading on August 19, 2016, when it decreased to 88%. Operation data for the SVE system are included in **Table 9**.

On August 19, 2016, and September 14, 2016, field parameters were collected from the observation wells. Baseline and post-test LNAPL thicknesses are shown in the following table. DTW

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measured at the site on August 19, 2016, ranged from 30.54 feet to 32.72 feet bgs, and DTP ranged from 29.95 feet to 30.93 feet bgs. LEL concentrations ranged from 29% to 100%. FID concentrations ranged from 222 to 5,540 ppmv but were not measurable in most wells due to flame out conditions caused by the low oxygen concentrations. O<sub>2</sub> concentrations ranged from 2.5% to 20.9%. CO<sub>2</sub> concentrations ranged from 0% to 11.6%. Complete DTW, DTP, LEL, FID, O<sub>2</sub>, and CO<sub>2</sub> data are included on **Table 8**.

Well ID	Dia. (in.)	Distance from MW-1/AS-1 (feet)	Screen Interval (feet bgs)	LNAPL thickness 8/15/16 (feet)	LNAPL thickness 8/19/16 (feet)	LNAPL thickness 9/14/16 (feet)
AS-1	2	25/NA	36-38	--	--	--
PZ-1	1	8/31	22-37	1.73	2.77	1.74
PZ-2	1	12/18	22-37	--	--	1.55
PZ-3	1	17/8	22-37	--	--	--
MW-1	4	NA/25	22-37	1.78	0.02	1.13
MW-9	2	53/53	27-37	--	--	--
MW-10	2	35/11	27-37	1.53	--	0.57
MW-11	2	62/75	22-37	1.47	1.52	1.58
MW-15	2	55/79	25.5-35.5	--	--	--

NA = not applicable  
-- = LNAPL not present

### 4.4.2 Laboratory Data

During operation on MW-1, samples were collected three times and analyzed for TPH-GRO and BTEX compounds, and analyzed once for CDAA compounds. Due to low oxygen concentrations and the carbon range for the specified constituent, correlation between field FID readings and laboratory analysis reported for TPH-GRO as hexane are inconsistent. Pilot test laboratory analytical reports are included in **Appendix G**. TPH-GRO concentrations decreased from a high of 55,000 ppmv to 19,000 ppmv, and benzene concentrations were in the range of 800 ppmv to 310 ppmv during operation at MW-1 (**Table 12**). Concentrations versus time are shown on **Figure 5** and **Figure 6**.

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### 4.4.3 Vapor Mass Removal and Abatement

Hydrocarbon vapor phase extraction rates (i.e., mass removal rates) were calculated using extracted vapor concentrations (lab measured) and extraction well air flow rates as follows:

$$\text{Mass Removed (lbs)} = \frac{\text{Conc. (ppmv)}}{1,000,000} \times \frac{\text{MW}_{\text{gas}}}{24.45 (*)} \times \frac{28.317 \text{ L}}{\text{ft}^3} \times \frac{1 \text{ lbs}}{453.592 \text{ g}} \times \text{flow (scfm)} \times \frac{60 \text{ mins}}{1 \text{ hour}} \times \text{hours}$$

\*CalScience Laboratory gas constant = 24.45 L/mole at 25°C and 760 millimeters Mercury

Concentrations: pre-oxidizer

$\text{MW}_{\text{GRO}} = 93.5 \text{ g/mole}$

$\text{MW}_{\text{benzene}} = 78.11 \text{ g/mole}$

lbs = pounds

g = grams

ft<sup>3</sup> = cubic feet

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$$\text{Mass Removal Rate (lbs/day)} = \frac{\text{Mass Removed (lbs)}}{\text{Operating hours}} \times \frac{24 \text{ hours}}{\text{day}}$$

During approximately 54 hours the AS/SVE system was operated on MW-1, approximately 1,620 lbs of GRO at an average rate of 720 lbs/day and 22.91 lbs of benzene at an average rate of 10.18 lbs/day were removed from the subsurface and is included in **Table 12**. Mass removal rates versus time are included in **Figure 5** and **Figure 6**.

The thermal oxidizer effluent temperature was monitored throughout the test and ranged from 1,448°F and 1,761°F during the test, above the minimum required temperature of 1,400°F for thermal oxidation in the BAAQMD.

### 4.4.4 Extracted Airflow Rates, Applied Vacuums, and Radius of Influence

Casing vacuums for each of the extraction wells, observation wells, and monitoring wells were recorded throughout portions of the pilot test to estimate the overall ROI for extraction well MW-1. The monitoring results are provided in **Table 8**, **Table 9**, and **Table 10**.

Subsurface vacuums are inversely proportional to the square root of the radial distance from an extraction well; therefore, by monitoring subsurface vacuum levels at various distances from an extraction well, the data can be plotted on a semi-log graph to obtain a straight line. To assess the vacuum ROI, normalized vacuum (vacuum observed at the observation well divided by the applied wellhead vacuum) was plotted on a logarithmic scale (y-axis) and radial distance from the SVE well was plotted on an arithmetic scale (x-axis). Chevron guidance suggests 1% of the applied wellhead vacuum can be used to determine ROI.

A straight line was fitted to the constant-rate testing data using linear regression for applied vacuums of 8.8 in Hg for MW-1 (shown on **Figure 4**). The radial distance corresponding to a normalized vacuum value of 1% represents the observed ROI.

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The observed ROI for the MW-1 test could be approximated to approximately 50 feet at average applied vacuum of 8.8 in Hg based on constant rate conditions during the AS/SVE tests.

At the end of the constant rate test and prior to initiation of the AS test, the FID concentrations in all the observation wells were zero. During AS operation, there was an increase in FID concentrations throughout all observation wells. Concentrations increased in wells located as far away as 79 feet (MW-15) from AS-1. The FID reading increases in observation wells confirm that there is communication between AS and SVE well screen intervals. AS test observation data are included in **Table 10**.

Pilot test operations involved conducting SVE step-rate testing to verify ideal flow and induced vacuum. In general, there was not a direct correlation between the applied wellhead vacuum and the extracted airflow rate. The ideal vacuum at the end of the step test to determine the extracted air flow rates was determined to be approximately 10 in Hg.

A straight line was fitted to the constant-rate testing data using linear regression for applied vacuums of 8.8 in Hg for MW-1 (**Figure 4**). The radial distance corresponding to a normalized vacuum value of 1% represents the observed ROI. The observed ROI for the MW-1 test could be approximated to approximately 50 feet at average applied vacuum of 8.8 in Hg based on constant rate conditions during the SVE test. The constant rate conditions were observed at the end of the SVE step testing.

### 4.4.5 Catalyst Deactivation Agents

Since a full-scale treatment system may utilize catalytic oxidation for vapor abatement, the presence of CDAs was evaluated during the pilot test. Vapor samples from MW-1 were analyzed for VOCs including chlorinated hydrocarbons, sulfur compounds, TEL, and TML. TEL was not detected above the laboratory reporting limits (LRL), and TML was present at a concentration of 1.4 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) in MW-1. The sulfur compound analysis indicated detections of 6 out of 14 analytes above their respective LRLs. The combined detected sulfur compound concentration was 0.277 ppmv. Tetrachloroethene (PCE) and trichloroethene (TCE) were not present above the LRL.

According to manufacturer recommendations, sulfur compounds at combined concentrations of 10 ppmv or less should not deactivate the catalyst at the normal operating temperature range (650 °F to 700 °F), and the operating temperature can be increased to mitigate elevated concentrations of sulfur. The combined detected sulfur compound concentrations for MW-1 were 0.277 ppmv, indicating an elevated temperature or thermal oxidizer may be required.

In addition, based on the presence of LNAPL and influent TPH-GRO concentrations that ranged from 55,000 ppmv to 19,000 ppmv (**Table 12** and **Table 13**), any SVE design would likely require the use of thermal oxidation.

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### **4.5 AS/SVE Pilot Test Conclusions**

#### **4.5.1 Evaluation Criteria**

Results of the AS/SVE pilot test were evaluated for the following objective feasibility criteria:

- Achievable air sparge flow rate below the fracture pressure (based on field readings with a target injection flow rate of 10 scfm);
- Evaluation of air being transferred from the saturated interval to the vadose zone (based on increased VOC influent concentrations in the SVE well and a typical mounding cycle in observation wells); and
- Subjective criteria (i.e., noise restrictions, available space, permitting vapor discharge, vapor and water treatment options) will also be considered when determining the feasibility of AS/SVE.

#### **4.5.2 Conclusions**

- During the step test, the highest extracted flow rate observed at MW-1 was 45 scfm at a casing vacuum of 9.8 in of Hg.
- During the constant rate test on MW-1, the average applied casing vacuum of 8.9 in of Hg resulted in an average extracted flow rate of 62 scfm.
- The observed ROI for the MW-1 test could be approximated to 50 feet at an average applied vacuum of 8.9 in Hg.
- The average injection pressure at AS-1 was 9.1 psi with an average flow of 19.8 scfm.
- During approximately 54 hours of operation of the system in SVE and AS/SVE mode on MW-1, approximately 1,620.0 lbs of GRO at an average rate of 720.0 lbs/day and 22.91 lbs of benzene at an average rate of 10.18 lbs/day were removed from the subsurface.
- The measured concentrations of sulfur compounds were low enough to allow for the use of a catalytic oxidizer.
- During AS operation, there was an increase in FID concentrations throughout all observation wells. Concentrations increased in wells located as far away as 79 feet (MW-15) from AS-1. The FID reading increases in observation wells confirm that there is communication between AS and SVE well screen intervals.
- Based on the ROI, mass removal rates, and an increase of concentrations observed during the AS operation, AS/SVE is a viable technology for this Site.

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- Initial LNAPL thickness at MW-1 prior to operation of the AS/SVE pilot test was 1.78 feet; at the end of the pilot test, the LNAPL thickness was 0.02 feet; and 26 days after the pilot test, a rebound of 1.13 feet was measured at MW-1. This observation supports the conclusions in Arcadis' February 6, 2014, *Additional Site Assessment Report* (Arcadis, 2014), which indicated that "The LNAPL that is present at MW-1 is mobile in the pore scale, meaning, LNAPL will recover back in the well despite draining the LNAPL." However, the LNAPL plume is stable and not migrating, and it is defined.

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### 5.0 Evaluation of Remedial Alternatives

The remedial alternatives that will be evaluated for implementation at the Site to address residual impacts on Site include: MPE, air sparge/SVE, and natural source zone depletion (NSZD). However, as described in Section 4.0, MPE was eliminated as an option due to the high groundwater yield rate.

#### 5.1 Evaluation Criteria

MPE, air sparge/SVE, and NSZD were evaluated against the following United States Environmental Protection Agency (US EPA) criteria:

- Overall protection of human health and the environment;
- Compliance with applicable or relevant and appropriate requirements (ARARs);
- Long-term effectiveness and performance;
- Reduction of toxicity, mobility, or volume;
- Short-term effectiveness;
- Implementability; and
- Cost.

It should be noted that costs are preliminary and intended for use only in relative comparison of remedial alternatives; they should not be used as actual cost estimates for implementing the chosen alternative. State and community acceptance were not evaluated at this time.

The impact of the evaluated remedial alternatives on the environment was also considered. The US EPA Technology Primer titled *Green Remediation: Incorporating Sustainable Environmental Practices into Remediation of Contaminated Sites*, dated April 2008 (US EPA, 2008), encourages "green remediation," defined as the "practice of considering all environmental effects of remedy implementation and incorporating options to maximize net environmental benefit of cleanup actions." The technology primer recommends "minimizing the environmental and energy footprints," and a few of the recommended strategies are:

- Consider use of optimized passive-energy technologies (with little or no demand for external utility power) that enable all remediation objectives to be met;
- Minimize use of heavy equipment requiring high volumes of fuel;
- Minimize dust export of contaminants;
- Use minimally invasive in-situ technologies;

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- Use passive-energy technologies, such as bioremediation and phytoremediation as primary remedies or "finishing steps," where possible and effective;
- Minimize soil and habitat disturbance;
- Use technologies designed to minimize waste generation;
- Minimize natural resource extraction and disposal; and
- Reduce emission of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and other greenhouse gases contributing to climate change.

The adherence of the remedial alternatives to these green remediation strategies will be discussed within the short-term effectiveness evaluation of each alternative.

### **5.2 Air Sparge/Soil Vapor Extraction**

#### **5.2.1 Remedial Alternative Description**

Air sparging is an in-situ remedial technology that reduces concentrations of volatile constituents in petroleum products that are adsorbed to soils and dissolved in groundwater. This technology, which is also known as "in-situ air stripping" and "in-situ volatilization", involves the injection of contaminant-free air into the subsurface saturated zone, enabling a phase transfer of hydrocarbons from a dissolved state to a vapor phase. The air is then vented through the unsaturated zone.

Air sparging is most often used in conjunction with SVE, but it can also be used with other remedial technologies. When air sparging is combined with SVE, the SVE system creates a negative pressure in the unsaturated zone through a series of extraction wells to control the vapor plume migration and capture potential fugitive vapors displaced during air sparging.

#### **5.2.2 Remedial Alternative Evaluation**

As described in Section 4.0, an AS/SVE pilot test was conducted in August 2016. The reported ROI for air sparging was approximately 50 feet, and the ability of SVE to recover vapors at well MW-1 was successful. Based on the ROI, mass removal rates and increase of concentrations observed during the AS/SVE pilot testing, AS/SVE is a viable technology for this Site.

#### Overall Protection of Human Health and the Environment

Because there is limited risk to human health and the environment based on current conditions, AS/SVE would be protective of human health and the environment. Implementation would slightly increase the potential exposure of humans and the environment through extraction of petroleum hydrocarbon-impacted vapors. This potential exposure would be limited to a moderate time span and can be reduced through proper planning, technology implementation, monitoring, and personnel training.



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### Compliance with ARARs

This alternative can be implemented within regulatory guidelines. AS/SVE should be able to remove contaminants adsorbed to saturated zone soil and reduce the concentration of contaminants dissolved in groundwater to achieve water quality objectives (WQOs), unless diffusion-limited conditions occur due to petroleum hydrocarbon impacts present in low-permeability soils.

### Long-Term Effectiveness and Performance

AS/SVE may be effective in removing contaminants adsorbed to saturated zone soil and reducing the concentration of contaminants dissolved in groundwater.

### Reduction of Toxicity, Mobility or Volume

Similar to long-term effectiveness and performance, AS/SVE may be effective in removing contaminants adsorbed to saturated zone soil and reducing the concentration of contaminants dissolved in groundwater.

### Short-Term Effectiveness

AS/SVE may be effective in the short term as source material is transferred into the vapor phase and removed from the subsurface. Unlike multiple mobile oxygen injection events, an air sparge system could provide a continuous supply of air. AS/SVE does not adhere to the green remediation strategies because it requires moderately high energy usage, and there is currently no source of power at the Site, it would result in moderately high CO<sub>2</sub> emissions, and requires the use and disposal of natural resources to implement.

### Implementability

System and well installations would be required; however, this would not disrupt property use, because the Site is currently vacant. An AS/SVE system would be moderately difficult to implement because connection to utilities and construction/O&M of extraction and treatment systems is required.

### Cost

AS/SVE is a high-cost alternative due to the system installation, design, and ongoing O&M costs (including Site visits, permitting, utilities, etc.). The life-cycle cost estimate assumes installation of an AS/SVE system, use of existing extraction wells and installation of a minimum of eight additional sparge wells, a 2-year operation timeframe (equal to operation time for MPE system for comparison purposes; although, a shorter duration may be possible depending on effectiveness), system decommissioning, quarterly groundwater monitoring and reporting during system operation followed by 3 years of semi-annual groundwater monitoring and reporting (5 total), and abandonment of Site wells. The life-cycle cost estimate is approximately \$860,000 (see **Table 14**).

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### 5.3 LNAPL Removal and Natural Source Zone Depletion

#### 5.3.1 Remedial Alternative Description

LNAPL removal consists of bailing LNAPL from Site wells on a quarterly basis and installing absorbent socks in wells with measurable LNAPL. The LNAPL and used absorbent socks will be stored on Site in a department of transportation (DOT)-approved 55-gallon drum pending disposal.

NSZD is not a "technology," per se. It generally describes a range of physical and biological processes, which, unaided by deliberate human intervention, reduce the concentration, toxicity, or mobility of contaminants in soil and/or groundwater. These processes take place whether or not other active cleanup measures occur; however, techniques and technologies for predicting and monitoring NSZD have been developed. These techniques are used to monitor and document the progress of NSZD at a site. For petroleum hydrocarbons, intrinsic biodegradation is typically the most important mechanism for the reduction of concentrations in groundwater.

#### 5.3.2 Remedial Alternative Evaluation

NSZD will not address residual LNAPL by itself, so LNAPL removal using a bailer and absorbent socks will remove LNAPL so that NSZD can address the residual dissolved concentrations. Spatial and temporal trends were evaluated for dissolved-phase TPH-GRO and benzene in groundwater monitoring wells on Site. Analytical results were generally compared to water quality objectives (WQOs; i.e., RWQCB ESLs). NSZD data for the Site were analyzed in a tiered approach. This evaluation is based on current (Third Quarter 2016) groundwater monitoring and sampling data.

The dissolved-phase petroleum hydrocarbon data (provided in **Table 2** and **Table 3**) provide spatial and temporal evidence of NSZD at the Site. Overall, the on Site dissolved-phase petroleum hydrocarbon plume has been spatially stable to decreasing. Temporally, concentrations of constituents in Site wells within the dissolved-phase petroleum hydrocarbon plume are generally stable or decreasing.

#### Overall Protection of Human Health and the Environment

Because there is limited risk to human health and the environment based on current Site conditions (vacant lot), LNAPL removal and NSZD would be protective of human health and the environment. Implementation would slightly increase the potential exposure of humans and the environment through removal of LNAPL. This potential exposure would be limited to a moderate time span and can be reduced through proper planning, technology implementation, monitoring, and personnel training.

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### Compliance with ARARs

This alternative can be implemented within regulatory guidelines. LNAPL removal should help reduce the concentration of contaminants dissolved in groundwater to achieve WQOs faster than NSZD alone. With NSZD, a longer timeframe would be required to reach WQOs.

### Long-Term Effectiveness and Performance

NSZD effectiveness will be limited at the source area where LNAPL is present. NSZD could be enhanced via recovery of LNAPL using a bailer and adsorbent socks as part of the long term monitoring program. NSZD is also dependent on electron acceptor availability, so geochemical data would need to be collected to evaluate whether NSZD is effective in the long-term.

### Reduction of Toxicity, Mobility, or Volume

This alternative relies solely on natural attenuation and intrinsic biodegradation for dissolved-phase hydrocarbon reduction. Residual petroleum hydrocarbons will be present in the subsurface for the foreseeable future. However, as described in Section 5.0, the plume is defined, and there are no complete exposure pathways.

### Short-Term Effectiveness

NSZD does not involve active source removal; therefore, it is not as effective in the short-term as it will take time for NSZD to reduce dissolved-phase hydrocarbon concentrations in groundwater. NSZD does adhere to the green remediation strategies as it is a passive-energy technology with no demand for external utility power, is a minimally invasive in-situ technology, results in no waste generation, and causes no soil disturbance.

### Implementability

As no construction or operations would be required, NSZD is very easy to implement and consists of continued groundwater monitoring and changing out adsorbent socks.

### Cost

LNAPL removal and NSZD is a relatively low cost alternative as it consists of continued groundwater monitoring. The life-cycle cost estimate assumes 2 years of LNAPL removal and 25 years of groundwater monitoring (though cleanup timeframes may exceed 25 years, groundwater monitoring is not expected to last the entire duration and should be discontinued when sufficient decreasing groundwater concentration trends are observed in key wells) and abandonment of Site wells. The life-cycle cost estimate is approximately \$315,000 (see **Table 15**).

## 5.4 Summary of Evaluations

A comparison of the evaluated alternatives shows that, in general, the evaluated technologies would be protective of human health and the environment over time, because there is limited risk to human health and the environment based on current Site conditions. AS/SVE could

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increase the possibility of exposure to petroleum hydrocarbon impacts; however, the potential exposure can typically be mitigated through proper planning and controls. The alternatives were identified as implementable and compliant with ARARs. AS/SVE would require moderately high energy usage, and there is currently no source of power at the Site, and it would result in moderately high CO<sub>2</sub> emissions, while NSZD is considered consistent with green remediation objectives.

With respect to short-term and long-term effectiveness and the reduction of toxicity/mobility/volume, AS/SVE may be effective in the short term. The advantage of an air sparge system over multiple mobile oxygen injection events is that an air sparge system could provide a continuous supply of air, potentially reducing the time required to reach WQOs. NSZD relies on natural degradation processes, which requires a longer timeframe.

AS/SVE is identified as the most expensive alternative. LNAPL removal and NSZD is the lowest cost alternative.

### **5.5 Selected Remedial Alternative**

Based on current Site use and limited risk driver, LNAPL removal and NSZD via intrinsic biodegradation would be the preferred remedial alternative to address residual contamination. The existing monitoring well network could be used to monitor NSZD. Results of the groundwater monitoring and sampling events would be evaluated against remedial objectives and closure goals described in Section 8.0.

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### 6.0 Remediation and Closure Goals

#### 6.1 REMEDIATION GOAL

A remediation goal is defined as the point at which implementation of an active remedial alternative will be stopped. Remediation goals for the Site are identified as reduction of petroleum hydrocarbon mass to a point where dissolved-phase concentrations are stable and/or decreasing. Based on the hydrographs included in **Appendix I**, the remediation goal has already been achieved through previous excavation and NSZD processes.

#### 6.2 CLOSURE GOAL

The closure goal is defined as the point at which the Site is considered for case closure, and does not depend on final WQOs being attained as long as progress towards the WQOs can be demonstrated. The Site will be considered for case closure when Site conditions satisfy LTCP criteria or when Site conditions satisfy ACDEH low-risk closure criteria.

#### 6.3 WATER QUALITY OBJECTIVES

The WQOs for the Site will be set at the maximum contaminant levels (MCLs), with the exception of TPH-GRO. A MCL is not established for TPH-GRO; therefore, the WQO for TPH-GRO will be the RWQCB ESL.

WQOs for the Site will be set as follows:

- TPH-GRO: 100 µg/L;
- Benzene: 1 µg/L;
- Toluene: 150 µg/L;
- Ethylbenzene: 300 µg/L;
- Total Xylenes: 1,750 µg/L; and
- MtBE: 5 µg/L (secondary MCL).

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### **7.0 Conceptual Site Model**

A conceptual site model (CSM) helps to identify complete and potentially complete exposure pathways relevant to human health risks at the Site based on analyses of the following components:

- Current and future land uses;
- Groundwater well, surface water body, and conduit surveys;
- Potentially exposed populations; and
- Complete and potentially complete exposure pathways.

#### **7.1 Current and Future Land Uses**

The Site is a former Chevron-branded service station located on Grant Line Road on the south side of Interstate 580 in Mountain House, California. The Site is currently an undeveloped lot. Land use near the Site consists of undeveloped open space. Based on the zoning of the Site and its isolated location off the interstate, the Site will likely continue to be vacant for the foreseeable future. Potential plans have been discussed regarding development into a commercial fueling station; however, there are currently no approved plans, no water supply well, and no timeline for potential development. Therefore, this CSM is based on current Site conditions.

#### **7.2 Extent of Petroleum Hydrocarbons**

##### **7.2.1 Vertical Extent of petroleum hydrocarbons**

###### **7.2.1.1 Vertical Extent of Petroleum Hydrocarbons in Soil**

Historical soil sample analytical results are summarized in **Table 5**. The total depth explored varies across the Site, but the deepest soil sample collected on Site was near the former USTs and former dispensers (source area) from borehole MW-1 at 38.5 feet bgs. Soil analytical results are compared to RWQCB Tier 1 ESLs. Only minor detections of toluene and total xylenes were detected in this sample, and they were approximately two orders of magnitude below their respective ESLs. All soil samples collected off Site had no detections above LRLs. Therefore, the vertical extent of petroleum hydrocarbons in on-Site and off-Site soil is considered defined.

###### **7.2.1.2 Vertical Extent of Petroleum Hydrocarbons in Groundwater**

Soil impacts extend vertically to groundwater on Site. DTW at the Site has historically ranged from approximately 10 to 33 feet bgs. The shallower DTW measurements are observed at off-site wells MW-5, MW-6, and MW-7 due to a change in topographic elevation. Site conditions indicate one groundwater-bearing zone is present, and dissolved concentrations are currently highest in on-site wells. Off-site, down-gradient wells MW-5, MW-6, MW-7, and MW-16 currently have no

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detections of any constituent of concern, except for MtBE in well MW-6 at 1 µg/L, which is below the ESL of 5 µg/L.

Aside from the water samples collected from the former on-site water supply well (screened from 27 feet to 80 feet bgs, with a total depth of 82 feet bgs), no additional depth discrete groundwater samples have been collected at the Site (see **Table 3**). Since the water samples collected from the former on-site water supply well did not contain concentrations of TPH-GRO, BTEX compounds, or MtBE above the LRLs, the vertical extent of dissolved petroleum hydrocarbons are defined.

### 7.2.2 Lateral Extent of petroleum hydrocarbons

#### 7.2.2.1 Lateral Extent of Petroleum Hydrocarbons in Soil

The lateral extent of petroleum hydrocarbons in soil is defined by perimeter and off-Site borings/boreholes SB-1 and SB-13 to the south and southeast; MW-5 and MW-7 to the east; SB-6 through SB-12 to the northeast, north, and northwest; and SB-5 and MW-8 and to the west and southwest, which exhibited no detections above RWQCB Tier 1 ESLs.

#### 7.2.2.2 Lateral Extent of Petroleum Hydrocarbons in Groundwater

Current and historical groundwater sample analytical results for petroleum hydrocarbons are presented in **Table 2** and **Table 3**. A figure showing the Third Quarter 2016 groundwater analytical data plotted on a Site map is included as **Figure 7**. During Third Quarter 2016, concentrations of TPH-GRO and BTEX compounds were equal to or above RWQCB Tier 1 ESLs for groundwater as follows:

- TPH-GRO concentrations equaled or exceeded the ESL of 100 µg/L or had LNAPL in nine wells MW-1, MW-3, MW-4 (3/24/2016), and MW-9 through MW-15;
- Benzene concentrations exceeded the ESL of 1 µg/L or had LNAPL in nine wells MW-1, MW-3, MW-4 (3/24/2016), and MW-9 through MW-15;
- Toluene concentrations equaled or exceeded the ESL of 40 µg/L or had LNAPL in six wells MW-1, MW-9, MW-10, MW-11, MW-14, and MW-15;
- Ethylbenzene concentrations exceeded the ESL of 13 µg/L or had LNAPL in seven wells MW-1, MW-3, MW-4 (3/24/2016), MW-10, MW-11, MW-14, and MW-15; and
- Total xylenes concentrations exceeded the ESL of 20 µg/L or had LNAPL in eight wells MW-1, MW-3, MW-4 (3/24/2016), MW-9, MW-10, MW-11, MW-14, and MW-15.

Isoconcentration maps showing the estimated lateral extent of dissolved-phase TPH-GRO and benzene are shown on **Figure 8** and **Figure 9**, respectively. Isoconcentration maps for TPH-GRO and benzene demonstrate that the extent of dissolved-phase petroleum hydrocarbons is

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defined in the down-gradient direction. The current length of the dissolved phase plume is approximately 175 feet from the former USTs and former dispensers (source area).

### **7.2.2.3 Plume Stability**

As reported in the *Second Half 2016 Semi-Annual Groundwater Monitoring Report*, 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. Hydrographs based on current and historical groundwater elevations are included in **Appendix I** (Stantec, 2017). Petroleum hydrocarbon concentrations appear to fluctuate with the seasonal groundwater elevation; however, overall, stable or decreasing concentration trends are observed.

Further evidence of plume stability can be seen at well MW-3. Dissolved concentrations in well MW-3 peaked at 110,000 µg/L in Fourth Quarter 2000, and then as groundwater elevations decreased approximately 4 feet from 1998 to 2007, measurable LNAPL appeared. LNAPL was observed in well MW-3 from Second Quarter 2009 through Second Quarter 2015. Measurable LNAPL is no longer present in well MW-3, while groundwater elevation has remained relatively stable, and dissolved concentrations now demonstrate a decreasing trend.

## **7.3 Water Survey**

### **7.3.1 Groundwater Wells**

Attachment A within Appendix A of Arcadis' *Additional Site Assessment Report*, dated February 6, 2014, provides a summary of wells identified near the Site. Three wells were identified, each reportedly approximately 1,000 feet away from the Site. The Site previously had a water supply well located on it, but it was destroyed on March 6, 2015 (Arcadis, 2014).

### **7.3.2 Surface Water Bodies**

Aerial photos from Google Earth were reviewed to identify any surface water within a 0.5-mile radius of the Site. No surface water bodies were identified within the 0.5-mile search radius.

## **7.4 Potentially exposed populations**

### **7.4.1 On-Site Current or Potential Populations**

The Site is currently a fenced, vacant lot, and there are no current on-Site populations. Based on the potential future use of the Site as commercial fueling station, the potentially exposed on-Site populations include commercial workers, customers, and construction workers.

### **7.4.2 Off-Site Current or Potential Populations**

Based on the current and likely future use of adjacent and nearby down-gradient properties as a vacant field, there is no current or potentially exposed off-Site population.



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### 7.4.3 Potential Sensitive Populations

The Site and surrounding area are undeveloped and vacant. There are no potential sensitive populations (ex. schools, daycares, hospitals, assisted living facilities) within 1,000 feet of the Site.

### 7.5 Exposure pathway analysis

An exposure pathway is considered complete or potentially complete if it meets four basic requirements: 1) presence of chemical sources; 2) release and transport within an environmental medium; 3) an exposure route; and 4) a receptor. A graphical representation of the CSM for the Site is shown on **Figure 10**.

All exposure pathways are considered incomplete and are justified as follows:

- The ingestion of groundwater and dermal contact with groundwater exposure pathways are considered incomplete for all on-Site and off-Site human receptors because there is no mechanism for deliberate public consumption of the groundwater (no Site or nearby down-gradient water supply wells) and because excavation at or below the groundwater table is unlikely.
- The ingestion, dermal contact, and inhalation pathways for shallow and excavated soil are considered incomplete for all on-Site and off-Site human receptors. Soil data from the 2013 Site assessment demonstrate that shallow (less than 10 feet bgs) soil concentrations are below the direct contact and outdoor air exposure criteria defined by the SWRCB LTCP (SWRCB, 2012a). This indicates the residual concentrations of petroleum hydrocarbons at the Site pose no significant risk of adversely affecting human health through direct contact or outdoor air exposure.
- The soil and groundwater emission pathways (inhalation of indoor and outdoor air) are considered incomplete for all on-Site and off-Site human receptors, because there are no structures where vapors could accumulate, and there are no shallow soil impacts or shallow groundwater (DTW during Fourth Quarter 2016 ranged from 14.34 to 32.44 feet below TOC) to facilitate potential volatilization of contaminants to outdoor air.

### 7.6 Risk Evaluation

The soil and groundwater emission pathways are considered incomplete for all on-Site and off-Site human receptors. On- and off-site conditions meet the low-threat petroleum vapor intrusion criteria of the LTCP as described further in the following section.

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### 8.0 Low-Threat Closure Policy Evaluation

This section compares current Site conditions to the SWRCB's LTCP, effective August 17, 2012, under Resolution No. 2012-0016 (SWRCB, 2012a).

#### 8.1 General Criteria

- **The unauthorized release is located within the service area of a public water system?**

No. There is no public water supply available at this Site.

- **The unauthorized release consists only of petroleum?**

Yes. The constituents of concern (COCs) at the Site are petroleum hydrocarbons associated with gasoline and diesel, including TPH-GRO, BTEX compounds, and MtBE.

- **The unauthorized (“primary”) release from the UST system has been stopped?**

Yes. All former station and UST system features have been removed.

- **Free product has been removed to the maximum extent practicable, per CCR Chapter 16 Section 2655 a-c?**

Yes. LNAPL remains; however, based on the evidence of a stable or decreasing plume, it appears that any residual LNAPL in the subsurface is not present in significant quantity to overcome capillary forces to mobilize the LNAPL through the pore space, as supported by data presented in Arcadis' February 6, 2016, *Additional Site Assessment Report*. Furthermore, per the LTCP paper, *Technical Justification for Groundwater Plume Lengths, Indicator Constituents, Concentrations, and Buffer Distances (Separation Distances) to Receptors*, dated July 12, 2011, LNAPL in this state is referred to as residual or immobile LNAPL. The paper also states, “the term ‘free product’ in the State regulation is primarily equivalent to ‘migrating LNAPL (which is a subset of ‘mobile LNAPL’)’...” (SWRCB, 2011). LNAPL on Site is not migrating. The extent of LNAPL is stable.

- **A Conceptual Site Model (CSM) that assesses the nature, extent, and mobility of the release has been developed?**

Yes. Sections 2.0 through 5.0 of this report comprise the CSM assessing the nature, extent, and mobility of the release.

- **Secondary source has been removed to the extent practicable?**

Yes. Secondary source removal has been completed previously at the site via excavation and other remedial efforts described in Section 2.5.

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- **Soil or groundwater has been tested for MtBE and results reported in accordance with Health and Safety Code section 25296.15?**

Yes. MtBE has been analyzed historically and results have been reported to the ACDEH and uploaded to GeoTracker.

- **Nuisance as defined by Water Code section 13050 does not exist at the site? A “nuisance” is defined as anything which meets the following (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property; (2) Affects at the same time an entire community or neighborhood; (3) Occurs during, or as a result of, the treatment or disposal of wastes.**

No.

- **Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?**

No.

## 8.2 Media Specific Criteria

### 8.2.1 Groundwater-Specific Criteria

Current site conditions could satisfy scenarios 3 or 5.

#### Scenario 3

- a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
- b. LNAPL has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site.
- c. The plume has been stable or decreasing for a minimum of five years.
- d. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
- e. The property owner is willing to accept a land use restriction if the regulatory agency requires a land use restriction as a condition of closure.

#### Scenario 5

“The regulatory agency determines, based on an analysis of site specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.”

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### **8.2.2 Petroleum Vapor Intrusion to Indoor Air**

The site is currently an undeveloped, vacant parcel with no vapor intrusion risk, therefore satisfying *criteria b*. The property owner has indicated a desire to develop the Site into a commercial petroleum fueling facility. If this occurs, the Site would be exempt from the LTCP petroleum vapor intrusion to indoor air criteria. If Site redevelopment changes to something other than a commercial petroleum fueling facility, the evaluation would need to be based on the specific redevelopment plans.

### **8.2.3 Direct Contact and Outdoor Air Exposure**

Current site conditions satisfy the commercial LTCP direct contact and outdoor air exposure criteria. Although historical soil samples collected from the top 10 feet of the subsurface did not include analyses of polycyclic aromatic hydrocarbons (PAH), other historical analyses such as metals, HVOs, total oil and grease (TOG) and TPHd, collected at the time of Used Oil Tank removal, do not suggest there was a waste oil release, so PAH analysis does not appear to be necessary.

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### 9.0 Conclusions and Recommendations

#### 9.1 Conclusions

##### 9.1.1 Extent of Petroleum Hydrocarbons

- Based on analytical results from soil samples collected during historical investigations associated with the Site, the vertical and lateral extents of petroleum hydrocarbons in soil are defined.
- Based on analytical results from the current groundwater monitoring well network, the extent of the dissolved-phase petroleum hydrocarbon plume is defined to approximately 175 feet from the source area and is stable or decreasing in overall size and concentration.
- Initial LNAPL thickness at MW-1 prior to operation of the AS/SVE pilot test was 1.78 feet; at the end of the pilot test, the LNAPL thickness was 0.02 feet; and 26 days after the pilot test, a rebound of 1.13 feet was measured at MW-1. This observation supports the conclusions in Arcadis' February 6, 2014, *Additional Site Assessment Report* (Arcadis, 2014), which indicated that "The LNAPL that is present at MW-1 is mobile in the pore scale, meaning, LNAPL will recover back in the well despite draining the LNAPL." However, the LNAPL plume is stable and not migrating, and it is defined.

##### 9.1.2 AS/SVE Pilot Test

- MPE is not a practical alternative to implement at this Site due to high groundwater yield.
- The observed ROI for the MW-1 test could be approximated to 50 feet at an average applied vacuum of 8.9 in Hg.
- The average injection pressure at AS-1 was 9.1 psi with an average flow of 19.8 scfm.
- During approximately 54 hours of operation of the system in SVE and AS/SVE mode on MW-1, approximately 1,620.0 lbs of GRO at an average rate of 720.0 lbs/day and 22.91 lbs of benzene at an average rate of 10.18 lbs/day were removed from the subsurface.
- Based on the ROI, mass removal rates and increase of concentrations observed during the AS/SVE pilot testing, AS/SVE is a viable technology for this Site.

##### 9.1.3 Evaluation of Remedial Alternatives

- All evaluated technologies would be protective of human health and the environment over time, because there is limited risk to human health and the environment based on current Site conditions. AS/SVE could increase the possibility of exposure to petroleum hydrocarbon impacts; however, the potential exposure can typically be mitigated

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through proper planning and controls. Each alternative was identified as implementable and compliant with ARARs.

- AS/SVE would require moderately high energy usage, and there is currently no source of power at the Site, and it would result in moderately high CO<sub>2</sub> emissions, while NSZD is considered consistent with green remediation objectives.
- Air sparge/SVE likely has the shortest cleanup timeframe, and NSZD has been demonstrated to already be occurring on Site.
- AS/SVE is identified as the most expensive alternative. NSZD is the lowest cost alternative.
- Although AS/SVE is a viable technology for the Site, based on current Site use and limited risk driver, LNAPL removal and NSZD via intrinsic biodegradation would be the preferred remedial alternative to address residual contamination.

### **9.1.4 Risk Evaluation**

- Based on current Site conditions, there are no complete exposure pathways, and there is low risk to human health, safety, and the environment.

### **9.1.5 Low-Threat UST Case Closure Evaluation**

- All general criteria are satisfied with the exception that a public water supply is not available at the Site; however, the Site is currently a vacant lot. There is currently no need for a water source.
- Current Site conditions could satisfy the LTCP groundwater-specific criteria scenario #3 or scenario #5.
- Current Site conditions satisfy the LTCP petroleum vapor intrusion to indoor air criteria.
- Current Site conditions satisfy the LTCP direct contact and outdoor air exposure criteria.

## **9.2 Recommendations**

Based on current Site use and current Site conditions, the Site satisfies LTCP criteria as noted in Section 6.0. Stantec recommends that the ACDEH evaluate the Site for low-threat closure.

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### **10.0 References**

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## **TABLES**



**Table 1  
Soil Boring and Well Construction Details  
Former Chevron Service Station No. 9-7127  
10 Grant Line Road, Tracy, California**

Location I.D.	Installation Date	TOC Elevation (feet)	Total Depth (feet bgs)	Borehole Diameter (inches)	Casing Diameter (inches)	Casing Material	Slot Size (inches)	Screened Interval (feet bgs)	Filter Pack Interval (feet bgs)	Bentonite Seal Interval (feet bgs)	Cement Seal Interval (feet bgs)	Comments
<b>Borehole (B)</b>												
B-1	12/09/92	--	22	6	--	--	--	--	--	--	0-22	Borehole for MW-4
B-2	05/21/93	--	37	8-7/8	--	--	--	--	--	--	--	
B-3	05/21/93	--	25	3.7	--	--	--	--	--	--	0-25	
B-4	05/25/93	--	25	8-7/8	--	--	--	--	--	--	--	
<b>Boring (B)</b>												
B-1	12/07/87	--	19.5	--	--	--	--	--	--	--	0-19.5	
B-2	12/07/87	--	19.5	--	--	--	--	--	--	--	0-19.5	
B-3	12/07/87	--	14	--	--	--	--	--	--	--	0-14	
B-4	12/07/87	--	19.5	--	--	--	--	--	--	--	0-19.5	
B-5	12/07/87	--	5.67	--	--	--	--	--	--	--	0-5.67	
B-6	12/07/87	--	8.75	--	--	--	--	--	--	--	0-8.75	
B-7	12/07/87	--	8	--	--	--	--	--	--	--	0-8	
B-8	08/25/11	--	30	6	--	--	--	--	--	--	0-30	
B-9	08/25/11	--	30	6	--	--	--	--	--	--	0-30	
B-10	08/25/11	--	30	6	--	--	--	--	--	--	0-30	
B-11	08/26/11	--	30	6	--	--	--	--	--	--	0-30	
B-12	08/26/11	--	30	6	--	--	--	--	--	--	0-30	
<b>Monitoring Wells (MW)</b>												
MW-1	12/08/92	29.18	39.5	10	4	Sch 40 PVC	0.020	22-37	20-38	18-20	0-18	Slough 38-39.5 ft bgs
MW-2	12/10/92	27.22	37	8	2	Sch 40 PVC	0.020	21-36	19-37	17-19	0-17	Slough 37.5-40 ft bgs
MW-3	12/10/92	29.26	40	8	2	Sch 40 PVC	0.020	22.5-37.5	20.5-37.5	18.5-20.5	0-18.5	
MW-4	05/21/93	--	37	8-7/8	2	Sch 40 PVC	0.020	22-37	20-37	18-20	0-18	Borehole B-2
MW-5	05/25/93	--	25	8-7/8	2	Sch 40 PVC	0.020	5-25	4-25	3-4	0-3	Borehole B-4
MW-6	10/27/95	--	30	6.5	2	Sch 40 PVC	0.020	7-30	6-30	5-6	0-5	
MW-7	10/24/95	--	25	6.5	2	Sch 40 PVC	0.020	5-25	4-25	3-4	0-3	
MW-8	10/27/95	--	40	6.5	2	Sch 40 PVC	0.020	20-40	18-40	17-18	0-17	
MW-9	08/22/11	332.56	37	6	2	Sch 40 PVC	0.010	27-37	25-37	23-25	0-23	
MW-10	08/23/11	331.77	37	6	2	Sch 40 PVC	0.010	27-37	25-37	23-25	0-23	
MW-11	08/23/11	331.98	37	6	2	Sch 40 PVC	0.010	24-34	22-37	20-22	0-20	
MW-12	08/24/11	332.53	37	6	2	Sch 40 PVC	0.010	22-32	20-37	18-20	0-18	

**Table 1  
Soil Boring and Well Construction Details  
Former Chevron Service Station No. 9-7127  
10 Grant Line Road, Tracy, California**

Location I.D.	Installation Date	TOC Elevation (feet)	Total Depth (feet bgs)	Borehole Diameter (inches)	Casing Diameter (inches)	Casing Material	Slot Size (inches)	Screened Interval (feet bgs)	Filter Pack Interval (feet bgs)	Bentonite Seal Interval (feet bgs)	Cement Seal Interval (feet bgs)	Comments
<b>Monitoring Wells (MW) continued</b>												
MW-13	08/24/11	331.6	47	6	2	Sch 40 PVC	0.010	24-39	22-47	20-22	0-20	
MW-14	08/24/11	332.24	37	6	2	Sch 40 PVC	0.010	22-32	20-37	18-20	0-18	
MW-15	08/25/11	332.88	38	6	2	Sch 40 PVC	0.010	25.5-35.5	23.5-38	21.5-23.5	0-21.5	
MW-16	07/14/14	318.2	30	6-7/8	2	Sch 40 PVC	0.010	15-30	13-30	10-13	0-10	
<b>Soil Boring (SB)</b>												
SB-1	10/21/13	--	40	6-7/8	--	--	--	30-40	--	--	0-40	Temporary pre-packed 1" diameter well
SB-2	10/21/13	--	38	6-7/8	--	--	--	28-38	--	--	0-38	Temporary pre-packed 1" diameter well
SB-3	10/18/13	--	36	6-7/8	--	--	--	26-36	--	--	0-36	Temporary pre-packed 1" diameter well
SB-4	10/18/13	--	35	6-7/8	--	--	--	25-35	--	--	0-35	Temporary pre-packed 1" diameter well
SB-5	10/21/13	--	40	6-7/8	--	--	--	25-35	--	--	0-40	Temporary pre-packed 1" diameter well
SB-6	10/17/13	--	39	6-7/8	--	--	--	28-38	--	--	0-39	Temporary pre-packed 1" diameter well
SB-7	10/17/13	--	39	6-7/8	--	--	--	29-39	--	--	0-39	Temporary pre-packed 1" diameter well
SB-8	10/15/13	--	36	6-7/8	--	--	--	26-36	--	--	0-36	Temporary pre-packed 1" diameter well
SB-9	10/15/13	--	37	6-7/8	--	--	--	32-37	--	--	0-37	Temporary pre-packed 1" diameter well
SB-10	10/17/13	--	34	6-7/8	--	--	--	24-34	--	--	0-34	Temporary pre-packed 1" diameter well
SB-11	10/17/13	--	39	6-7/8	--	--	--	29-39	--	--	0-39	Temporary pre-packed 1" diameter well
SB-12	10/16/13	--	37	6-7/8	--	--	--	27-37	--	--	0-37	Temporary pre-packed 1" diameter well
SB-13	10/22/13	--	25	6-7/8	--	--	--	15-25	--	--	0-25	Temporary pre-packed 1" diameter well
SB-2A	10/31/13	--	32	4	--	--	--	--	--	--	0-32	
SB-3A	10/29/13	--	34	4	--	--	--	--	--	--	0-34	
SB-MW-1	10/30/13	--	32	4	--	--	--	--	--	--	0-32	
SB-MW-3	10/29/13	--	34	4	--	--	--	--	--	--	0-34	
<b>Air Sparge (AS)</b>												
AS-1	04/20/16	--	40	8.75	2	Sch 40 PVC	0.020	36-38	34-40	31-34	0-31	
<b>Piezometer Wells</b>												
PZ-1	04/19/16	--	37	8.75	1	Sch 40 PVC	0.020	22-37	20-37	17-20	0-17	
PZ-2	04/19/16	--	37	8.75	1	Sch 40 PVC	0.020	22-37	20-37	17-20	0-17	
PZ-3	04/20/16	--	37	8.75	1	Sch 40 PVC	2.020	22-37	20-37	17-20	0-17	

bgs = below ground surface

Elevations are in US survey feet, Vertical Datum is NAVD 88

I.D. = Identification

Sch 40 PVC = Schedule 40 poly-vinyl chloride

TOC = Top of casing

**Table 2**  
**Current Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-1	10/01/16	SPH	331.83	32.15	1.42	300.75	--	--	--	--	--	--	
MW-2	10/01/16	ANN	329.89	29.25	0.00	300.64	--	--	--	--	--	--	
MW-3	10/01/16		331.93	31.33	0.00	300.60	<b>15,000</b>	<b>4,300</b>	<b>31</b>	<b>470</b>	<b>120</b>	<5	
MW-4	10/01/16	INA	329.27	--	--	--	--	--	--	--	--	--	Unable to locate
MW-5	10/01/16	ANN	315.83	15.37	0.00	300.46	--	--	--	--	--	--	
MW-6	10/01/16		314.84	14.34	0.00	300.50	<50	<0.5	<0.5	<0.5	<0.5	<b>1</b>	
MW-7	10/01/16	ANN	316.32	15.78	0.00	300.54	--	--	--	--	--	--	
MW-8	10/01/16	INA	333.02	--	--	--	--	--	--	--	--	--	Obstruction at 3.05 ft
MW-9	10/01/16		332.46	31.78	0.00	300.68	<b>1,900</b>	<b>140</b>	<b>43</b>	<b>8</b>	<b>30</b>	<0.5	
MW-10	10/01/16	SPH	331.68	31.58	0.75	300.66	--	--	--	--	--	--	
MW-11	10/01/16	SPH	331.88	32.44	1.59	300.63	--	--	--	--	--	--	
MW-12	10/01/16		332.44	31.85	0.00	300.59	<b>2,200</b>	<b>240</b>	<b>4</b>	<b>3</b>	<3	<3	
MW-13	10/01/16		331.51	30.95	0.00	300.56	<b>140</b>	<b>22</b>	<0.5	<0.5	<0.5	<b>0.9</b>	
MW-14	10/01/16		332.13	31.58	0.00	300.55	<b>8,200</b>	<b>2,200</b>	<b>48</b>	<b>180</b>	<b>53</b>	<10	
MW-15	10/01/16		332.78	32.22	0.00	300.56	<b>54,000</b>	<b>19,000</b>	<b>790</b>	<b>1,000</b>	<b>1,400</b>	<50	
MW-16	10/01/16		318.20	17.61	0.00	300.59	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
QA	10/01/16		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	

**Notes:**

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tertiary butyl ether

SPH = Separate phase hydrocarbons

TOC = Top of casing (surveyed)

MSL = Mean sea level

µg/L = Microgram per liter

< = Analyte was not detected above laboratory method detection limit

-- = Not measured or analyzed

Calc. GW Elev. = Calculated groundwater elevation = TOC - Depth to Water + 0.75\*(Measured SPH Thickness); assuming a specific gravity of 0.75 for SPH

Well survey data (TOC elevation) provided by Muir Consulting, Inc., July 2014

ANN = An approved annual sampling program was in place at this time; the well was not scheduled for sampling during this event

INA = Well inaccessible

SPH = Well not sampled due to presence of separate phase hydrocarbons (SPH)

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-1	12/28/92	SPH	329.17	30.78	1.67	299.64	--	--	--	--	--	--	25
MW-1	02/15/94		329.17	29.77	0.00	299.40	99,000	20,000	24,000	2000	9800	--	
MW-1	04/21/94		329.17	29.85	0.00	299.32	--	--	--	--	--	--	
MW-1	06/01/94		329.17	29.92	0.00	299.25	56,000	12,000	15,000	1100	5800	--	
MW-1	06/28/94		329.17	30.15	0.00	299.02	--	--	--	--	--	--	
MW-1	07/19/94		329.17	20.30	0.00	308.87	--	--	--	--	--	--	
MW-1	09/02/94	SPH	329.17	30.61	0.50	298.94	--	--	--	--	--	--	
MW-1	09/12/94	SPH	329.17	31.66	0.66	298.01	--	--	--	--	--	--	
MW-1	10/12/94	SPH	329.17	31.70	1.54	298.63	--	--	--	--	--	--	
MW-1	11/30/94	SPH	329.17	29.95	0.77	299.80	--	--	--	--	--	--	
MW-1	03/09/95	SPH	329.17	29.54	0.31	299.86	--	--	--	--	--	--	
MW-1	04/18/95		329.17	29.01	0.00	300.16	--	--	--	--	--	--	
MW-1	05/17/95		329.17	29.09	0.00	300.08	130,000	22,000	30,000	2000	10,000	--	
MW-1	06/07/95		329.17	29.24	0.00	299.93	--	--	--	--	--	--	
MW-1	07/21/95		329.17	29.66	0.00	299.51	--	--	--	--	--	--	
MW-1	08/15/95		329.17	29.87	0.00	299.30	41,000	9400	12,000	1400	7700	--	
MW-1	09/07/95		329.17	29.85	0.00	299.32	--	--	--	--	--	--	
MW-1	10/09/95		329.17	30.01	0.00	299.16	--	--	--	--	--	--	
MW-1	11/15/95		329.17	29.88	0.00	299.29	68,000	15,000	9600	1100	5500	<2,000	
MW-1	12/30/95		329.17	29.99	0.00	299.18	--	--	--	--	--	--	
MW-1	01/29/96		329.17	29.32	0.00	299.85	--	--	--	--	--	--	
MW-1	02/27/96		329.17	28.51	0.00	300.66	520	48	71	<0.5	27	28	
MW-1	03/05/96		329.17	28.44	0.00	300.73	--	--	--	--	--	--	
MW-1	04/23/96		329.17	28.20	0.00	300.97	--	--	--	--	--	--	
MW-1	05/30/96		329.17	28.47	0.00	300.70	57,000	15,000	11,000	1100	4900	<250	
MW-1	06/19/96		329.17	28.43	0.00	300.74	--	--	--	--	--	--	
MW-1	07/15/96		329.17	28.66	0.00	300.51	--	--	--	--	--	--	
MW-1	08/27/96		329.17	28.73	0.00	300.44	74,000	11,000	9500	790	3600	<120	
MW-1	09/06/96		329.17	28.85	0.00	300.32	--	--	--	--	--	--	
MW-1	10/28/96		329.17	28.53	0.00	300.64	--	--	--	--	--	--	
MW-1	11/11/96		329.17	28.77	0.00	300.40	69,000	13,000	9100	810	3200	<250	
MW-1	05/06/97		329.17	28.12	0.00	301.05	98,000	23,000	17,000	1100	5200	<500	
MW-1	07/27/97		329.17	28.18	0.00	300.99	--	--	--	--	--	--	
MW-1	11/18/97		329.17	28.73	0.00	300.44	58,000	19,000	9700	1100	4000	<500	
MW-1	05/31/98		329.17	27.03	0.05	302.18	180,000	25,000	25,000	1700	9300	19,000	
MW-1	05/31/98	SPH	329.17	27.03	0.05	302.18	--	--	--	--	--	<500	3
MW-1	08/12/98		329.17	27.18	0.00	301.99	--	--	--	--	--	--	2
MW-1	11/23/98		329.17	27.54	0.00	301.63	131,000	14,600	23,700	1,990	13,600	<200	
MW-1	05/11/99		329.17	27.28	0.00	301.89	--	--	--	--	--	--	2,7
MW-1	11/24/99	SPH	329.17	28.11	0.20	301.21	--	--	--	--	--	--	8
MW-1	05/23/00	SPH	329.17	27.61	0.97	302.29	--	--	--	--	--	--	1
MW-1	10/31/00	SPH	329.17	28.35	0.81	301.43	--	--	--	--	--	--	
MW-1	05/18/01	SPH	329.17	28.62	0.90	301.23	--	--	--	--	--	--	
MW-1	11/16/01	SPH	329.17	28.57	0.04	300.63	--	--	--	--	--	--	15
MW-1	07/01/02	SPH	329.17	29.36	0.71	300.34	--	--	--	--	--	--	15

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-1	11/08/02	SPH	329.17	29.82	0.90	300.03	--	--	--	--	--	--	15
MW-1	06/13/03	SPH	329.17	28.83	0.31	300.57	--	--	--	--	--	--	15
MW-1	11/20/03	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	05/18/04	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	11/19/04	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	05/03/05	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	11/28/05	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	05/25/06	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	11/21/06	INA	329.17	--	--	--	--	--	--	--	--	--	
MW-1	05/09/07	SPH	329.17	29.70	0.39	299.76	--	--	--	--	--	--	
MW-1	11/17/07	SPH	329.17	30.83	1.67	299.59	--	--	--	--	--	--	
MW-1	04/30/08	SPH	329.17	31.54	0.83	298.25	--	--	--	--	--	--	
MW-1	11/26/08	SPH	329.17	31.90	1.82	298.64	--	--	--	--	--	--	
MW-1	05/22/09	SPH	329.17	31.95	0.97	297.95	--	--	--	--	--	--	24
MW-1	11/24/09	SPH	329.17	32.06	1.59	298.30	--	--	--	--	--	--	
MW-1	05/25/10	SPH	329.17	30.68	0.88	299.15	--	--	--	--	--	--	
MW-1	11/29/10	SPH	329.17	31.67	2.68	299.51	--	--	--	--	--	--	
MW-1	05/02/11	SPH	329.17	29.63	0.20	299.69	--	--	--	--	--	--	
MW-1	11/23/11	SPH	331.93	31.43	1.53	301.65	--	--	--	--	--	--	
MW-1	02/21/12	SPH	331.93	31.20	1.32	301.72	--	--	--	--	--	--	
MW-1	06/25/12	SPH	331.93	31.85	1.80	301.43	--	--	--	--	--	--	
MW-1	09/22/12	SPH	331.93	32.85	2.42	300.90	--	--	--	--	--	--	
MW-1	12/10/12	SPH	331.93	32.21	1.90	301.15	--	--	--	--	--	--	
MW-1	03/26/13	SPH	331.81	31.30	1.29	301.48	--	--	--	--	--	--	
MW-1	06/13/13	SPH	331.81	32.39	2.03	300.94	--	--	--	--	--	--	
MW-1	09/04/13	SPH	331.81	33.23	2.53	300.48	--	--	--	--	--	--	
MW-1	12/04/13	SPH	331.81	33.05	2.34	300.52	--	--	--	--	--	--	
MW-1	03/06/14	SPH	331.81	32.33	1.85	300.87	--	--	--	--	--	--	
MW-1	06/09/14	SPH	331.81	33.16	2.36	300.42	--	--	--	--	--	--	
MW-1	09/22/14	SPH	331.83	33.73	2.65	300.09	--	--	--	--	--	--	
MW-1	12/19/14	SPH	331.83	32.39	1.62	300.66	--	--	--	--	--	--	
MW-1	03/27/15	SPH	331.83	31.66	1.36	301.19	--	--	--	--	--	--	
MW-1	05/21/15	SPH	331.83	32.08	1.60	300.95	--	--	--	--	--	--	
MW-1	09/09/15	SPH	331.83	33.19	2.34	300.40	--	--	--	--	--	--	
MW-1	03/24/16	SPH	331.83	31.85	1.35	300.99	--	--	--	--	--	--	
<b>MW-1</b>	<b>10/01/16</b>	<b>SPH</b>	<b>331.83</b>	<b>32.15</b>	<b>1.42</b>	<b>300.75</b>	--	--	--	--	--	--	
MW-2	12/28/92		327.22	28.59	0.00	298.63	<50	<0.4	<0.3	<0.3	0.6	--	25
MW-2	02/15/94		327.22	27.09	0.00	300.13	83	21	6.0	1.0	3.0	--	
MW-2	04/21/94		327.22	27.81	0.00	299.41	--	--	--	--	--	--	
MW-2	06/01/94		327.22	27.98	0.00	299.24	<50	1.3	0.5	<0.5	<0.5	--	
MW-2	06/28/94		327.22	28.17	0.00	299.05	--	--	--	--	--	--	
MW-2	07/19/94		327.22	28.35	0.00	298.87	--	--	--	--	--	--	
MW-2	09/02/94		327.22	28.52	0.00	298.70	82	13	16	3.6	14	--	
MW-2	09/12/94		327.22	28.56	0.00	298.66	--	--	--	--	--	--	
MW-2	10/12/94		327.22	28.62	0.00	298.60	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-2	11/30/94		327.22	28.38	0.00	298.84	<50	3.6	4.5	1.0	4.5	--	
MW-2	03/09/95		327.22	27.41	0.00	299.81	--	--	--	--	--	--	
MW-2	04/18/95		327.22	26.79	0.00	300.43	--	--	--	--	--	--	
MW-2	05/17/95		327.22	26.95	0.00	300.27	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-2	06/07/95		327.22	27.06	0.00	300.16	--	--	--	--	--	--	
MW-2	07/21/95		327.22	27.47	0.00	299.75	--	--	--	--	--	--	
MW-2	08/15/95		327.22	27.57	0.00	299.65	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-2	09/07/95		327.22	28.69	0.00	298.53	--	--	--	--	--	--	
MW-2	10/09/95		327.22	27.85	0.00	299.37	--	--	--	--	--	--	
MW-2	11/15/95		327.22	27.91	0.00	299.31	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-2	12/30/95		327.22	27.60	0.00	299.62	--	--	--	--	--	--	
MW-2	01/29/96		327.22	27.16	0.00	300.06	--	--	--	--	--	--	
MW-2	02/27/96		327.22	26.25	0.00	300.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-2	03/05/96		327.22	26.70	0.00	300.52	--	--	--	--	--	--	
MW-2	04/23/96		327.22	25.82	0.00	301.40	--	--	--	--	--	--	
MW-2	05/30/96		327.22	26.16	0.00	301.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-2	06/19/96		327.22	26.27	0.00	300.95	--	--	--	--	--	--	
MW-2	07/15/96		327.22	26.46	0.00	300.76	--	--	--	--	--	--	
MW-2	08/27/96		327.22	26.72	0.00	300.50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-2	09/06/96		327.22	26.80	0.00	300.42	--	--	--	--	--	--	
MW-2	10/28/96		327.22	26.83	0.00	300.39	--	--	--	--	--	--	
MW-2	11/11/96		327.22	26.72	0.00	300.50	--	--	--	--	--	--	
MW-2	05/06/97		327.22	26.01	0.00	301.21	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-2	07/27/97		327.22	26.38	0.00	300.84	--	--	--	--	--	--	
MW-2	11/18/97		327.22	26.50	0.00	300.72	--	--	--	--	--	--	
MW-2	05/31/98		327.22	24.47	0.00	302.75	<50	<0.3	<0.3	<0.3	<0.6	<10	
MW-2	11/23/98	ANN	327.22	24.94	0.00	302.28	--	--	--	--	--	--	
MW-2	05/11/99		327.22	24.49	0.00	302.73	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-2	05/23/00		327.22	25.03	0.00	302.19	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-2	10/31/00		327.22	25.92	0.00	301.30	--	--	--	--	--	--	
MW-2	05/18/01		327.22	26.08	0.00	301.14	<50	0.52	2.6	<0.50	1.9	<2.5	
MW-2	11/16/01		327.22	26.81	0.00	300.41	--	--	--	--	--	--	
MW-2	07/01/02		327.22	26.97	0.00	300.25	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-2	11/08/02		327.22	27.30	0.00	299.92	--	--	--	--	--	--	
MW-2	06/13/03		327.22	26.73	0.00	300.49	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/20/03		327.22	26.48	0.00	300.74	--	--	--	--	--	--	
MW-2	05/18/04		327.22	27.08	0.00	300.14	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/19/04	ANN	327.22	26.70	0.00	300.52	--	--	--	--	--	--	
MW-2	05/03/05		327.22	27.25	0.00	299.97	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/28/05	ANN	327.22	27.45	0.00	299.77	--	--	--	--	--	--	
MW-2	05/25/06		327.22	26.60	0.00	300.62	--	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/21/06	ANN	327.22	27.01	0.00	300.21	--	--	--	--	--	--	
MW-2	05/09/07		327.22	27.54	0.00	299.68	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/17/07	ANN	327.22	27.11	0.00	300.11	--	--	--	--	--	--	
MW-2	04/30/08		327.22	27.87	0.00	299.35	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-2	11/26/08	ANN	327.22	28.70	0.00	298.52	--	--	--	--	--	--	
MW-2	05/22/09		327.22	28.20	0.00	299.02	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/24/09	ANN	327.22	28.78	0.00	298.44	--	--	--	--	--	--	
MW-2	05/25/10		327.22	28.07	0.00	299.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/29/10	ANN	327.22	28.70	0.00	298.52	--	--	--	--	--	--	
MW-2	05/02/11		327.22	27.53	0.00	299.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-2	11/23/11	ANN	329.98	28.40	0.00	301.58	--	--	--	--	--	--	
MW-2	02/21/12	ANN	329.98	28.28	0.00	301.70	--	--	--	--	--	--	
MW-2	06/25/12		329.98	28.60	0.00	301.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-2	09/22/12		329.98	29.15	0.00	300.83	--	--	--	--	--	--	
MW-2	12/10/12		329.98	28.79	0.00	301.19	--	--	--	--	--	--	
MW-2	03/26/13		329.88	28.45	0.00	301.43	--	--	--	--	--	--	
MW-2	06/13/13		329.88	28.89	0.00	300.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-2	09/04/13		329.88	29.47	0.00	300.41	--	--	--	--	--	--	
MW-2	12/04/13		329.88	29.31	0.00	300.57	--	--	--	--	--	--	
MW-2	03/06/14		329.88	29.00	0.00	300.88	--	--	--	--	--	--	
MW-2	06/09/14		329.88	29.42	0.00	300.46	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-2	09/22/14		329.89	29.80	0.00	300.09	--	--	--	--	--	--	
MW-2	12/19/14		329.89	29.20	0.00	300.69	--	--	--	--	--	--	
MW-2	03/27/15		329.89	28.75	0.00	301.14	--	--	--	--	--	--	
MW-2	05/21/15		329.89	28.98	0.00	300.91	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-2	09/09/15	ANN	329.89	29.54	0.00	300.35	--	--	--	--	--	--	
MW-2	03/24/16		329.89	28.82	0.00	301.07	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-2</b>	<b>10/01/16</b>	<b>ANN</b>	<b>329.89</b>	<b>29.25</b>	<b>0.00</b>	<b>300.64</b>	--	--	--	--	--	--	
MW-3	12/28/92		329.28	30.69	0.00	298.59	19,000	8,900	660	380	720	--	25
MW-3	02/15/94		329.28	29.87	0.00	299.41	23,000	11,000	1,700	540	1,000	--	
MW-3	04/21/94		329.28	29.96	0.00	299.32	--	--	--	--	--	--	
MW-3	06/01/94		329.28	30.11	0.00	299.17	27,000	12,000	2600	600	2,200	--	
MW-3	06/28/94		329.28	30.31	0.00	298.97	--	--	--	--	--	--	
MW-3	07/19/94		329.28	30.50	0.00	298.78	--	--	--	--	--	--	
MW-3	09/02/94		329.28	30.61	0.00	298.67	34,000	16,000	4,100	770	3,000	--	
MW-3	09/12/94		329.28	30.65	0.00	298.63	--	--	--	--	--	--	
MW-3	10/12/94		329.28	30.74	0.00	298.54	--	--	--	--	--	--	
MW-3	11/30/94		329.28	30.44	0.00	298.84	33,000	16,000	3,000	740	2,400	--	
MW-3	03/09/95		329.28	29.53	0.00	299.75	--	--	--	--	--	--	
MW-3	04/18/95		329.28	28.97	0.00	300.31	--	--	--	--	--	--	
MW-3	05/17/95		329.28	29.19	0.00	300.09	27,000	10,000	760	490	1,000	--	
MW-3	06/07/95		329.28	29.24	0.00	300.04	--	--	--	--	--	--	
MW-3	07/21/95		329.28	29.70	0.00	299.58	--	--	--	--	--	--	
MW-3	08/15/95		329.28	29.78	0.00	299.50	39,000	13,000	2,900	700	1,700	--	
MW-3	09/07/95		329.28	29.86	0.00	299.42	--	--	--	--	--	--	
MW-3	10/09/95		329.28	30.02	0.00	299.26	--	--	--	--	--	--	
MW-3	11/15/95		329.28	30.06	0.00	299.22	21,000	8000	2,900	430	1,500	<1,000	
MW-3	12/30/95		329.28	29.75	0.00	299.53	--	--	--	--	--	--	
MW-3	01/29/96		329.28	29.22	0.00	300.06	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-3	02/27/96		329.28	28.43	0.00	300.85	<2,500	5000	500	220	130	710	
MW-3	03/05/96		329.28	28.35	0.00	300.93	--	--	--	--	--	--	
MW-3	04/23/96		329.28	28.10	0.00	301.18	--	--	--	--	--	--	
MW-3	05/30/96		329.28	28.42	0.00	300.86	37,000	13,000	7,200	870	2,900	<120	
MW-3	06/19/96		329.28	28.51	0.00	300.77	--	--	--	--	--	--	
MW-3	07/15/96		329.28	28.63	0.00	300.65	--	--	--	--	--	--	
MW-3	08/27/96		329.28	28.90	0.00	300.38	50,000	9500	6,900	740	2,900	<120	
MW-3	09/06/96		329.28	28.98	0.00	300.30	--	--	--	--	--	--	
MW-3	10/28/96		329.28	28.98	0.00	300.30	--	--	--	--	--	--	
MW-3	11/11/96		329.28	28.84	0.00	300.44	52,000	11,000	5,500	780	3,000	<250	
MW-3	05/06/97		329.28	28.22	0.00	301.06	93,000	23,000	15,000	1,400	6,200	<500	
MW-3	07/27/97		329.28	28.58	0.00	300.70	--	--	--	--	--	--	
MW-3	11/18/97		329.28	28.70	0.00	300.58	81,000	29,000	17,000	1,600	6,700	<500	
MW-3	05/31/98		329.28	26.68	0.00	302.60	78,000	24,000	12,000	1,200	5,800	1,300	
MW-3	05/31/98		329.28	26.68	0.00	302.60	--	--	--	--	--	<500	3
MW-3	08/12/98		329.28	27.03	0.00	302.25	--	--	--	--	--	--	2
MW-3	11/23/98		329.28	27.09	0.00	302.19	97,200	17,900	12,800	1,200	6,950	<100	
MW-3	05/11/99		329.28	26.68	0.00	302.60	51,000	18,000	7,800	670	3,600	<2.5	2
MW-3	05/11/99		329.28	26.68	0.00	302.60	--	--	--	--	--	<100	3
MW-3	11/24/99		329.28	27.45	0.00	301.83	62,800	16,600	8,300	900	4,890	<500	
MW-3	05/23/00		329.28	27.17	0.00	302.11	27,000	14,000	12,000	940	4,600	770	1,7
MW-3	10/31/00		329.28	28.01	0.00	301.27	110,000	25,700	21,300	1,300	7,320	1,680	1, 10
MW-3	05/18/01		329.28	28.21	0.00	301.07	58,000	19,000	16,000	1,400	7,000	2,300	1, 7, 14
MW-3	11/16/01		329.28	28.87	0.00	300.41	100,000	23,000	16,000	1,400	6,800	<200	1
MW-3	07/01/02		329.28	29.08	0.00	300.20	75,000	16,000	8,800	980	4,000	140	1, 17
MW-3	11/08/02		329.28	29.39	0.00	299.89	45,000	9,800	5,800	590	2,400	<50	
MW-3	06/13/03		329.28	28.82	0.00	300.46	42,000	9,100	4,100	580	1,800	5	19, 20
MW-3	11/20/03		329.28	28.77	0.00	300.51	52,000	12,000	4,500	660	3,200	5	19
MW-3	05/18/04		329.28	29.21	0.00	300.07	57,000	15,000	5,700	840	3,400	9	19
MW-3	11/19/04		329.28	28.86	0.00	300.42	67,000	15,000	4,200	850	3,400	7	19
MW-3	05/03/05		329.28	29.40	0.00	299.88	54,000	13,000	3,400	690	2,600	<10	19
MW-3	11/28/05		329.28	29.56	0.00	299.72	56,000	16,000	1,800	950	3,500	<25	19
MW-3	05/25/06		329.28	28.81	0.00	300.47	38,000	9,400	1,800	680	2,100	<5	19
MW-3	11/21/06		329.28	29.22	0.00	300.06	27,000	10,000	420	650	1,600	<5	19
MW-3	05/09/07		329.28	29.73	0.00	299.55	40,000	9,200	660	590	1,300	<10	19
MW-3	11/17/07		329.28	30.38	0.00	298.90	22,000	9,200	86	610	560	3	19
MW-3	04/30/08		329.28	29.82	0.00	299.46	19,000	8,300	440	510	620	<5	19
MW-3	11/26/08		329.28	30.73	0.00	298.55	20,000	7,500	230	470	640	<10	19
MW-3	05/22/09	SPH	329.28	30.58	0.72	299.24	--	--	--	--	--	--	
MW-3	11/24/09	SPH	329.28	31.16	0.98	298.86	--	--	--	--	--	--	
MW-3	05/25/10	SPH	329.28	30.38	0.25	299.09	--	--	--	--	--	--	
MW-3	11/29/10	SPH	329.28	30.72	0.61	299.02	--	--	--	--	--	--	
MW-3	05/02/11	SPH	329.28	29.68	0.04	299.63	--	--	--	--	--	--	
MW-3	11/23/11	SPH	332.03	30.54	0.04	301.52	--	--	--	--	--	--	
MW-3	02/21/12	SPH	332.03	30.38	0.01	301.66	--	--	--	--	--	--	



**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-3	06/25/12	SPH	332.03	30.88	0.22	301.32	--	--	--	--	--	--	
MW-3	09/22/12	SPH	332.03	31.58	0.42	300.77	--	--	--	--	--	--	
MW-3	12/10/12	SPH	332.03	31.00	0.06	301.08	--	--	--	--	--	--	
MW-3	03/26/13	SPH	331.91	30.65	0.21	301.42	--	--	--	--	--	--	
MW-3	06/13/13	SPH	331.91	31.54	0.63	300.84	--	--	--	--	--	--	
MW-3	09/04/13	SPH	331.91	32.08	0.73	300.38	--	--	--	--	--	--	
MW-3	12/04/13	SPH	331.91	31.72	0.34	300.45	--	--	--	--	--	--	
MW-3	03/06/14	SPH	331.91	31.23	0.20	300.83	--	--	--	--	--	--	
MW-3	06/09/14	SPH	331.91	32.02	0.56	300.31	--	--	--	--	--	--	
MW-3	09/22/14	SPH	331.93	32.44	0.63	299.96	--	--	--	--	--	--	
MW-3	12/19/14	SPH	331.93	31.33	0.09	300.67	--	--	--	--	--	--	
MW-3	03/27/15		331.93	30.78	0.00	301.15	--	--	--	--	--	--	
MW-3	05/21/15	SPH	331.93	30.99	0.02	300.96	--	--	--	--	--	--	
MW-3	09/09/15		331.93	31.61	0.00	300.32	18,000	8,400	77	770	830	<3	
MW-3	03/24/16	Sheen	331.93	30.93	0.00	301.00	32,000	5,600	32	530	420	<25	
<b>MW-3</b>	<b>10/01/16</b>		<b>331.93</b>	<b>31.33</b>	<b>0.00</b>	<b>300.60</b>	<b>15,000</b>	<b>4,300</b>	<b>31</b>	<b>470</b>	<b>120</b>	<b>&lt;5</b>	
MW-4	05/21/93		--	--	--	--	<50	12	2.0	<0.5	1.0	--	
MW-4	11/05/93		--	--	--	--	300	56	10	0.8	3.0	--	
MW-4	02/15/94		329.44	29.90	0.00	299.54	260	47	12	2.0	4.0	--	
MW-4	04/21/94		329.44	29.99	0.00	299.45	--	--	--	--	--	--	
MW-4	06/01/94		329.44	30.14	0.00	299.30	860	200	23	2.8	9.6	--	
MW-4	06/28/94		329.44	30.32	0.00	299.12	--	--	--	--	--	--	
MW-4	07/19/94		329.44	30.50	0.00	298.94	--	--	--	--	--	--	
MW-4	09/02/94		329.44	30.62	0.00	298.82	1700	250	27	6.4	15	--	
MW-4	09/12/94		329.44	30.69	0.00	298.75	--	--	--	--	--	--	
MW-4	10/12/94		329.44	30.75	0.00	298.69	--	--	--	--	--	--	
MW-4	11/30/94		329.44	30.51	0.00	298.93	830	350	29	8.1	22	--	
MW-4	03/09/95		329.44	29.61	0.00	299.83	--	--	--	--	--	--	
MW-4	04/18/95		329.44	29.08	0.00	300.36	--	--	--	--	--	--	
MW-4	05/17/95		329.44	29.22	0.00	300.22	470	200	2.2	0.9	2.1	--	
MW-4	06/07/95		329.44	29.27	0.00	300.17	--	--	--	--	--	--	
MW-4	07/21/95		329.44	29.72	0.00	299.72	--	--	--	--	--	--	
MW-4	08/15/95		329.44	29.77	0.00	299.67	100	4.2	0.8	<0.5	<0.5	--	
MW-4	09/07/95		329.44	29.85	0.00	299.59	--	--	--	--	--	--	
MW-4	10/09/95		329.44	30.02	0.00	299.42	--	--	--	--	--	--	
MW-4	11/15/95		329.44	30.05	0.00	299.39	270	94	9.4	0.77	4.3	27	
MW-4	12/30/95		329.44	29.79	0.00	299.65	--	--	--	--	--	--	
MW-4	01/29/96		329.44	29.31	0.00	300.13	--	--	--	--	--	--	
MW-4	02/27/96		329.44	28.58	0.00	300.86	690	100	15	<0.5	2.0	79	
MW-4	03/05/96		329.44	28.55	0.00	300.89	--	--	--	--	--	--	
MW-4	04/23/96		329.44	28.15	0.00	301.29	--	--	--	--	--	--	
MW-4	05/30/96		329.44	28.40	0.00	301.04	700	240	4.0	0.6	3.9	<5.0	
MW-4	06/19/96		329.44	28.47	0.00	300.97	--	--	--	--	--	--	
MW-4	07/15/96		329.44	28.62	0.00	300.82	--	--	--	--	--	--	
MW-4	08/27/96		329.44	28.85	0.00	300.59	<50	11	<0.5	<0.5	<0.5	<5.0	

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**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-4	09/06/96		329.44	28.92	0.00	300.52	--	--	--	--	--	--	
MW-4	10/28/96		329.44	28.90	0.00	300.54	--	--	--	--	--	--	
MW-4	11/11/96		329.44	28.78	0.00	300.66	240	57	1.4	0.7	1.8	<5.0	
MW-4	05/06/97		329.44	28.11	0.00	301.33	240	74	2.7	<0.5	1.6	<5.0	
MW-4	07/27/97		329.44	28.43	0.00	301.01	--	--	--	--	--	--	
MW-4	11/18/97		329.44	28.58	0.00	300.86	270	230	3.5	1.0	1.6	<2.5	
MW-4	05/31/98		329.44	26.53	0.00	302.91	1000	450	3.4	4.5	<6.0	<20	
MW-4	08/12/98		329.44	26.82	0.00	302.62	--	--	--	--	--	--	2
MW-4	11/23/98		329.44	23.92	0.00	305.52	--	--	--	--	--	--	6
MW-4	12/23/98		329.44	24.19	0.00	305.25	--	--	--	--	--	--	6
MW-4	05/11/99		329.44	23.20	0.00	306.24	470	260	2.6	<0.5	4.3	35	2
MW-4	05/11/99		329.44	23.20	0.00	306.24	--	--	--	--	--	<2.0	3
MW-4	11/24/99		329.44	23.03	0.00	306.41	2,400	562	<5.0	11	10	38	
MW-4	05/23/00		329.44	24.14	0.00	305.30	370	470	1.1	9.7	5.9	84	1, 8, 9
MW-4	10/31/00		329.44	25.02	0.00	304.42	672	224	<5.00	<5.00	<15.0	<25.0	1, 11
MW-4	05/18/01		329.44	25.21	0.00	304.23	230	37	<0.50	1.3	0.95	22	1, 7, 14
MW-4	11/16/01		329.44	25.91	0.00	303.53	290	36	<0.50	<0.50	<1.5	<2.5	16
MW-4	07/01/02		329.44	26.11	0.00	303.33	410	60	<0.50	2.1	<1.5	<2.5	
MW-4	11/08/02		329.44	26.43	0.00	303.01	64	7	<0.50	<0.50	<1.5	<2.5	
MW-4	06/13/03		329.44	26.86	0.00	302.58	79	4	<0.5	<0.5	<0.5	<0.5	19
MW-4	11/20/03		329.44	26.63	0.00	302.81	350	36	<0.5	2	0.7	<0.5	19
MW-4	05/18/04		329.44	26.31	0.00	303.13	160	22	<0.5	2	1	<0.5	19
MW-4	11/19/04		329.44	26.88	0.00	302.56	480	93	2	4	4	<0.5	19
MW-4	05/03/05		329.44	26.48	0.00	302.96	180	40	0.8	1	1	<0.5	19
MW-4	11/28/05		329.44	26.68	0.00	302.76	630	96	2	5	5	<0.5	19
MW-4	05/25/06		329.44	25.85	0.00	303.59	2,400	490	11	33	21	<0.5	19
MW-4	11/21/06		329.44	26.28	0.00	303.16	<50	3	<0.5	<0.5	<0.5	<0.5	19
MW-4	05/09/07		329.44	26.75	0.00	302.69	940	170	5	9	11	<0.5	19
MW-4	11/17/07		329.44	27.41	0.00	302.03	580	150	5	4	7	<0.5	19
MW-4	04/30/08		329.44	27.00	0.00	302.44	73	15	0.6	0.7	0.9	<0.5	19
MW-4	11/26/08		329.44	27.92	0.00	301.52	530	63	6	5	10	<0.5	19
MW-4	05/22/09		329.44	27.49	0.00	301.95	400	56	6	4	16	<0.5	19
MW-4	11/24/09		329.44	28.14	0.00	301.30	1,400	160	18	10	38	<0.5	19
MW-4	05/25/10		329.44	27.40	0.00	302.04	1,100	93	19	15	32	<0.5	19
MW-4	11/29/10		329.44	28.05	0.00	301.39	520	130	9	3	24	<0.5	19
MW-4	05/02/11		329.44	26.88	0.00	302.56	420	59	7	5	16	<0.5	19
MW-4	11/23/11		320.22	27.68	0.00	292.54	1,400	140	32	20	47	<0.5	19
MW-4	02/21/12	SA	320.22	27.62	0.00	292.60	--	--	--	--	--	--	
MW-4	06/25/12		320.22	27.88	0.00	292.34	1,300	170	44	23		<0.5	
MW-4	09/22/12		329.44	28.35	0.00	301.09	--	--	--	--	--	--	
MW-4	12/10/12		329.44	28.11	0.00	301.33	490	<0.5	<0.5	<0.5	25	<0.5	
MW-4	03/26/13		329.25	27.73	0.00	301.52	--	--	--	--	--	--	
MW-4	06/13/13		329.25	28.16	0.00	301.09	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-4	09/04/13		329.25	28.75	0.00	300.50	--	--	--	--	--	--	
MW-4	12/04/13		329.25	28.62	0.00	300.63	1,900	320	19	6	100	<0.5	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-4	03/06/14		329.25	28.35	0.00	300.90	--	--	--	--	--	--	
MW-4	06/09/14		329.25	28.69	0.00	300.56	1,500	160	7	5	21	<0.5	
MW-4	09/22/14		329.27	29.04	0.00	300.23	--	--	--	--	--	--	
MW-4	12/19/14		329.27	28.55	0.00	300.72	900	120	13	7	30	<0.5	
MW-4	03/27/15		329.27	28.04	0.00	301.23	--	--	--	--	--	--	
MW-4	05/21/15		329.27	28.29	0.00	300.98	1,200	180	15	14	33	<1	
MW-4	09/09/15		329.27	28.80	0.00	300.47	700	12	6	<0.5	4	<0.5	
MW-4	03/24/16		329.27	28.30	0.00	300.97	1,500	150	35	16	56	<0.5	
<b>MW-4</b>	<b>10/01/16</b>	<b>INA</b>	<b>329.27</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>Unable to locate</b>
MW-5	05/25/93		--	--	--	--	<50	<0.5	<0.5	<0.5	0.9	--	
MW-5	11/05/93		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-5	02/15/94		312.88	25.10	0.00	287.78	<50	<0.5	1.0	<0.5	1.0	--	
MW-5	04/21/94		312.88	13.21	0.00	299.67	--	--	--	--	--	--	
MW-5	06/01/94		312.88	13.39	0.00	299.49	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-5	06/28/94		312.88	13.73	0.00	299.15	--	--	--	--	--	--	
MW-5	07/19/94		312.88	13.80	0.00	299.08	--	--	--	--	--	--	
MW-5	09/02/94		312.88	14.02	0.00	298.86	<50	3.2	1.8	<0.5	2.1	--	
MW-5	09/12/94		312.88	14.03	0.00	298.85	--	--	--	--	--	--	
MW-5	10/12/94		312.88	14.15	0.00	298.73	--	--	--	--	--	--	
MW-5	11/30/94		312.88	13.91	0.00	298.97	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-5	03/09/95		312.88	12.97	0.00	299.91	--	--	--	--	--	--	
MW-5	04/18/95		312.88	12.48	0.00	300.40	--	--	--	--	--	--	
MW-5	05/17/95		312.88	12.71	0.00	300.17	150	1.0	<0.5	<0.5	<0.5	--	
MW-5	06/07/95		312.88	12.85	0.00	300.03	--	--	--	--	--	--	
MW-5	07/21/95		312.88	13.30	0.00	299.58	--	--	--	--	--	--	
MW-5	08/15/95		312.88	13.41	0.00	299.47	<50	<0.5	<0.5	<0.5	<0.5	--	
MW-5	09/07/95		312.88	13.42	0.00	299.46	--	--	--	--	--	--	
MW-5	10/09/95		312.88	13.61	0.00	299.27	--	--	--	--	--	--	
MW-5	11/15/95		312.88	13.63	0.00	299.25	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-5	12/30/95		312.88	13.30	0.00	299.58	--	--	--	--	--	--	
MW-5	01/29/96		312.88	12.75	0.00	300.13	--	--	--	--	--	--	
MW-5	02/27/96		312.88	12.02	0.00	300.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-5	03/05/96		312.88	11.96	0.00	300.92	--	--	--	--	--	--	
MW-5	04/23/96		312.88	11.77	0.00	301.11	--	--	--	--	--	--	
MW-5	05/30/96		312.88	12.17	0.00	300.71	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-5	06/19/96		312.88	12.25	0.00	300.63	--	--	--	--	--	--	
MW-5	07/15/96		312.88	12.39	0.00	300.49	--	--	--	--	--	--	
MW-5	08/27/96		312.88	12.65	0.00	300.23	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-5	09/06/96		312.88	12.68	0.00	300.20	--	--	--	--	--	--	
MW-5	10/28/96		312.88	12.72	0.00	300.16	--	--	--	--	--	--	
MW-5	11/11/96		312.88	12.61	0.00	300.27	--	--	--	--	--	--	
MW-5	05/06/97		312.88	12.06	0.00	300.82	<50	2.2	2.0	<0.5	1.7	<5.0	
MW-5	07/27/97		312.88	12.39	0.00	300.49	--	--	--	--	--	--	
MW-5	11/18/97		312.88	12.45	0.00	300.43	--	--	--	--	--	--	
MW-5	05/31/98		312.88	10.58	0.00	302.30	<50	<0.3	<0.3	<0.3	<0.6	<10	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-5	11/23/98	ANN	312.88	10.92	0.00	301.96	--	--	--	--	--	--	
MW-5	05/11/99		312.88	10.49	0.00	302.39	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-5	05/23/00		312.88	11.09	0.00	301.79	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-5	10/31/00		312.88	11.91	0.00	300.97	--	--	--	--	--	--	
MW-5	05/18/01		312.88	12.06	0.00	300.82	<50	0.52	2.0	<0.50	1.0	<2.5	
MW-5	11/16/01		312.88	12.77	0.00	300.11	--	--	--	--	--	--	
MW-5	07/01/02		312.88	12.94	0.00	299.94	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-5	11/08/02		312.88	13.27	0.00	299.61	--	--	--	--	--	--	
MW-5	06/13/03		312.88	12.85	0.00	300.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/20/03		312.88	12.67	0.00	300.21	--	--	--	--	--	--	
MW-5	05/18/04		312.88	12.90	0.00	299.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/19/04	ANN	312.88	12.83	0.00	300.05	--	--	--	--	--	--	
MW-5	05/03/05		312.88	12.88	0.00	300.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/28/05	ANN	312.88	13.49	0.00	299.39	--	--	--	--	--	--	
MW-5	05/25/06		312.88	12.30	0.00	300.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/21/06	ANN	312.88	12.76	0.00	300.12	--	--	--	--	--	--	
MW-5	05/09/07		312.88	13.12	0.00	299.76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/17/07	ANN	312.88	13.65	0.00	299.23	--	--	--	--	--	--	
MW-5	04/30/08		312.88	13.76	0.00	299.12	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/26/08	ANN	312.88	14.65	0.00	298.23	--	--	--	--	--	--	
MW-5	05/22/09		312.88	13.70	0.00	299.18	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/24/09	ANN	312.88	14.71	0.00	298.17	--	--	--	--	--	--	
MW-5	05/25/10		312.88	14.28	0.00	298.60	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/29/10	ANN	312.88	14.57	0.00	298.31	--	--	--	--	--	--	
MW-5	05/02/11		312.88	13.68	0.00	299.20	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-5	11/23/11	ANN	315.97	14.47	0.00	301.50	--	--	--	--	--	--	
MW-5	02/21/12	ANN	315.97	14.38	0.00	301.59	--	--	--	--	--	--	
MW-5	06/25/12		315.97	14.68	0.00	301.29	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-5	09/22/12		315.97	15.19	0.00	300.78	--	--	--	--	--	--	
MW-5	12/10/12		315.97	14.63	0.00	301.34	--	--	--	--	--	--	
MW-5	03/26/13	INA	315.84	--	--	--	--	--	--	--	--	--	
MW-5	06/13/13		315.84	14.96	0.00	300.88	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-5	09/04/13		315.84	15.52	0.00	300.32	--	--	--	--	--	--	
MW-5	12/04/13		315.84	15.33	0.00	300.51	--	--	--	--	--	--	
MW-5	03/06/14		315.84	15.03	0.00	300.81	--	--	--	--	--	--	
MW-5	06/09/14		315.84	15.50	0.00	300.34	<50	<0.5	<0.5	<0.5	<0.5	<0.5	Bucket Purge
MW-5	09/22/14		315.83	15.81	0.00	300.02	--	--	--	--	--	--	
MW-5	12/19/14		315.83	--	--	--	--	--	--	--	--	--	Unable to Access
MW-5	03/27/15		315.83	14.86	0.00	300.97	--	--	--	--	--	--	
MW-5	05/21/15		315.83	15.03	0.00	300.80	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-5	09/09/15	ANN	315.83	15.48	0.00	300.35	--	--	--	--	--	--	
MW-5	03/24/16		315.83	14.99	0.00	300.84	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-5</b>	<b>10/01/16</b>	<b>ANN</b>	<b>315.83</b>	<b>15.37</b>	<b>0.00</b>	<b>300.46</b>	--	--	--	--	--	--	
MW-6	11/22/95		312.20	13.20	0.00	299.00	<50	<0.50	<0.50	<0.50	<0.50	--	25
MW-6	12/30/95		312.20	13.65	0.00	298.55	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-6	01/29/96		312.20	12.18	0.00	300.02	--	--	--	--	--	--	
MW-6	02/27/96		312.20	11.45	0.00	300.75	70	1.1	<0.5	<0.5	<0.5	<5.0	
MW-6	03/05/96		312.20	11.32	0.00	300.88	--	--	--	--	--	--	
MW-6	04/23/96		312.20	11.12	0.00	301.08	--	--	--	--	--	--	
MW-6	05/30/96		312.20	11.45	0.00	300.75	60	1.3	<0.5	<0.5	0.9	<5.0	
MW-6	06/19/96		312.20	11.54	0.00	300.66	--	--	--	--	--	--	
MW-6	07/15/96		312.20	11.76	0.00	300.44	--	--	--	--	--	--	
MW-6	08/27/96		312.20	11.95	0.00	300.25	90	1.6	<0.5	<0.5	<0.5	<5.0	
MW-6	09/06/96		312.20	12.02	0.00	300.18	--	--	--	--	--	--	
MW-6	10/28/96		312.20	12.01	0.00	300.19	--	--	--	--	--	--	
MW-6	11/11/96		312.20	11.90	0.00	300.30	110	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-6	05/06/97		312.20	11.28	0.00	300.92	170	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-6	07/27/97		312.20	11.68	0.00	300.52	--	--	--	--	--	--	
MW-6	11/18/97		312.20	11.77	0.00	300.43	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-6	05/31/98		312.20	9.81	0.00	302.39	<50	0.89	0.65	<0.3	<0.6	<10	
MW-6	11/23/98	INA	312.20	--	--	--	--	--	--	--	--	--	Unable to locate
MW-6	12/23/98		312.20	10.32	0.00	301.88	66	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-6	05/11/99		312.20	9.80	0.00	302.40	<50	1.9	<0.5	<0.5	<0.5	2.9	
MW-6	11/24/99		312.20	10.65	0.00	301.55	77.2	13.5	<0.5	<0.5	<0.5	<2.5	
MW-6	05/23/00		312.20	10.35	0.00	301.85	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-6	10/31/00		312.20	10.37	0.00	301.83	<50.0	<0.500	<0.500	<0.500	<1.50	5.08	
MW-6	05/18/01		312.20	11.31	0.00	300.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-6	11/16/01		312.20	11.89	0.00	300.31	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-6	07/01/02		312.20	12.16	0.00	300.04	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-6	11/08/02		312.20	12.50	0.00	299.70	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-6	06/13/03	INA	312.20	--	--	--	--	--	--	--	--	--	Unable to locate
MW-6	11/20/03	INA	312.20	--	--	--	--	--	--	--	--	--	Unable to locate
MW-6	05/18/04		312.20	12.26	0.00	299.94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/19/04		312.20	12.04	0.00	300.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/03/05		312.20	12.22	0.00	299.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/28/05		312.20	12.61	0.00	299.59	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/25/06		312.20	11.83	0.00	300.37	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/21/06		312.20	12.10	0.00	300.10	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/09/07		312.20	12.38	0.00	299.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/17/07		312.20	12.95	0.00	299.25	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	04/30/08		312.20	13.64	0.00	298.56	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/26/08		312.20	13.80	0.00	298.40	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/22/09		312.20	12.94	0.00	299.26	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/24/09		312.20	14.04	0.00	298.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/25/10		312.20	13.22	0.00	298.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	11/29/10		312.20	13.86	0.00	298.34	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-6	05/02/11		312.20	12.71	0.00	299.49	<50	1	<0.5	<0.5	<0.5	0.7	19
MW-6	11/23/11		314.91	13.53	0.00	301.38	<50	<0.5	<0.5	<0.5	<0.5	0.8	19
MW-6	02/21/12	SA	314.91	13.40	0.00	301.51	--	--	--	--	--	--	
MW-6	06/25/12		314.91	13.79	0.00	301.12	<50	<0.5	<0.5	<0.5	<0.5	1	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-6	09/22/12		314.91	14.33	0.00	300.58	--	--	--	--	--	--	
MW-6	12/10/12		314.91	13.87	0.00	301.04	<50	<0.5	<0.5	<0.5	<0.5	1	
MW-6	03/26/13		314.92	13.56	0.00	301.36	--	--	--	--	--	--	
MW-6	06/13/13		314.92	14.08	0.00	300.84	<50	<0.5	<0.5	<0.5	<0.5	2	
MW-6	09/04/13		314.92	14.65	0.00	300.27	--	--	--	--	--	--	
MW-6	12/04/13		314.92	14.43	0.00	300.49	<50	<0.5	<0.5	<0.5	<0.5	2	
MW-6	03/06/14		314.92	14.08	0.00	300.84	--	--	--	--	--	--	
MW-6	06/09/14		314.92	14.57	0.00	300.35	<50	<0.5	<0.5	<0.5	<0.5	2	
MW-6	09/22/14		314.84	14.95	0.00	299.89	--	--	--	--	--	--	
MW-6	12/19/14		314.84	14.14	0.00	300.70	<50	<0.5	<0.5	<0.5	<0.5	0.5	
MW-6	03/27/15		314.84	13.87	0.00	300.97	--	--	--	--	--	--	
MW-6	05/21/15		314.84	14.08	0.00	300.76	<50	<0.5	<0.5	<0.5	<0.5	1	
MW-6	09/09/15		314.84	14.71	0.00	300.13	<50	<0.5	<0.5	<0.5	<0.5	1	
MW-6	03/24/16		314.84	13.92	0.00	300.92	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-6</b>	<b>10/01/16</b>		<b>314.84</b>	<b>14.34</b>	<b>0.00</b>	<b>300.50</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>1</b>	
MW-7	11/22/95		313.36	14.15	0.00	299.21	<50	<0.50	<0.50	<0.50	<0.50	--	25
MW-7	12/30/95		313.36	12.38	0.00	300.98	--	--	--	--	--	--	
MW-7	01/29/96		313.36	13.14	0.00	300.22	--	--	--	--	--	--	
MW-7	02/27/96		313.36	12.34	0.00	301.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-7	03/05/96		313.36	12.35	0.00	301.01	--	--	--	--	--	--	
MW-7	04/23/96		313.36	12.13	0.00	301.23	--	--	--	--	--	--	
MW-7	05/30/96		313.36	12.42	0.00	300.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-7	06/19/96		313.36	12.57	0.00	300.79	--	--	--	--	--	--	
MW-7	07/15/96		313.36	12.70	0.00	300.66	--	--	--	--	--	--	
MW-7	08/27/96		313.36	12.85	0.00	300.51	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-7	09/06/96		313.36	12.90	0.00	300.46	--	--	--	--	--	--	
MW-7	10/28/96		313.36	12.84	0.00	300.52	--	--	--	--	--	--	
MW-7	11/11/96		313.36	12.75	0.00	300.61	--	--	--	--	--	--	
MW-7	05/06/97		313.36	12.14	0.00	301.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-7	07/27/97		313.36	12.45	0.00	300.91	--	--	--	--	--	--	
MW-7	11/18/97		313.36	12.54	0.00	300.82	--	--	--	--	--	--	
MW-7	05/31/98		313.36	10.75	0.00	302.61	<50	<0.3	<0.3	<0.3	<0.6	<10	
MW-7	11/23/98	ANN	313.36	10.84	0.00	302.52	--	--	--	--	--	--	
MW-7	05/11/99		313.36	10.40	0.00	302.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-7	05/23/00		313.36	10.97	0.00	302.39	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-7	10/31/00		313.36	11.85	0.00	301.51	--	--	--	--	--	--	
MW-7	05/18/01		313.36	12.02	0.00	301.34	<50	<0.50	1.7	<0.50	1.2	<2.5	
MW-7	11/16/01		313.36	12.83	0.00	300.53	--	--	--	--	--	--	
MW-7	07/01/02		313.36	12.94	0.00	300.42	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-7	11/08/02		313.36	13.25	0.00	300.11	--	--	--	--	--	--	
MW-7	06/13/03		313.36	12.81	0.00	300.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/20/03		313.36	12.59	0.00	300.77	--	--	--	--	--	--	
MW-7	05/18/04		313.36	12.83	0.00	300.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/19/04	ANN	313.36	12.79	0.00	300.57	--	--	--	--	--	--	
MW-7	05/03/05		313.36	12.81	0.00	300.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-7	11/28/05	ANN	313.36	13.58	0.00	299.78	--	--	--	--	--	--	
MW-7	05/25/06		313.36	12.29	0.00	301.07	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/21/06	ANN	313.36	12.74	0.00	300.62	--	--	--	--	--	--	
MW-7	05/09/07		313.36	13.05	0.00	300.31	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/17/07	ANN	313.36	13.73	0.00	299.63	--	--	--	--	--	--	
MW-7	04/30/08		313.36	13.93	0.00	299.43	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/26/08	ANN	313.36	14.86	0.00	298.50	--	--	--	--	--	--	
MW-7	05/22/09		313.36	13.61	0.00	299.75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/24/09	ANN	313.36	15.01	0.00	298.35	--	--	--	--	--	--	
MW-7	05/25/10		313.36	14.43	0.00	298.93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/29/10	ANN	313.36	14.75	0.00	298.61	--	--	--	--	--	--	
MW-7	05/02/11		313.36	13.95	0.00	299.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-7	11/23/11	ANN	316.39	14.75	0.00	301.64	--	--	--	--	--	--	
MW-7	02/21/12	ANN	316.39	14.58	0.00	301.81	--	--	--	--	--	--	
MW-7	06/25/12		316.39	14.98	0.00	301.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-7	09/22/12		316.39	15.46	0.00	300.93	--	--	--	--	--	--	
MW-7	12/10/12		316.39	14.93	0.00	301.46	--	--	--	--	--	--	
MW-7	03/26/13		316.28	14.85	0.00	301.43	--	--	--	--	--	--	
MW-7	06/13/13		316.28	15.28	0.00	301.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-7	09/04/13		316.28	15.83	0.00	300.45	--	--	--	--	--	--	
MW-7	12/04/13		316.28	15.70	0.00	300.58	--	--	--	--	--	--	
MW-7	03/06/14		316.28	15.40	0.00	300.88	--	--	--	--	--	--	
MW-7	06/09/14		316.28	15.80	0.00	300.48	<50	<0.5	<0.5	<0.5	<0.5	<0.5	Bucket Purge
MW-7	09/22/14		316.32	16.15	0.00	300.17	--	--	--	--	--	--	
MW-7	12/19/14		316.32	15.60	0.00	300.72	--	--	--	--	--	--	
MW-7	03/27/15		316.32	15.23	0.00	301.09	--	--	--	--	--	--	
MW-7	05/21/15		316.32	15.40	0.00	300.92	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-7	09/09/15	ANN	316.32	15.77	0.00	300.55	--	--	--	--	--	--	
MW-7	03/24/16		316.32	15.49	0.00	300.83	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-7</b>	<b>10/01/16</b>	<b>ANN</b>	<b>316.32</b>	<b>15.78</b>	<b>0.00</b>	<b>300.54</b>	--	--	--	--	--	--	
MW-8	11/22/95		329.91	30.35	0.00	299.56	<50	<0.50	<0.50	<0.50	<0.50	--	25
MW-8	12/30/95		329.91	30.30	0.00	299.61	--	--	--	--	--	--	
MW-8	01/29/96		329.91	29.56	0.00	300.35	--	--	--	--	--	--	
MW-8	02/27/96		329.91	28.68	0.00	301.23	<50	<0.5	<0.5	<0.5	<5.0	<5.0	
MW-8	03/05/96		329.91	28.75	0.00	301.16	--	--	--	--	--	--	
MW-8	04/23/96		329.91	28.25	0.00	301.66	--	--	--	--	--	--	
MW-8	05/30/96		329.91	28.44	0.00	301.47	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-8	06/19/96		329.91	28.51	0.00	301.40	--	--	--	--	--	--	
MW-8	07/15/96		329.91	28.67	0.00	301.24	--	--	--	--	--	--	
MW-8	08/27/96		329.91	28.92	0.00	300.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
MW-8	09/06/96		329.91	28.99	0.00	300.92	--	--	--	--	--	--	
MW-8	10/28/96		329.91	29.06	0.00	300.85	--	--	--	--	--	--	
MW-8	11/11/96		329.91	28.98	0.00	300.93	--	--	--	--	--	--	
MW-8	05/06/97		329.91	28.14	0.00	301.77	<50	3.6	3.1	0.7	2.5	<5.0	
MW-8	07/27/97		329.91	28.55	0.00	301.36	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-8	11/18/97		329.91	28.80	0.00	301.11	--	--	--	--	--	--	
MW-8	05/31/98		329.91	26.57	0.00	303.34	<50	<0.3	<0.3	<0.3	<0.6	<10	
MW-8	11/23/98	ANN	329.91	26.96	0.00	302.95	--	--	--	--	--	--	
MW-8	05/11/99		329.91	26.48	0.00	303.43	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-8	05/23/00		329.91	27.09	0.00	302.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-8	10/31/00		329.91	11.13	0.00	318.78	--	--	--	--	--	--	
MW-8	05/18/01		329.91	28.24	0.00	301.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-8	11/16/01		329.91	29.07	0.00	300.84	--	--	--	--	--	--	
MW-8	07/01/02		329.91	29.17	0.00	300.74	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
MW-8	11/08/02		329.91	29.51	0.00	300.40	--	--	--	--	--	--	
MW-8	06/13/03		329.91	29.14	0.00	300.77	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-8	11/20/03		329.91	28.94	0.00	300.97	--	--	--	--	--	--	
MW-8	05/18/04		329.91	29.35	0.00	300.56	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-8	11/19/04	ANN	329.91	29.10	0.00	300.81	--	--	--	--	--	--	
MW-8	05/03/05		329.91	29.51	0.00	300.40	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-8	11/28/05	ANN	329.91	29.74	0.00	300.17	--	--	--	--	--	--	
MW-8	05/25/06		329.91	28.95	0.00	300.96	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-8	11/21/06	ANN	329.91	29.14	0.00	300.77	--	--	--	--	--	--	
MW-8	05/09/07		329.91	29.72	0.00	300.19	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
MW-8	11/17/07	ANN	329.91	30.08	0.00	299.83	--	--	--	--	--	--	
MW-8	04/30/08		329.91	28.97	0.00	300.94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19, 22
MW-8	11/26/08		329.91	--	--	--	--	--	--	--	--	--	Well Damaged, <sup>22</sup>
MW-8	05/22/09		329.91	--	--	--	--	--	--	--	--	--	Well Damaged, <sup>22</sup>
MW-8	11/24/09		329.91	--	--	--	--	--	--	--	--	--	Well Damaged, <sup>22</sup>
MW-8	03/26/13		333.00	--	--	--	--	--	--	--	--	--	
MW-8	06/13/13		333.00	31.75	0.00	301.25	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	09/04/13		333.00	32.33	0.00	300.67	--	--	--	--	--	--	
MW-8	12/04/13		333.00	32.23	0.00	300.77	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	03/06/14		333.00	32.00	0.00	301.00	--	--	--	--	--	--	
MW-8	06/09/14		333.00	32.29	0.00	300.71	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	09/22/14		333.02	32.63	0.00	300.39	--	--	--	--	--	--	
MW-8	12/19/14		333.02	32.06	0.00	300.96	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	03/27/15		333.02	31.77	0.00	301.25	--	--	--	--	--	--	
MW-8	05/21/15		333.02	31.98	0.00	301.04	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	09/09/15		333.02	32.48	0.00	300.54	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	03/24/16	INA	333.02	--	--	--	--	--	--	--	--	--	Obstruction at 3.10 ft
<b>MW-8</b>	<b>10/01/16</b>	<b>INA</b>	<b>333.02</b>	--	--	--	--	--	--	--	--	--	<b>Obstruction at 3.05 ft</b>
MW-9	11/18/11		332.56	30.98	0.00	301.58	--	--	--	--	--	--	<sup>26</sup>
MW-9	11/23/11		332.56	30.98	0.00	301.58	2,500	480	81	55	52	<3	19
MW-9	02/21/12		332.56	30.88	0.00	301.68	2,900	590	100	64	81	<5	19
MW-9	06/25/12		332.56	31.13	0.00	301.43	2,400	370	84	59	62	<0.5	
MW-9	09/22/12		332.56	31.65	0.00	300.91	5,200	1,100	950	110	300	<5	
MW-9	12/10/12		332.56	31.34	0.00	301.22	6,800	1,400	1,100	90	370	<5	
MW-9	03/26/13		332.45	31.00	0.00	301.45	4,400	700	110	57	120	<0.5	
MW-9	06/13/13		332.45	31.42	0.00	301.03	1,400	190	11	24	10	<0.5	



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Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-9	09/04/13		332.45	31.99	0.00	300.46	5,900	930	350	30	230	<1	
MW-9	12/04/13		332.45	31.84	0.00	300.61	9,600	2300	1500	54	330	<3	
MW-9	03/06/14		332.45	31.58	0.00	300.87	9,500	1700	1100	100	660	<1	
MW-9	06/09/14		332.45	31.95	0.00	300.50	8,200	1,700	630	140	810	<1	
MW-9	09/22/14		332.46	32.29	0.00	300.17	6,000	1,500	290	16	320	<3	
MW-9	12/19/14		332.46	32.73	0.00	299.73	7,900	2,300	1,300	42	230	<5	
MW-9	03/27/15		332.46	31.64	0.00	300.82	1,500	200	20	12	48	<0.5	
MW-9	05/21/15		332.46	31.51	0.00	300.95	4,400	1,200	470	10	140	<10	
MW-9	09/09/15		332.46	32.05	0.00	300.41	8,100	1,800	250	100	570	<5	
MW-9	03/24/16		332.46	31.46	0.00	301.00	1,500	190	8	1	24	<0.5	
<b>MW-9</b>	<b>10/01/16</b>		<b>332.46</b>	<b>31.78</b>	<b>0.00</b>	<b>300.68</b>	<b>1,900</b>	<b>140</b>	<b>43</b>	<b>8</b>	<b>30</b>	<b>&lt;0.5</b>	
MW-10	11/18/11		331.77	30.18	0.00	301.59	--	--	--	--	--	--	26
MW-10	11/23/11		331.77	30.15	0.00	301.62	8,700	500	220	58	430	<3	19
MW-10	02/21/12		331.77	30.08	0.00	301.69	1,300	260	90	25	130	<3	19
MW-10	06/25/12		331.77	30.32	0.00	301.45	2,500	420	70	27	180	<5	
MW-10	09/22/12		331.77	30.85	0.00	300.92	2,900	620	470	30	160	<5	
MW-10	12/10/12		331.77	36.64	0.00	295.13	3,100	630	27	<5	37	<5	
MW-10	03/26/13		331.66	30.16	0.00	301.50	920	150	18	4	26	<0.5	
MW-10	06/13/13		331.66	30.63	0.00	301.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-10	09/04/13		331.66	31.14	0.00	300.52	6,800	1,300	510	14	180	<1	
MW-10	12/04/13	SPH	331.66	31.34	0.28	300.53	--	--	--	--	--	--	
MW-10	03/06/14	SPH	331.66	32.30	1.92	300.80	--	--	--	--	--	--	
MW-10	06/09/14	SPH	331.66	32.50	1.68	300.42	--	--	--	--	--	--	
MW-10	09/22/14	SPH	331.68	32.77	1.56	300.08	--	--	--	--	--	--	
MW-10	12/19/14	SPH	331.68	32.67	2.46	300.86	--	--	--	--	--	--	
MW-10	03/27/15	SPH	331.68	31.23	0.98	301.19	--	--	--	--	--	--	
MW-10	05/21/15	SPH	331.68	31.68	1.29	300.97	--	--	--	--	--	--	
MW-10	09/09/15	SPH	331.68	32.72	1.92	300.40	--	--	--	--	--	--	
MW-10	03/24/16	SPH	331.68	31.60	1.16	300.95	--	--	--	--	--	--	
<b>MW-10</b>	<b>10/01/16</b>	<b>SPH</b>	<b>331.68</b>	<b>31.58</b>	<b>0.75</b>	<b>300.66</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
MW-11	11/18/11		331.98	30.15	0.00	301.83	--	--	--	--	--	--	26
MW-11	11/23/11		331.98	30.42	0.00	301.56	61,000	5,500	11,000	1,300	6,400	<5	19
MW-11	02/21/12		331.98	30.35	0.00	301.63	62,000	6,400	7,800	1,100	5,000	<25	19
MW-11	06/25/12		331.98	30.63	0.00	301.35	47,000	9,800	7,900	880	3,900	<50	
MW-11	09/22/12		331.98	31.15	0.00	300.83	51,000	9,000	7,200	1,200	4,600	<50	
MW-11	12/10/12		331.98	30.88	0.00	301.10	41,000	8,400	6,800	720	3,600	<25	
MW-11	03/26/13	SPH	331.87	31.35	1.26	301.47	--	--	--	--	--	--	
MW-11	06/13/13	SPH	331.87	31.96	1.33	300.91	--	--	--	--	--	--	
MW-11	09/04/13	SPH	331.87	32.36	1.26	300.46	--	--	--	--	--	--	
MW-11	12/04/13	SPH	331.87	32.23	1.12	300.48	--	--	--	--	--	--	
MW-11	03/06/14	SPH	331.87	31.84	1.09	300.85	--	--	--	--	--	--	
MW-11	06/09/14	SPH	331.87	32.04	0.69	300.35	--	--	--	--	--	--	
MW-11	09/22/14	SPH	331.88	32.35	0.69	300.05	--	--	--	--	--	--	
MW-11	12/19/14	SPH	331.88	31.58	0.48	300.66	--	--	--	--	--	--	
MW-11	03/27/15	SPH	331.88	30.76	0.05	301.16	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-11	05/21/15	SPH	331.88	30.98	0.05	300.94	--	--	--	--	--	--	
MW-11	09/09/15	SPH	331.88	31.58	1.06	301.10	--	--	--	--	--	--	
MW-11	03/24/16	SPH	331.88	31.32	0.53	300.96	--	--	--	--	--	--	
<b>MW-11</b>	<b>10/01/16</b>	<b>SPH</b>	<b>331.88</b>	<b>32.44</b>	<b>1.59</b>	<b>300.63</b>	--	--	--	--	--	--	
MW-12	11/18/11		332.53	30.42	0.00	302.11	--	--	--	--	--	--	26
MW-12	11/23/11		332.53	31.03	0.00	301.50	4,100	880	190	160	150	<1	19
MW-12	02/21/12		332.53	30.92	0.00	301.61	2,800	750	9	150	18	<5	19
MW-12	06/25/12		332.53	31.23	0.00	301.30	570	21	0.8	38	3	<0.5	
MW-12	09/22/12		332.53	31.78	0.00	300.75	350	2	<0.5	6	<0.5	<0.5	
MW-12	12/10/12		332.53	31.37	0.00	301.16	380	17	<0.5	1	0.9	<0.5	
MW-12	03/26/13		332.42	31.05	0.00	301.37	240	7	0.7	0.9	1	<0.5	
MW-12	06/13/13		332.42	31.51	0.00	300.91	180	7	0.6	0.6	0.5	<0.5	
MW-12	09/04/13		332.42	32.06	0.00	300.36	160	12	<0.5	<0.5	0.7	<0.5	
MW-12	12/04/13		332.42	31.90	0.00	300.52	470	140	1	<0.5	3	<0.5	
MW-12	03/06/14		332.42	31.60	0.00	300.82	1,300	320	3	0.7	4	<0.5	
MW-12	06/09/14		332.42	32.03	0.00	300.39	470	39	0.6	<0.5	<0.5	<0.5	
MW-12	09/22/14		332.44	32.37	0.00	300.07	340	4	<0.5	<0.5	<0.5	<0.5	
MW-12	12/19/14		332.44	31.73	0.00	300.71	640	110	0.7	2	1	0.9	
MW-12	03/27/15		332.44	31.38	0.00	301.06	560	34	0.7	<0.5	2	1	
MW-12	05/21/15		332.44	31.58	0.00	300.86	620	93	0.8	<0.5	2	1	
MW-12	09/09/15		332.44	31.20	0.00	301.24	280	2	<0.5	<0.5	<0.5	0.6	
MW-12	03/24/16		332.44	31.48	0.00	300.96	890	61	0.9	<0.5	0.8	1	
<b>MW-12</b>	<b>10/01/16</b>		<b>332.44</b>	<b>31.85</b>	<b>0.00</b>	<b>300.59</b>	<b>2,200</b>	<b>240</b>	<b>4</b>	<b>3</b>	<b>&lt;3</b>	<b>&lt;3</b>	
MW-13	11/18/11		331.60	30.13	0.00	301.47	--	--	--	--	--	--	26
MW-13	11/23/11		331.60	30.14	0.00	301.46	1,100	150	61	26	55	2	19
MW-13	02/21/12		331.60	30.02	0.00	301.58	430	43	1	13	2	3	19
MW-13	06/25/12		331.60	30.34	0.00	301.26	290	22	0.7	2	1	2	
MW-13	09/22/12		331.60	30.89	0.00	300.71	290	11	0.6	4	0.7	2	
MW-13	12/10/12		331.60	30.47	0.00	301.13	240	16	<0.5	5	1	1	
MW-13	03/26/13		331.49	30.15	0.00	301.34	290	23	<0.5	2	<0.5	2	
MW-13	06/13/13		331.49	30.62	0.00	300.87	240	22	<0.5	<0.5	<0.5	2	
MW-13	09/04/13		331.49	31.19	0.00	300.30	210	40	<0.5	<0.5	<0.5	2	
MW-13	12/04/13		331.49	31.00	0.00	300.49	430	110	<0.5	1	<0.5	2	
MW-13	03/06/14		331.49	30.68	0.00	300.81	320	35	<0.5	1	<0.5	2	
MW-13	06/09/14		331.49	31.12	0.00	300.37	550	130	0.6	2	0.9	2	
MW-13	09/22/14		331.51	31.49	0.00	300.02	430	130	<0.5	<0.5	<0.5	2	
MW-13	12/19/14		331.51	30.81	0.00	300.70	410	56	<0.5	<0.5	<0.5	2	
MW-13	03/27/15		331.51	30.45	0.00	301.06	200	65	<0.5	<0.5	<0.5	2	
MW-13	05/21/15		331.51	30.68	0.00	300.83	230	32	<0.5	0.6	<0.5	1	
MW-13	09/09/15		331.51	30.68	0.00	300.83	250	62	<0.5	<0.5	<0.5	1	
MW-13	03/24/16		331.51	30.53	0.00	300.98	57	4	<0.5	<0.5	<0.5	1	
<b>MW-13</b>	<b>10/01/16</b>		<b>331.51</b>	<b>30.95</b>	<b>0.00</b>	<b>300.56</b>	<b>140</b>	<b>22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.9</b>	
MW-14	11/18/11		332.24	30.71	0.00	301.53	--	--	--	--	--	--	26
MW-14	11/23/11		332.24	30.72	0.00	301.52	68,000	19,000	9,400	1,400	4,900	<25	19
MW-14	02/21/12		332.24	30.60	0.00	301.64	80,000	17,000	8,900	1,100	3,900	<10	19

**Table 3  
Historical Groundwater Monitoring Data and Analytical Results  
Former Chevron Service Station No. 9-7127  
10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
MW-14	06/25/12		332.24	30.92	0.00	301.32	80,000	23,000	9,800	1,100	4,300	<50	
MW-14	09/22/12		332.24	31.45	0.00	300.79	83,000	25,000	9,900	1,800	6,600	<25	
MW-14	12/10/12		332.24	31.07	0.00	301.17	70,000	19,000	8,700	1,200	4,600	<50	
MW-14	03/26/13		332.12	30.74	0.00	301.38	92,000	23,000	6,200	1,200	4,700	<5	
MW-14	06/13/13		332.12	31.21	0.00	300.91	76,000	24,000	7,000	1,300	4,900	<10	
MW-14	09/04/13		332.12	31.77	0.00	300.35	100,000	23,000	8,200	1,400	5,500	<25	
MW-14	12/04/13		332.12	31.60	0.00	300.52	64,000	23,000	8,000	1,500	5,500	<50	
MW-14	03/06/14		332.12	31.28	0.00	300.84	77,000	25,000	3,400	1,600	4,200	<25	
MW-14	06/09/14		332.12	31.70	0.00	300.42	61,000	20,000	6,200	1,300	4,500	<10	
MW-14	09/22/14		332.13	32.08	0.00	300.05	31,000	10,000	2,100	730	2,500	<10	
MW-14	12/19/14		332.13	31.50	0.00	300.63	22,000	3,600	3,900	250	1,900	<5	
MW-14	03/27/15		332.13	31.05	0.00	301.08	14,000	3,700	800	200	970	<10	
MW-14	05/21/15		332.13	31.25	0.00	300.88	12,000	3,900	660	280	1,000	<10	
MW-14	09/09/15		332.13	31.81	0.00	300.32	17,000	5,700	240	460	910	<25	
MW-14	03/24/16		332.13	31.13	0.00	301.00	18,000	3,300	760	200	1,000	<10	
<b>MW-14</b>	<b>10/01/16</b>		<b>332.13</b>	<b>31.58</b>	<b>0.00</b>	<b>300.55</b>	<b>8,200</b>	<b>2,200</b>	<b>48</b>	<b>180</b>	<b>53</b>	<b>&lt;10</b>	
MW-15	11/18/11		332.88	31.32	0.00	301.56	--	--	--	--	--	--	26
MW-15	11/23/11		332.88	31.33	0.00	301.55	24,000	9,500	2,200	260	990	<10	19
MW-15	02/21/12		332.88	31.22	0.00	301.66	110,000	25,000	8,800	1,000	3,800	<13	19
MW-15	06/25/12		332.88	31.51	0.00	301.37	88,000	28,000	8,400	1,100	4,300	<50	
MW-15	09/22/12		332.88	32.05	0.00	300.83	77,000	29,000	9,000	1,700	6,400	<25	
MW-15	12/10/12		332.88	31.70	0.00	301.18	71,000	22,000	5,900	1,200	4,800	<100	
MW-15	03/26/13		332.77	31.36	0.00	301.41	96,000	25,000	4,300	1,200	4,400	<5	
MW-15	06/13/13		332.77	31.81	0.00	300.96	58,000	24,000	4,500	1,100	3,900	12	
MW-15	09/04/13		332.77	32.37	0.00	300.40	95,000	24,000	4,400	1,200	4,400	<25	
MW-15	12/04/13		332.77	32.22	0.00	300.55	50,000	20,000	2,300	1,100	3,700	<50	
MW-15	03/06/14		332.77	31.91	0.00	300.86	62,000	22,000	1,300	1,200	3,400	<25	
MW-15	06/09/14		332.77	32.31	0.00	300.46	64,000	23,000	1,900	1,100	3,400	<10	
MW-15	09/22/14		332.78	32.69	0.00	300.09	53,000	19,000	1,100	1,200	3,000	<25	
MW-15	12/19/14		332.78	32.11	0.00	300.67	11,000	3,500	290	160	370	<5	
MW-15	03/27/15		332.78	31.86	0.00	300.92	34,000	14,000	1,600	610	1,200	<25	
MW-15	05/21/15		332.78	31.88	0.00	300.90	39,000	13,000	1,100	750	1,600	<10	
MW-15	09/09/15		332.78	32.45	0.00	300.33	52,000	27,000	930	1,500	3,800	<250	
MW-15	03/24/16		332.78	31.78	0.00	301.00	17,000	5,400	140	230	240	<25	
<b>MW-15</b>	<b>10/01/16</b>		<b>332.78</b>	<b>32.22</b>	<b>0.00</b>	<b>300.56</b>	<b>54,000</b>	<b>19,000</b>	<b>790</b>	<b>1,000</b>	<b>1,400</b>	<b>&lt;50</b>	
MW-16	09/22/14		318.20	18.89	0.00	299.31	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-16	12/19/14		318.20	17.51	0.00	300.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-16	03/27/15		318.20	17.16	0.00	301.04	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-16	05/21/15		318.20	17.41	0.00	300.79	<50	<0.5	<0.5	<0.5	<0.5	0.5	
MW-16	09/09/15		318.20	17.92	0.00	300.28	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-16	03/24/16		318.20	17.18	0.00	301.02	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-16</b>	<b>10/01/16</b>		<b>318.20</b>	<b>17.61</b>	<b>0.00</b>	<b>300.59</b>	<b>&lt;50</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>	
WSW-1	11/15/95		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
WSW-1	11/11/96		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
WSW-1	07/27/97		--	--	--	--	--	--	--	--	--	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
WSW-1	11/18/97		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
WSW-1	05/31/98		--	--	--	--	--	--	--	--	--	--	
WSW-1	11/23/98		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	
WSW-1	05/11/99		--	--	--	--	--	--	--	--	--	--	
WSW-1	11/24/99		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
WSW-1	05/23/00	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	10/30/00		--	--	--	--	--	--	--	--	--	--	
WSW-1	05/18/01		--	--	--	--	--	--	--	--	--	--	
WSW-1	11/16/01		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
WSW-1	07/01/02		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
WSW-1	11/08/02		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
WSW-1	11/20/03		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	05/18/04	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/19/04		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	05/03/05	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/28/05		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	05/25/06	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/21/06		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	11/17/07		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	04/30/08	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/26/08		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	11/24/09		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	05/25/10	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/29/10		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
WSW-1	05/02/11	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	11/23/11		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
WSW-1	02/21/12	ANN	--	--	--	--	--	--	--	--	--	--	
WSW-1	06/25/12		--	--	--	--	--	--	--	--	--	--	
WSW-1	09/22/12		--	--	--	--	--	--	--	--	--	--	
WSW-1	12/10/12		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
WSW-1	03/26/13		--	--	--	--	--	--	--	--	--	--	
WSW-1	06/13/13		--	--	--	--	--	--	--	--	--	--	
WSW-1	09/04/13		--	--	--	--	--	--	--	--	--	--	
WSW-1	12/04/13		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
WSW-1	03/06/14		--	--	--	--	--	--	--	--	--	--	
WSW-1	06/09/14		--	--	--	--	--	--	--	--	--	--	
WSW-1	09/22/14		--	--	--	--	--	--	--	--	--	--	
WSW-1	12/19/14		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
WSW-1	03/06/15	DEST	--	--	--	--	--	--	--	--	--	--	
BAILER BLANK	02/15/94		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	02/15/94		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	06/01/94		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	09/02/94		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	11/30/94		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	05/17/95		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Well No.	Date	Notes	TOC Elevation (feet MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Groundwater Elevation (feet MSL)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Comments
TRIP BLANK	08/15/95		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	
TRIP BLANK	11/15/95		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	02/27/96		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	05/30/96		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	08/27/96		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	11/11/96		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	05/06/97		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
TRIP BLANK	07/27/97		--	--	--	--	--	--	--	--	--	--	
TRIP BLANK	11/18/97		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
TRIP BLANK	05/31/98		--	--	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10	
TRIP BLANK	11/23/98		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	
TRIP BLANK	05/11/99		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
TRIP BLANK	05/23/00		--	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.5	
TRIP BLANK	10/31/00		--	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.50	49.0	
TRIP BLANK	05/18/01		--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
QA	11/16/01		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
QA	07/01/02		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
QA	11/08/02		--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	
QA	06/13/03		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/20/03		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	05/18/04		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/19/04		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	05/03/05		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/28/05		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	05/25/06		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/21/06		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	05/09/07		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/17/07		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	04/30/08		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	11/26/08		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	05/22/09		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19
QA	10/01/16		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	19

**Table 3**  
**Historical Groundwater Monitoring Data and Analytical Results**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Road, Tracy, California**

Notes:

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tertiary butyl ether

SPH = Separate phase hydrocarbons

TOC = Top of casing (surveyed)

MSL = Mean sea level

µg/L = Microgram per liter

< = Analyte was not detected above laboratory method detection limit

- = Not measured or analyzed

Calc. GW Elev. = Calculated groundwater elevation = TOC - Depth to Water + 0.75\*(Measured SPH Thickness); assuming a specific gravity of 0.75 for SPH

ANN = An approved annual sampling program was in place at this time; the well was not scheduled for sampling during this event

DEST = Well destroyed

INA = Well inaccessible

SA = An approved semi-annual sampling program was in place at this time; the well was not scheduled for sampling during this event

SPH = Well not sampled due to presence of separate phase hydrocarbons (SPH)

\* = TOC elevations are relative to msl.

\*\* = GWE has been corrected for the presence of SPH, correction factor = [(TOC - DTW) + (SPHT x 0.80)].

TOC elevations were surveyed on September 6, 2011, by Virgil Chavez Land Surveying and was provided on October 28, 2011.

1 = ORC present in well.

2 = ORC Installed.

3 = Confirmation run.

4 = Due to the presence of Separate Phase Hydrocarbons results for EPA 8015/8020 do not represent true values for TPH-Gasoline, BTEX, or MTBE. The results were reported = respectively as 24,000, 140, 830, 210, 1,500, and <0.05 mg/Kg.

5 = Estimated Groundwater Elevation.

6 = Well was not sampled due to damaged casing and debris in well. Ground water elevation is an estimate.

7 = Laboratory report indicates gasoline C6-C12.

8 = Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons <C6.

9 = Laboratory report indicates result exceeds the linear range of calibration.

10 = Laboratory report indicates gasoline.

11 = Laboratory report indicates the results for this hydrocarbon is elevated due to the presence of single analyte peak(s) in the quantitation range.

12 = Chromatogram pattern indicates an unidentified hydrocarbon.

13 = Product + Water removed.

14 = MTBE by EPA Method 8260 was analyzed outside the EPA recommended holding time.

15 = Skimmer in well.

16 = ORC not present in well.

17 = MTBE by EPA Method 8260.

18 = 4.5 liters of SPH removed from skimmer and 2.5 liters of SPH removed from well.

19 = BTEX and MTBE by EPA Method 8260.

20 = Removed ORC from well.

21 = Area inaccessible to truck; unable to purge.

22 = TOC has been altered; unable to determine GWE.

23 = Product only removed from well.

24 = Skimmer removed from well.

25 = Depth to water and analytical data provided by CRA.

26 = Well development performed.

**Table 4**  
**Groundwater Gradient and Flow Direction Data**  
**Former Chevron Service Station No. 9-7127**  
**10 Grant Line Rd, Tracy, California**

Monitoring Date	Groundwater Gradient (feet per foot)	Groundwater Flow Direction	Groundwater Flow Direction															
			N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
05/03/05	0.02	North-Northwest																1
11/28/05	0.02	North	1															
05/25/06	0.02	North	1															
11/21/06	0.02	North	1															
05/09/07	0.02 - 0.05	North-Northwest																1
11/17/07	0.01 - 0.05	North-Northwest																1
04/30/08	0.01 - 0.07	North-Northeast		1														
11/26/08	0.009 - 0.06	North-Northeast		1														
05/22/09	0.02 - 0.07	North-Northeast		1														
11/24/09	0.05	North	1															
05/25/10	0.007 - 0.05	North-Northeast		1														
11/29/10	0.007 - 0.03	North	1															
05/02/11	0.02 - 0.05	North-Northeast		1														
11/23/11	0.0008 - 0.0031	North-Northeast		1														
02/21/12	0.0006 - 0.0031	North-Northeast		1														
06/25/12	0.001	North	1															
09/22/12	0.001	North	1															
12/10/12	0.001	North-Northwest																1
03/26/13	0.001	North	1															
06/13/13	0.002	North-Northeast		1														
09/04/13	0.001	North-Northeast		1														
12/04/13	0.001	North-Northeast		1														
03/06/14	0.001	North-Northeast		1														
06/09/14	0.0011	North-Northeast		1														
09/22/14	0.002	North-Northeast		1														
12/19/14	0.001	North	1															
03/27/15	0.008	North-Northeast		1														
05/21/15	0.0008	North-Northeast		1														
09/09/15	0.006 - 0.011	NNW, ENE, WSW				0.33							0.33					0.33
03/24/16	0.0009	East					1											
10/01/16	0.002	North-Northeast		1														
			9	16	0	0	1	0	0	0	0	0	0	0	0	0	0	4

Summary:

Total number of groundwater monitoring events between 1SA05 and 4Q16: 31

**TABLE 5**  
**Historical Soil Analytical Results**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Zinc (mg/kg)	Nickel (mg/kg)	Halogenated VOCs (mg/kg)	Lead (mg/kg)	TOG (mg/kg)	TPHd (mg/kg)
<b>Borehole (B)</b>																	
B-1	12/07/87	10	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-1	12/09/92	7	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
B-1	12/09/92	12.5	<b>4</b>	<0.005	<0.005	<0.005	<b>0.015</b>	--	--	--	--	--	--	--	--	--	--
B-1	12/09/92	17.5	<1.0	<0.005	<b>0.014</b>	<0.005	<b>0.025</b>	--	--	--	--	--	--	--	--	--	--
B-1	12/09/92	21.5	<1.0	<0.005	<b>0.013</b>	<0.005	<b>0.018</b>	--	--	--	--	--	--	--	--	--	--
B-2	12/07/87	20	<b>0.8</b>	<b>0.001</b>	ND	<b>0.003</b>	<b>0.004</b>	--	--	--	--	--	--	--	--	--	--
B-3	12/07/87	14	<b>76</b>	<b>1.2</b>	<b>0.68</b>	<b>0.80</b>	<b>2.0</b>	--	--	--	--	--	--	--	--	--	--
B-4	12/07/87	15	<b>2,300</b>	<b>19</b>	<b>85</b>	<b>28</b>	<b>140</b>	--	--	--	--	--	--	--	--	--	--
B-5	12/07/87	5	<b>0.50</b>	<b>0.076</b>	<b>0.007</b>	<b>0.002</b>	<b>0.03</b>	--	--	--	--	--	--	--	--	--	--
B-6	12/07/87	5	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-7	12/07/87	5	<b>0.70</b>	<b>0.022</b>	<b>0.003</b>	<b>0.024</b>	<b>0.046</b>	--	--	--	--	--	--	--	--	--	--
<b>Monitoring Well (MW)</b>																	
MW-1	12/08/92	19	<1.0	<0.005	<b>0.0056</b>	<0.005	<b>0.0079</b>	--	--	--	--	--	--	--	--	--	--
MW-1	12/08/92	24	<b>2,600</b>	<5.0	<b>79</b>	<b>30</b>	<b>200</b>	--	--	--	--	--	--	--	--	--	--
MW-1	12/08/92	29	<b>8,100</b>	<b>21</b>	<b>560</b>	<b>150</b>	<b>840</b>	--	--	--	--	--	--	--	--	--	--
MW-1	12/08/92	30.5	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
MW-1	12/08/92	38.5	<1.0	<0.005	<b>0.013</b>	<0.005	<b>0.024</b>	--	--	--	--	--	--	--	--	--	--
MW-5/B-4	05/25/93	10	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
MW-5/B-4	05/25/93	15	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
MW-6	10/27/95	9.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-6	10/27/95	14.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-6	10/27/95	29.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-7	10/24/95	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-7	10/24/95	14.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-7	10/24/95	24.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-8	10/25/95	24.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-8	10/25/95	29.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-8	10/25/95	39.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW-16	07/14/14	2	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
MW-16	07/15/14	5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
MW-16	07/15/14	10	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	--	--	--	--	--	--	--	--
MW-16	07/15/14	16	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
AS-1	04/18/16	5	<0.10	<b>0.0037</b>	<b>0.0046</b>	<0.0010	<0.0020	<0.0020	<0.0020	--	--	--	--	--	--	--	--
AS-1	04/20/16	25	<b>3700</b>	<b>9</b>	<b>120</b>	<b>32</b>	<b>160</b>	<4.9	--	--	--	--	--	--	--	--	--
PZ-1	04/19/16	20	<b>0.22</b>	<b>0.013</b>	<b>0.028</b>	<b>0.0017</b>	<b>0.0084</b>	<0.0020	--	--	--	--	--	--	--	--	--
PZ-2	04/19/16	25	<0.099	<b>0.0023</b>	<b>0.0013</b>	<0.00099	<0.0020	<0.0020	--	--	--	--	--	--	--	--	--
PZ-3	04/20/16	25	<b>5,200</b>	<b>18</b>	<b>150</b>	<b>35</b>	<b>180</b>	<5.0	--	--	--	--	--	--	--	--	--
<b>Soil Boring (B)</b>																	
SB-1-S-2	10/10/13	2	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-1-S-4.5	10/10/13	4.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-1-S-9.5	10/21/13	9.5	<1.2	<b>0.002</b>	<b>0.005</b>	<0.001	<b>0.001</b>	<0.0006	<0.001	--	--	--	--	--	--	--	--



**TABLE 5**  
**Historical Soil Analytical Results**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Zinc (mg/kg)	Nickel (mg/kg)	Halogenated VOCs (mg/kg)	Lead (mg/kg)	TOG (mg/kg)	TPHd (mg/kg)
Soil Boring (B) continued																	
SB-1-S-27.5	10/21/13	27.5	9.0	<0.0006	<0.001	<0.001	0.002	<0.0006	--	--	--	--	--	--	--	--	--
SB-2-S-2	10/09/13	2	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-2-S-4.5	10/09/13	4.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-2-S-9.5	10/21/13	9.5	<1.0	0.002	0.004	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-2-S-22	10/21/13	22	770	0.028	1.3	6.9	42	<0.028	--	--	--	--	--	--	--	--	--
SB-2-S-27	10/21/13	27	440	1.0	21	6.4	35	<0.031	--	--	--	--	--	--	--	--	--
SB-3-S-2	10/08/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-3-S-4.5	10/09/13	4.5	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-3-S-9.5	10/18/13	9.5	<1.0	0.0007	0.002	<0.001	<0.001	<0.0005	<0.001	--	--	--	--	--	--	--	--
SB-3-S-29	10/18/13	29	120	0.048	0.93	0.47	2.7	<0.027	--	--	--	--	--	--	--	--	--
SB-4-S-2	10/09/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-4-S-4	10/18/13	4	<1.1	0.001	0.004	<0.001	0.003	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-4-S-9.5	10/18/13	9.5	<1.0	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-4-S-27	10/18/13	27	670	0.11	3.5	8.5	40	<0.027	--	--	--	--	--	--	--	--	--
SB-5-S-2	10/21/13	2	<1.2	0.003	0.006	<0.001	0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-5-S-4.5	10/21/13	4.5	<1.2	0.001	0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-5-S-9.5	10/21/13	9.5	<1.1	0.0009	0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-5-S-22	10/21/13	22	<1.0	0.001	0.002	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-5-S-29	10/21/13	29	<1.1	0.0009	0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-6-S-2	10/07/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-6-S-4.5	10/07/13	4.5	<1.3	<0.0007	<0.001	<0.001	<0.001	<0.0007	<0.001	--	--	--	--	--	--	--	--
SB-6-S-9.5	10/17/13	9.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-6-S-27.5	10/17/13	27.5	<1.2	0.001	0.002	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-7-S-2	10/08/13	2	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-7-S-4.5	10/17/13	4.5	<1.1	0.0009	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-7-S-9.5	10/17/13	9.5	<1.1	0.003	0.004	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-7-S-29	10/17/13	29	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-8-S-2	10/15/13	2	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	--	--	--	--	--	--	--	--
SB-8-S-4.5	10/15/13	4.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-8-S-9.5	10/15/13	9.5	<1.1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	--	--	--	--	--	--	--	--
SB-8-S-22	10/15/13	22	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-9-S-2	10/08/13	2	<1.1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	--	--	--	--	--	--	--	--
SB-9-S-4.5	10/15/13	4.5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--

**TABLE 5**  
**Historical Soil Analytical Results**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Zinc (mg/kg)	Nickel (mg/kg)	Halogenated VOCs (mg/kg)	Lead (mg/kg)	TOG (mg/kg)	TPHd (mg/kg)
<b>Soil Boring (B) continued</b>																	
SB-9-S-9.5	10/15/13	9.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-9-S-22	10/15/13	22	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-10-S-2	10/07/13	2	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-10-S-4.5	10/10/13	4.5	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-10-S-9.5	10/16/13	9.5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-10-S-27	10/16/13	27	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-11-S-2	10/08/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-11-S-4.5	10/08/13	4.5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-11-S-9.5	10/16/13	9.5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-11-S-27	10/17/13	27	<1.1	<b>0.0008</b>	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-12-S-2	10/08/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-12-S-4.5	10/08/13	4.5	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-12-S-9.5	10/16/13	9.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-12-S-30.5	10/16/13	30.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-12-S-30.5	10/16/13	30.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
SB-13-S-2	10/22/13	2	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-13-S-4.5	10/22/13	4.5	<1.2	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001	--	--	--	--	--	--	--	--
SB-13-S-9.5	10/22/13	9.5	<1.3	<0.0007	<0.001	<0.001	<0.001	<0.0007	<0.001	--	--	--	--	--	--	--	--
SB-13-S-18	10/22/13	18	<1.3	<0.0006	<0.001	<0.001	<0.001	<0.0006	--	--	--	--	--	--	--	--	--
<b>Removal - Dispenser Island / Product Line</b>																	
#1	04/04/91	2.5	<b>1,200</b>	<b>3.3</b>	<b>17</b>	<b>17</b>	<b>86</b>	--	--	--	--	--	--	--	<b>17</b>	--	--
#10	04/04/91	4	<b>3.3</b>	<b>0.20</b>	<b>0.043</b>	<b>0.06</b>	<b>0.16</b>	--	--	--	--	--	--	--	<b>7.7</b>	--	--
#11	04/04/91	4	<b>750</b>	<b>12</b>	<b>33</b>	<b>19</b>	<b>110</b>	--	--	--	--	--	--	--	<b>9.5</b>	--	--
#12	04/04/91	4	<b>15</b>	<b>0.23</b>	<b>0.19</b>	<b>0.26</b>	<b>1.3</b>	--	--	--	--	--	--	--	<b>6.9</b>	--	--
#5	04/16/91	13	<b>220</b>	<0.25	<b>0.80</b>	<b>1.7</b>	<b>10</b>	--	--	--	--	--	--	--	<b>2.6</b>	--	--
#8	04/16/91	14	<b>33</b>	<b>0.085</b>	<b>0.24</b>	<b>0.27</b>	<b>1.5</b>	--	--	--	--	--	--	--	<b>6.1</b>	--	--
#13	04/16/91	15	<b>11</b>	<0.025	<b>0.047</b>	<b>0.044</b>	<b>0.31</b>	--	--	--	--	--	--	--	<b>6.1</b>	--	--
#14	04/16/91	13	<b>9.2</b>	<b>0.0050</b>	<b>0.0060</b>	<b>0.03</b>	<b>0.13</b>	--	--	--	--	--	--	--	<b>3.6</b>	--	--
<b>Removal - Heating-Oil Tank</b>																	
FoM	04/04/91	11	<b>170</b>	<0.50	<0.50	<0.50	<b>2.7</b>	--	--	<b>4.8</b>	<b>7.9</b>	<b>23</b>	<b>10</b>	ND	<b>1.7</b>	<30	<1.0
<b>Removal - Used-Oil Tank</b>																	
WoM	04/04/91	11	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	<b>2.2</b>	<b>4.4</b>	<b>13</b>	<b>8.5</b>	ND	<b>3.3</b>	<30	<1.0

**TABLE 5**  
**Historical Soil Analytical Results**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Zinc (mg/kg)	Nickel (mg/kg)	Halogenated VOCs (mg/kg)	Lead (mg/kg)	TOG (mg/kg)	TPHd (mg/kg)
<b>Removal - UST</b>																	
AF	04/04/91	14	<b>4,000</b>	<13	<b>41</b>	<b>66</b>	<b>310</b>	--	--	--	--	--	--	--	<b>13</b>	--	--
Aop	04/04/91	13.5	<b>1.0</b>	<b>0.0070</b>	<0.0050	<b>0.005</b>	<b>0.03</b>	--	--	--	--	--	--	--	<b>9.1</b>	--	--
BF	04/04/91	14	<b>5,700</b>	<b>20</b>	<b>220</b>	<b>110</b>	<b>560</b>	--	--	--	--	--	--	--	<b>80</b>	--	--
Bop	04/04/91	14	ND	<b>0.0070</b>	<b>0.016</b>	<b>0.012</b>	<b>0.03</b>	--	--	--	--	--	--	--	<b>7.7</b>	--	--
CF	04/04/91	12.5	<b>2.1</b>	<b>0.018</b>	<b>0.013</b>	<b>0.014</b>	<b>0.046</b>	--	--	--	--	--	--	--	<b>6.9</b>	--	--
Cop	04/04/91	15	<b>2,900</b>	<b>30</b>	<b>180</b>	<b>60</b>	<b>350</b>	--	--	--	--	--	--	--	<b>14</b>	--	--
Cop	04/16/91	13	<b>16</b>	<b>0.0090</b>	<b>0.014</b>	<b>0.021</b>	<b>0.17</b>	--	--	--	--	--	--	--	<b>3.6</b>	--	--
Cop	04/16/91	15	<b>710</b>	<b>0.013</b>	<b>0.063</b>	<b>0.096</b>	<b>0.41</b>	--	--	--	--	--	--	--	<b>8.1</b>	--	--

Notes:

Concentrations are in milligrams per kilogram (mg/kg).

Bolded values indicate detected concentrations above the laboratory detection limit.

-- = Not analyzed for specific parameter or not available

< = Less than the laboratory detection limit

bgs = below ground surface

ND = Less than the laboratory detection limit, reporting limits vary

MTBE = Methyl tert-butyl ether

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics

TPHd = Total petroleum hydrocarbons as diesel

TOG = Total oil and gas

RWQCB = Regional Water Quality Control Board

USEPA = United States Environmental Protection Agency

VOC = Volatile organic compounds

**TABLE 6**  
**Historical Soil Vapor Analytical Results**  
**Former Chevron Service Station No. 97127**  
**10 Grant Line Road, Mountain House, CA**

Sample I.D.	Date	Depth (feet bgs)	Benzene (ppmv)	Toluene (ppmv)	Detected Hydrocarbons (ppmv)
V1	10/27/87	3	<1	<1	<5
V1/B	10/27/87	5	<b>650</b>	<b>3,200</b>	<b>7,500</b>
V1/C	10/27/87	8	<b>600</b>	<b>2,800</b>	<b>20,000</b>
V2	10/27/87	5	<5.0	<b>30</b>	<b>160</b>
V3	10/27/87	3	<b>5.0</b>	<b>10</b>	<b>30</b>
V3/B	10/27/87	5	<b>1.0</b>	<b>10</b>	<b>15</b>
V4	10/27/87	3	<b>3,200</b>	<b>5,200</b>	<b>28,500</b>
V4/B	10/27/87	5	<b>130</b>	<b>1,900</b>	<b>2,000</b>
V5	10/27/87	5	<1	<5	<5
V5/B	10/27/87	7	<b>40</b>	<1	<b>750</b>
V6	10/27/87	5	<b>540</b>	<b>160</b>	<b>7,300</b>
V7	10/27/87	5	<5	<5	<b>1,400</b>
V8	10/27/87	3	<1	<1	<1
V8/B	10/27/87	8	<1	<1	<1
V9	10/27/87	8	<1	<10	10
V10	10/27/87	8	<1	<1	<1
V11	10/27/87	5	<1	<1	<1
V12	10/27/87	8	<1	<1	<1
V13	10/27/87	12	<1	<1	<b>25</b>
V14	10/27/87	8	<1	<1	<1
V15	10/27/87	12	<1	<1	<1

Notes:

<= Not detected at or above laboratory reporting limit

bgs = Below ground surface

I.D. = Identification

ppmv = Parts per million by volume

**TABLE 7**  
**Historical Bi-Monthly LNAPL Monitoring and Recovery Data**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Well I.D.	Date	Initial SPH Thickness (feet)	Final SPH Thickness (feet)	Approximate Volume of SPH Removed (Liters)	Approximate Volume of Groundwater Removed (Liters)
MW-1	1/17/2015	1.43	1.09	18	2
MW-1	1/31/2015	1.41	1.21	18	2
MW-1	2/13/2015	1.23	1.11	19	4
MW-1	2/25/2015	1.25	0.60	10	2
MW-1	3/15/2015	1.29	1.12	10	1
MW-1	3/27/2015	1.36	0.86	12	4
MW-1	4/10/2015	1.38	1.07	22	6.5
MW-1	4/24/2015	1.50	1.37	8.5	19
MW-1	5/8/2015	1.54	1.36	24	16
MW-1	5/21/2015	1.60	1.27	20	2
MW-1	6/3/2015	1.95	1.45	12	4
MW-1	6/19/2015	1.81	1.52	11	2
MW-1	7/2/2015	1.92	0.00	0	0
MW-1	7/17/2015	2.03	1.65	15	11
MW-1	7/30/2015	2.12	1.85	15	0
MW-1	8/15/2015	2.22	1.07	14	3
MW-3	1/17/2015	0.07	0.03	0.06	0.06
MW-3	1/31/2015	0.06	0.04	0.02	0.25
MW-3	2/13/2015	0.02	0.00	0.02	0.08
MW-3	2/25/2015	0.00	0.00	0	0
MW-3	3/15/2015	0.00	0.00	0	0
MW-3	3/27/2015	0.00	0.00	0	0
MW-3	4/10/2015	0.00	0.00	0	0
MW-3	4/24/2015	0.00	0.00	0	0
MW-3	5/8/2015	0.00	0.00	0	0
MW-3	5/21/2015	0.02	0.00	0.1	0.1
MW-3	6/3/2015	0.00	0.00	0	0
MW-3	6/19/2015	0.00	0.00	0	0
MW-3	7/2/2015	0.00	0.00	0	0
MW-3	7/17/2015	0.00	0.00	0	0
MW-3	7/30/2015	0.00	0.00	0	0
MW-3	8/15/2015	0.00	0.00	0	0
MW-10	1/17/2015	1.39	0.48	3.5	1.5
MW-10	1/31/2015	1.26	0.42	3.5	0.5
MW-10	2/13/2015	1.14	0.46	4	1
MW-10	2/25/2015	1.21	0.42	3	1
MW-10	3/15/2015	1.07	0.59	4	1
MW-10	3/27/2015	0.98	0.63	3	1
MW-10	4/10/2015	1.21	0.42	2.5	1
MW-10	4/24/2015	1.23	0.48	1.5	6
MW-10	5/8/2015	1.26	0.52	1	2
MW-10	5/21/2015	1.29	0.46	4	1
MW-10	6/3/2015	1.24	0.59	9	3
MW-10	6/19/2015	1.41	0.52	4.5	1.5

**TABLE 7**  
**Historical Bi-Monthly LNAPL Monitoring and Recovery Data**  
**Former Chevron Service Station 97127**  
**10 Grant Line Road, Mountain House, CA**

Well I.D.	Date	Initial SPH Thickness (feet)	Final SPH Thickness (feet)	Approximate Volume of SPH Removed (Liters)	Approximate Volume of Groundwater Removed (Liters)
MW-10	7/2/2015	1.46	0.7	3.5	9
MW-10	7/17/2015	1.57	0.64	4	3
MW-10	7/30/2015	1.61	0.47	2	0
MW-10	8/15/2015	1.69	0.2	4.5	2
MW-11	1/17/2015	0.47	0.05	0.77	0.23
MW-11	1/31/2015	0.10	0.07	0.08	0.50
MW-11	2/13/2015	0.06	0.02	0.06	0.04
MW-11	2/25/2015	0.06	0.04	0.02	0.08
MW-11	3/15/2015	0.05	0.03	0.02	0.08
MW-11	3/27/2015	0.05	0.05	0.02	0.08
MW-11	4/10/2015	0.06	0.03	0.5	1
MW-11	4/24/2015	0.06	0.06	0.1	2
MW-11	5/8/2015	0.07	0.07	0.5	1
MW-11	5/21/2015	0.05	0.05	0.2	0.1
MW-11	6/3/2015	0.05	0.05	0.1	0.1
MW-11	6/19/2015	0.08	0.02	0.1	0.1
MW-11	7/2/2015	0.07	0.00	0.2	2
MW-11	7/17/2015	0.03	0.00	0.05	2
MW-11	7/30/2015	0.01	0.00	0.04	2
MW-11	8/15/2015	0.04	0.02	0.2	0.5
<b>Total Cumulative Volume Removed:</b>				<b>289.16</b>	<b>125.3</b>

Notes:

I.D. = Identification

LNAPL = Light non-aqueous phase liquids

SPH = Separate-phase hydrocarbons

All data provided based on groundwater monitoring field data sheets provided by field personnel

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	AS-1										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H <sup>2</sup> O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	40.00	30.65	--	--	0	130	7	123	1	0	20.9
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	31	1	30	0	0	20.9
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	0.2	--	2.5	0	2.5	1	0	20.9
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	0	--	22	0	22	1	0	20.5
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	0	--	21	0	21	0	0	20.8
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	0	--	19	0	19	0	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	0	--	17	0	17	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	30.84	--	--	--	--	--	--	--	--	--
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	--	--	--	--	--	--
8/18/16 10:45	--	--	--	--	--	--	--	--	--	--	--
8/18/16 11:40	--	--	--	--	--	--	--	--	--	--	--
8/18/16 12:45	--	--	--	--	--	--	--	--	--	--	--
8/18/16 14:05	--	--	--	--	--	--	--	--	--	--	--
8/18/16 14:50	--	--	--	--	--	--	--	--	--	--	--
8/18/16 15:50	--	--	--	--	--	--	--	--	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	--	--	--	--	--	--	--
<b>Post Test Parameters</b>											
8/19/16 9:50	--	31.64	--	--	0	0	0	0	0	0	20.9
<b>Rebound Parameters</b>											
9/14/16 11:00	--	--	--	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume

FID = Flame-ionization detector

PID = Photo-ionization detector

F/O = Flame-out

< = Less than

ft BTOC = feet below top of casing

H<sub>2</sub>O = Water observed in sample bag, could not collect measurement.

DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	MW-1										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
Pre Test Parameters											
8/15/16 18:10	39.70	32.33	30.55	--	0	155	37	118	7	0	20.9
Pre Step Test											
8/16/16 9:50	--	--	--	--	--	20	0.0	20	0	0	20.9
Step Test @ 2" Hg											
8/16/16 10:20	--	--	--	2	--	4,500	3,004	1,496	<100	0.3	20.9
Step Test @ 5" Hg											
8/16/16 12:15	--	--	--	--	--	F/O	F/O	F/O	<100	0.5	20.2
Step Test @ 8" Hg											
8/16/16 13:35	--	--	--	--	--	F/O	F/O	F/O	100	0.4	18.9
Step Test @ 10" Hg											
8/16/16 15:00	--	--	--	--	--	F/O	F/O	F/O	100	0.9	18.8
Step Test @ 12.5" Hg											
8/16/16 15:50	--	--	--	--	--	F/O	F/O	F/O	100	0.7	18.9
Pre AS Test											
8/18/16 0:00	--	29.53	29.49	--	--	--	--	--	--	--	--
AS/SVE Test											
8/18/16 8:30	--	--	--	--	--	--	--	--	--	--	--
8/18/16 10:45	--	--	--	--	--	--	--	--	--	--	--
8/18/16 11:40	--	--	--	--	--	--	--	--	--	--	--
8/18/16 12:45	--	--	--	--	--	--	--	--	--	--	--
8/18/16 14:05	--	--	--	--	--	--	--	--	--	--	--
8/18/16 14:50	--	--	--	--	--	--	--	--	--	--	--
8/18/16 15:50	--	--	--	--	--	--	--	--	--	--	--
AS/SVE Test											
8/19/16 7:15	--	--	--	--	--	--	--	--	--	--	--
Post Test Parameters											
8/19/16 9:50	--	30.54	30.52	--	0	250	28	222	29	0	20.9
Rebound Parameters											
9/14/16 11:00	--	31.86	30.73	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product



**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	MW-9										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
Pre Test Parameters											
8/15/16 18:10	40.44	31.62	--	--	0	76	32	44	0	0	19.4
Pre Step Test											
8/16/16 9:50	--	--	--	--	--	10	1	9	0	0	19.3
Step Test @ 2" Hg											
8/16/16 10:20	--	--	--	0	--	14	1	13	0	0	20.9
Step Test @ 5" Hg											
8/16/16 12:15	--	--	--	0.1	--	0	0	0	0	0.2	20.9
Step Test @ 8" Hg											
8/16/16 13:35	--	--	--	0.5	--	0	0	0	0	0	20.9
Step Test @ 10" Hg											
8/16/16 15:00	--	--	--	0.3	--	0	0	0	0	0	20.9
Step Test @ 12.5" Hg											
8/16/16 15:50	--	--	--	0.5	--	0	0	0	0	0	20.9
Pre AS Test											
8/18/16 0:00	--	31.64	--								
AS/SVE Test											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	0	0	0	--	--	--
8/18/16 11:40	--	--	--	--	--	0	0	0	--	--	--
8/18/16 12:45	--	--	--	--	--	0	0	0	--	--	--
8/18/16 14:05	--	--	--	--	--	0	0	0	--	--	--
8/18/16 14:50	--	--	--	--	--	0	0	0	--	--	--
8/18/16 15:50	--	--	--	--	--	0	0	0	--	--	--
AS/SVE Test											
8/19/16 7:15	--	--	--	--	1.6	F/O	F/O	F/O	100	1.1	14.2
Post Test Parameters											
8/19/16 9:50	--	31.78	--	--	0.0	F/O	F/O	F/O	100	1.3	16.8
Rebound Parameters											
9/14/16 11:00	31.75	--	--		--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	MW-10										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	40.13	32.00	30.47	--	0	3400	167	3233	90	0	20.9
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	>10,000	38	9962	100	0	20.9
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	0.5	--	33	0	33	13	0	20.9
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	1.1	--	0	0	0	0	0	20.9
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	1.3	--	0	0	0	0	0	20.9
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	0.9	--	0	0	0	0.9	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	0.8	--	0	0	0	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	31.83	30.62	--	--	--	--	--	--	--	--
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	20	0	20	--	--	--
8/18/16 11:40	--	--	--	--	--	14	--	14	--	--	--
8/18/16 12:45	--	--	--	--	--	11	--	11	--	--	--
8/18/16 14:05	--	--	--	--	--	10	0	10	--	--	--
8/18/16 14:50	--	--	--	--	--	0	0	0	--	--	--
8/18/16 15:50	--	--	--	--	--	0	0	0	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	26.3	12	12	0	0	0	20.9
<b>Post Test Parameters</b>											
8/19/16 9:50	--	31.78	--	--	1.1	6200	660	5540	100	0.0	20.6
<b>Rebound Parameters</b>											
9/14/16 11:00	--	31.41	30.84	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	MW-11										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	37.77	32.21	30.74	--	0.0	F/O	F/O	F/O	66	4.2	10.4
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	4000	F/O	F/O	>100	1.7	17.6
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	0.9	--	F/O	F/O	F/O	25	0.3	20.9
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	1.5	--	89	18	71	3	0.1	21.4
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	1.6	--	0	0	0	0	0	20.9
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	1.4	--	0	0	0	0	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	1.6	--	0	0	0	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	32.11	30.70	--	--	--	--	--	--	--	--
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	323	0	323	--	--	--
8/18/16 10:45	--	--	--	--	--	330	37	293	--	--	--
8/18/16 11:40	--	--	--	--	--	280	--	280	--	--	--
8/18/16 12:45	--	--	--	--	--	287	--	287	--	--	--
8/18/16 14:05	--	--	--	--	--	290	49	241	--	--	--
8/18/16 14:50	--	--	--	--	--	320	78	242	--	--	--
8/18/16 15:50	--	--	--	--	--	390	130	260	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	2	F/O	F/O	F/O	100	2.2	16.9
<b>Post Test Parameters</b>											
8/19/16 9:50	--	32.45	30.93	--	0.5	F/O	F/O	F/O	100	3.5	15.9
<b>Rebound Parameters</b>											
9/14/16 11:00	--	32.40	30.82	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	MW-15										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
Pre Test Parameters											
8/15/16 18:10	38.97	31.99	--	--	0.0	432	235	197	2	0	20.9
Pre Step Test											
8/16/16 9:50	--	--	--	--	--	155	97	58	7	0.4	20.2
Step Test @ 2" Hg											
8/16/16 10:20	--	--	--	0.5	--	32	19	13	0	0	20.9
Step Test @ 5" Hg											
8/16/16 12:15	--	--	--	1.0	--	0	0	0	0	0	21.6
Step Test @ 8" Hg											
8/16/16 13:35	--	--	--	1.1	--	0	0	0	0	0	20.9
Step Test @ 10" Hg											
8/16/16 15:00	--	--	--	1.1	--	0	0	0	0	0	20.9
Step Test @ 12.5" Hg											
8/16/16 15:50	--	--	--	1.2	--	0	0	0	0	0	20.9
Pre AS Test											
8/18/16 0:00	--	32.06	--								
AS/SVE Test											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	0	0	0	--	--	--
8/18/16 11:40	--	--	--	--	--	0	0	0	--	--	--
8/18/16 12:45	--	--	--	--	--	0	0	0	--	--	--
8/18/16 14:05	--	--	--	--	--	0	0	0	--	--	--
8/18/16 14:50	--	--	--	--	--	130	60	70	--	--	--
8/18/16 15:50	--	--	--	--	--	F/O	F/O	F/O	--	--	--
AS/SVE Test											
8/19/16 7:15	--	--	--	--	1.3	F/O	F/O	F/O	100	11.2	1.8
Post Test Parameters											
8/19/16 9:50	--	32.12	--	--	0.0	F/O	F/O	F/O	100	11.6	2.5
Rebound Parameters											
9/14/16 11:00	--	32.11	--	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	PZ-1										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	38.20	31.47	29.74	--	0	F/O	F/O	F/O	100	3.2	2.2
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	2600	3404	-804	>100	1.6	16.6
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	6.1	--	11	1	10	0	0	21.2
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	9.8	--	0	0	0	0	0	20.9
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	10.8	--	0	0	0	0	0	20.9
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	10.8	--	0	0	0	0	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	10.8	--	0	0	0	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	30.76	29.94								
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	2000	F/O	F/O	--	--	--
8/18/16 11:40	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 12:45	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 14:05	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 14:50	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 15:50	--	--	--	--	--	F/O	F/O	F/O	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	2.0	F/O	F/O	F/O	100	0.7	14.2
<b>Post Test Parameters</b>											
8/19/16 9:50	--	32.72	29.95	--	0.5	F/O	F/O	F/O	100	5.9	7.1
<b>Rebound Parameters</b>											
9/14/16 11:00	--	31.61	29.87	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
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PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	PZ-2										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	36.95	30.91	--	--	0	F/O	F/O	F/O	74	5.2	8.2
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	45	10	35	0	0	20.9
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	2.6	--	0	0	0	0	0	20.2
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	4.2	--	0	0	0	0	0	20.9
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	4.8	--	0	0	0	0	0	20.9
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	4.8	--	0	0	0	0	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	4.8	--	0	0	0	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	30.91	--								
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 11:40	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 12:45	--	--	--	--	--	4,000	F/O	F/O	--	--	--
8/18/16 14:05	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 14:50	--	--	--	--	--	F/O	F/O	F/O	--	--	--
8/18/16 15:50	--	--	--	--	--	F/O	F/O	F/O	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	12.4	F/O	F/O	F/O	100	0.3	19.2
<b>Post Test Parameters</b>											
8/19/16 9:50	--	31.65	--	--	0.8	F/O	F/O	F/O	100	0.4	18.5
<b>Rebound Parameters</b>											
9/14/16 11:00	--	32.23	30.68	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 8**  
**Baseline and Post-Test Observation Well Monitoring**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	PZ-3										
	DTB (ft bgs)	DTW (ft bgs)	DTP (ft bgs)	Vacuum (in wc)	Pressure (in H2O)	FID without carbon	FID with carbon (ppmv)	FID NMHC (ppmv)	LEL (%)	CO2 (%)	O2 (%)
<b>Pre Test Parameters</b>											
8/15/16 18:10	33.54	30.55	--	--	0.0	F/O	F/O	F/O	68	7.7	5.8
<b>Pre Step Test</b>											
8/16/16 9:50	--	--	--	--	--	66	23	43	3	0	20.9
<b>Step Test @ 2" Hg</b>											
8/16/16 10:20	--	--	--	2.0	--	0	0	0	0	0	20.2
<b>Step Test @ 5" Hg</b>											
8/16/16 12:15	--	--	--	2.9	--	0	0	0	0	0	20.9
<b>Step Test @ 8" Hg</b>											
8/16/16 13:35	--	--	--	3.3	--	0	0	0	0	0	20.9
<b>Step Test @ 10" Hg</b>											
8/16/16 15:00	--	--	--	3.5	--	0	0	0	0	0	20.9
<b>Step Test @ 12.5" Hg</b>											
8/16/16 15:50	--	--	--	3.5	--	0	0	0	0	0	20.9
<b>Pre AS Test</b>											
8/18/16 0:00	--	30.56	--								
<b>AS/SVE Test</b>											
8/18/16 8:30	--	--	--	--	--	0	0	0	--	--	--
8/18/16 10:45	--	--	--	--	--	19	0	19	--	--	--
8/18/16 11:40	--	--	--	--	--	13	--	13	--	--	--
8/18/16 12:45	--	--	--	--	--	0	0	0	--	--	--
8/18/16 14:05	--	--	--	--	--	9	0	9	--	--	--
8/18/16 14:50	--	--	--	--	--	0	0	0	--	--	--
8/18/16 15:50	--	--	--	--	--	0	0	0	--	--	--
<b>AS/SVE Test</b>											
8/19/16 7:15	--	--	--	--	32	0	0	0	0	0	20.9
<b>Post Test Parameters</b>											
8/19/16 9:50	--	31.44	--	--	0.4	950	77	873	69	0.0	20.3
<b>Rebound Parameters</b>											
9/14/16 11:00	--	30.71	--	--	--	--	--	--	--	--	--

**Definitions:**

ppmv = Parts per million by volume  
FID = Flame-ionization detector  
PID = Photo-ionization detector  
F/O = Flame-out  
< = Less than

ft BTOC = feet below top of casing  
H2O = Water observed in sample bag, could not collect measurement.  
DTW / P = depth to water / depth to product

**TABLE 9  
SVE System Operational Data**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Date	Time	Date and Time	System Hour Meter (hours)	Atmospheric Temperature (°F)	Well Head				Eagle Ray Multigas Meter at MW-1							Manifold Knockout		LRP		Post Blower (LRP, Dilution + Well Field)				Post Blower (Dilution + Well Field) FID and Eagle Ray Multigas Meter										Venthead Dewatering Vacuum (0.25" brass 1/4") (inHg)	Control Efficiency (%)	Notes / Sample ID			
					Vapor Pitot Velocity (scfm)	Temp (° F)	Casing Vacuum (in Hg)	FID <sup>a</sup> (w/o carbon) (ppmv)	FID <sup>a</sup> (w/carbon) (ppmv)	FID <sup>a</sup> (NMHC) (ppmv)	LEL Influent (%)	CO <sub>2</sub> Influent (% vol)	O <sub>2</sub> Influent (% vol)	PID Influent (ppmv)	Temp (° F)	Vacuum (in Hg)	Temp (°F)	Vacuum (°Hg)	Velocity Orifice (ΔP in H <sub>2</sub> O)	Velocity Orifice (scfm)	Temp (° F)	Pressure (in. H <sub>2</sub> O)	FID <sup>a</sup> (w/o carbon) (ppmv)	FID <sup>a</sup> (w/carbon) (ppmv)	FID <sup>a</sup> (NMHC) (ppmv)	NMHC Removal Rate (lbs/day)	NMHC Period Removed (lbs)	NMHC Cum Removal Rate (lbs)	LEL (%)	CO <sub>2</sub> (% vol)	O <sub>2</sub> (% vol)	PID (ppmv)	Effluent Final FID (ppmv)				System Operating Temperature (°F)		
08/16/16	9:30	8/16/16 9:30	1,129.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>Day 2: Step Test on MW-1 @ 2.5"Hg</b>																																							
08/16/16	10:00	8/16/16 10:00	1,129.0	73	19	78.0	2.0	F/O	F/O	--	100	3.9	10.2	--	--	13	178	17	2.82	85	178	3.5	4,500	3,004	1,496	41	0.85	0.85	>100	0.3	20.9	--	F/O	1,596	--	--	--		
<b>MW-1 @ 5.0"Hg</b>																																							
08/16/16	12:30	8/16/16 12:30	1,131.8	84	35	80.0	4.2	F/O	F/O	--	100	4.7	12.7	--	--	14	180	18	3.17	90	130	3.98	F/O	F/O	--	--	--	--	>100	0.5	20.2	--	F/O	1,757	--	--	--		
<b>MW-1 @ 8.0"Hg</b>																																							
08/16/16	13:35	8/16/16 13:35	1,132.2	91	32	80.0	7.3	F/O	F/O	--	100	4.3	10.8	--	--	14	180	18	3.24	91	130	4.08	F/O	F/O	--	--	--	--	100	0.4	18.9	--	F/O	1,720	--	--	--		
<b>MW-1 @ 10.0"Hg</b>																																							
08/16/16	15:00	8/16/16 15:00	1,133.7	93	45	80.0	9.8	F/O	F/O	--	100	2.7	14.3	--	--	14	182	18	3.27	91	135	4.11	F/O	F/O	--	--	--	--	100	0.9	18.8	--	F/O	1,733	--	--	--		
<b>MW-1 @ 12.5"Hg</b>																																							
08/16/16	15:50	8/16/16 15:50	1,134.3	97	39	64.0	11.7	F/O	F/O	--	100	4.2	14.1	--	--	14	185	18.5	3.27	91	140	4.13	F/O	F/O	--	--	--	--	100	0.7	18.9	--	F/O	1,761	--	--	--		
<b>Day 3: Constant Rate Test on MW-1 @ 10" Hg</b>																																							
08/17/16	8:15	8/17/16 8:15	1,136.3	64	60	75	9.1	4,000	F/O	--	100	5.0	10.6	--	--	15	180	18	3.01	87	120	3.76	F/O	F/O	--	--	--	--	100	0.7	19.2	--	0	1,584	--	--	--		
08/17/16	9:10	8/17/16 9:10	1,137.2	70	52	75	8.6	F/O	F/O	--	100	3.8	13.6	--	--	14	175	18	3.07	87	120	3.86	F/O	F/O	--	--	--	--	100	0.8	19.3	--	0	1,638	--	--	--		
08/17/16	9:54	8/17/16 9:54	1,137.9	75	66	77	8.6	F/O	F/O	--	100	6.5	9.5	--	--	15	180	18	3.01	87	125	3.75	F/O	F/O	--	--	--	--	100	0.7	19.3	--	0	1,561	--	--	--		
08/17/16	10:45	8/17/16 10:45	1,138.7	82	61	77	9.0	F/O	F/O	--	100	2.0	14.0	--	--	15	180	18	2.98	87	128	3.75	7,000	F/O	--	--	--	--	100	0.7	19.4	--	0	1,560	--	--	--		
08/17/16	11:40	8/17/16 11:40	1,139.7	84	61	80	8.9	F/O	F/O	--	100	5.5	10.6	--	--	15	180	18.5	2.99	87	130	3.75	>9,000	700+	8,300	234	4.9	--	100	0.8	19.4	--	0	1,612	--	--	--		
08/17/16	12:40	8/17/16 12:40	1,140.7	90	64	82	8.8	F/O	F/O	--	100	4.5	12.3	--	--	15	184	18.5	2.98	87	135	3.73	>9,000	300+	8,700	244	5.1	--	100	0.7	19.0	--	0	1,621	--	--	--		
08/17/16	13:35	8/17/16 13:35	1,141.7	91	65	84	8.9	F/O	F/O	--	100	2.9	15.0	--	--	15	187	18.5	2.96	87	140	3.73	>9,000	300+	8,700	243	5.1	--	100	0.8	19.3	--	0	1,586	--	--	--		
08/17/16	14:30	8/17/16 14:30	1,142.5	95	66	85	8.9	F/O	F/O	--	100	2.2	13.9	--	--	15	188	18.5	2.94	86	140	3.72	>9,000	300+	8,700	243	5.1	--	100	0.7	19.2	--	0	1,612	--	--	--		
08/17/16	15:15	8/17/16 15:15	1,143.3	NC	65	83	9.0	F/O	F/O	--	100	3.9	13.6	--	--	15	188	18.5	2.91	86	138	3.70	>9,000	600+	8,400	233	4.9	--	100	0.7	19.3	--	0	1,522	--	--	--		
<b>Day 4: Constant Rate Test on MW-1 @ 10" Hg and AS-1</b>																																							
08/18/16	8:55	8/18/16 8:55	1,160.9	70	60	79.0	9.0	F/O	F/O	--	100	1.0	17.7	--	--	15	175	18	2.80	84	120	3.51	1,200	107+	1,093	30	0.6	1.5	64	0.6	19.4	--	0	1,448	--	--	--		
08/18/16	9:40	8/18/16 9:40	1,161.7	73	61	79.0	9.1	F/O	F/O	--	100	1.0	18.4	--	--	15	176	18	2.80	84	120	3.51	2,280	200+	2,080	57	1.2	2.7	86	0.5	20.2	--	0	1,515	--	--	--		
08/18/16	11:20	8/18/16 11:20	1,163.4	79	65	82.0	9.4	--	--	--	100	0.7	19.5	--	--	15	180	18	2.87	85	126	3.60	3,000	200+	2,800	77	1.6	4.3	100	0.4	20.8	--	0	1,648	--	--	--		
08/18/16	12:30	8/18/16 12:30	1,164.6	84	67	82.0	8.9	>9,000	--	--	100	0.8	20.3	--	--	15	182	18	2.91	86	132	3.71	3,600	120+	3,480	97	2.0	6.3	100	0.2	20.9	--	0	1,726	--	--	--		
08/18/16	13:35	8/18/16 13:35	1,165.6	86	66	84.0	9.2	F/O	F/O	--	100	0.2	20.9	--	--	15	184	18.5	2.97	87	132	3.75	5,000	130+	4,870	136	2.8	9.1	100	0.2	20.9	--	0	1,677	--	--	--		
08/18/16	14:30	8/18/16 14:30	1,166.5	91	65	85.0	9.0	>9,000	--	--	100	0.2	20.9	--	--	14.5	186	18	2.96	87	128	3.80	5,000	370+	4,630	129	2.7	11.8	100	0.1	20.9	--	0	1,599	--	--	--		
08/18/16	15:30	8/18/16 15:30	1,167.5	91	61	82.0	9.2	F/O	F/O	--	100	0.1	20.6	--	--	14.5	184	18	2.96	87	134	3.77	5,000	440	4,560	128	2.7	14.5	100	0.1	20.8	--	0	1,682	--	--	--		
<b>Day 5: Constant Rate Test on MW-1 @ 10" Hg and AS-1 Continued</b>																																							
08/19/16	7:00	8/19/16 7:00	1,183.0	61	66	62.0	9.8	8,000	F/O	--	88	0.0	20.9	--	--	14.5	172	18	3.05	88	110	3.77	4,400	200+	4,200	119	2.5	16.9	100	0.0	20.5	--	0	1,466	--	--	--		
<b>End of the Constant Rate Test on MW-1</b>																																							
Total Soil Vapor Extraction Hours (DPE, SVE, and SVE/AS):			54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
<b>Explanations:</b>																																							
scfm = standard cubic feet per minute in. H <sub>2</sub> O = Inches of Water Column in. Hg = Inches of Mercury Column °F = degrees Fahrenheit ppmv = parts per million by volume NC = not calculated, readings beyond meters range. ΔP in H <sub>2</sub> O = Differential Pressure inches water column										FID = Flame-ionization detector PID = Photo-ionization detector CO = Carbon monoxide CO <sub>2</sub> = Carbon dioxide O <sub>2</sub> = Oxygen LEL = Lower explosive limit NMHC = Non-methane Hydrocarbons † = FID Data extrapolated from LEL%																													



**TABLE 10**  
**AS/SVE Observation Well Data**  
 Chevron 97127  
 10 Grant Line Road  
 Mountain House, California

Pressure & DTW/P																				
MW-1: Start @ 09:25 a.m.			MW-9		MW-10		MW-11		MW-15		PZ-1		PZ-2		PZ-3		AS-1		MW-1	Notes
Distance from AS-1 (feet)			53.00		11.00		75.33		79.00		31.08		18.00		8.25		Well Head	System	24.58	
Date	Time	Date & Time	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (in H <sub>2</sub> O)	DTW / P (ft bgs)	Pressure (psi)	Flow (scfm)	Vacuum (in H <sub>g</sub> )	
08/18/16	9:25	8/18/16 9:25	0.0	--	63+	--	0.0	--	.80+	--	2.6+	--	12.5+	--	80	--	9.0	18.5	-9.4	
08/18/16	11:05	8/18/16 11:05	0.0	--	59+	--	.80+	--	1.1+	--	3.7+	--	13.4+	--	77+	--	9.75	>20	-9.4	
08/18/16	11:50	8/18/16 11:50	0.0	--	54	--	1.6+	--	1.6+	--	5.1+	--	14.7	--	75	--	9.5	>20	-9.3	
08/18/16	12:55	8/18/16 12:55	0.0	--	47	--	2.6	--	1.8	--	5.1	--	14.0	--	70	--	9.0	>20	8.6	
08/18/16	13:50	8/18/16 13:50	0.0	--	44	--	2.6	--	1.8	--	4.8	--	13.6	--	65	--	9.0	>20	9.2	
08/18/16	14:42	8/18/16 14:42	0.0	--	41	--	2.9	--	1.8	--	4.4	--	13.3	--	60	--	9.0	>20	9.3	
08/18/16	15:45	8/18/16 15:45	0.0	--	38	--	2.7	--	2.0	--	4.1	--	13.0	--	57	--	8.75	>20	9.0	
Maximum Induced Pressure (inH <sub>2</sub> O)			0.0		63		2.9		2.0		5.1		14.7		80		9.75			

**Definitions:**  
 ft bgs = feet below ground surface  
 in. H<sub>2</sub>O = inches of water column  
 DTW / P = depth to water / depth to product  
 hPa = hectopascal

**TABLE 11**  
**Radius of Influence Observation Well Data**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Induced Vacuum & DTW/P																				
MW-1: Start @ 08:35 a.m.			MW-9		MW-10		MW-11		MW-15		PZ-1		PZ-2		PZ-3		AS-1		MW-1	Notes
Distance from MW-1 (feet)			53.33		35.33		62.17		55.08		7.58		11.58		16.50		24.58			
Date	Time	Date & Time	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	DTW / P (ft bgs)	Vacuum (in H <sub>2</sub> O)	Vacuum (in H <sub>g</sub> )	
SVE: Day 2 Constant Rate Test @ 10" Hg																				
08/17/16	8:35	8/17/16 8:35	--	0.3	--	0.7	--	1.1	--	0.8	--	9.2	--	4.0	--	2.9	--	0.0	8.8	
08/17/16	9:25	8/17/16 9:25	--	0.4	--	0.9	--	1.5	--	1.1	--	9.5	--	4.2	--	3.2	--	0.0	8.7	
08/17/16	10:09	8/17/16 10:09	--	0.5	--	0.9	--	1.8	--	1.3	--	9.8	--	4.5	--	3.5	--	0.0	8.5	
08/17/16	11:00	8/17/16 11:00	--	0.5	--	1.0	--	1.8	--	1.3	--	9.6	--	4.4	--	3.4	--	0.0	9.0	
08/17/16	12:00	8/17/16 12:00	--	0.5	--	0.7	--	1.6	--	1.2	--	9.6	--	4.4	--	3.4	--	0.0	9.0	
08/17/16	13:00	8/17/16 13:00	--	0.5	--	0.5	--	1.8	--	1.1	--	9.5	--	4.2	--	3.3	--	0.0	8.9	
08/17/16	13:52	8/17/16 13:52	--	0.5	--	0.6	--	1.6	--	1.3	--	9.6	--	4.4	--	3.4	--	0.0	9.0	
08/17/16	14:42	8/17/16 14:42	--	0.5	--	0.2	--	1.6	--	1.1	--	9.2	--	4.1	--	3.1	--	0.0	9.0	
08/17/16	15:30	8/17/16 15:30	--	0.5	--	0.2	--	1.6	--	1.1	--	9.1	--	4.1	--	3.1	--	0.0	9.1	
Maximum Induced Vacuum (inH <sub>2</sub> O)			0.5		1.00		1.8		1.3		9.8		4.5		3.5		0.00		9.1	

**Definitions:**  
ft bgs = feet below ground surface  
in. H<sub>2</sub>O = inches of water column  
DTW / P = depth to water / depth to product  
hPa = hectopascal

**TABLE 12**  
**Primary Analytical Data and Mass Removal Rates - MW-1**  
 Chevron 97127  
 10 Grant Line Road  
 Mountain House, California

Date	Time	Sample Location <sup>e</sup>	Period Hours of Operation	Average Flow <sup>a</sup> (scfm)	Flow <sup>b</sup> (scfm)	FID <sup>c</sup> (ppmv)	GRO (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	o-Xylenes (ppmv)	p/m-Xylenes (ppmv)	Benzene/GRO Ratio	GRO Removal				Benzene Removal			
														Period (lbs)	Cum. (lbs)	Inst. (lbs/day)	Ave. (lbs/day)	Period (lbs)	Cum. (lbs)	Inst. (lbs/day)	Ave. (lbs/day)
8/17/16	9:00	MW-1	7.3	87	87	1496	55,000	800	890	35	38	130	1.5%	503.1	503.1	1,654.2	1,654.2	6.114	6.114	20.100	20.10
8/18/16	13:35	MW-1	5.4	85	87	4870	15,000	320.0	230	6.8	6.4	24	2.1%	231.4	734.5	448.2	1,028.4	3.093	9.207	7.988	13.75
8/19/16	8:05	MW-1	41.3	88	88	4200	19,000	310.0	220	3.8	3.0	12	1.6%	885.5	1,620.0	575.1	514.6	13.707	22.914	7.839	7.97
Period Operating Hours:			54.0											Total Pounds Removed (lbs):				22.91			
														Average Vapor Removal Rate (lbs/day)				10.18			

**Definitions:**

GRO = Gasoline Range Organics (C6-C12)    lbs = Pounds  
 FID = Flame-ionization detector            Cum. = Cumulative  
 scfm = Standard cubic feet per minute    Ave. = Average  
 ppmv = Parts per million by volume        Inst. = Instantaneous

**Cal Science Molecular Weights (g/mol)**

GRO    93.5  
 Benzene 78.11  
 Toluene 92.13  
 Ethylbenze 106.16  
 m,p,o-Xyle 106.17  
 mBE    88.15

**\*Cal Science Laboratory gas constant:**  
 24.45 L/mole at 25 °C and 760 millimeters Mercury  
 Hexane 86.17

**Calculations:**

$$\text{Mass Removed (lbs)}^{\text{Ave}} = \frac{\text{Ave. Conc. (ppmv)}}{1,000,000} \times \frac{\text{MW}_{\text{gas}}}{24.45 (*)} \times \frac{28.317 \text{ L}}{\text{ft}^3} \times \frac{1 \text{ lbs}}{453.592 \text{ g}} \times \text{Ave. flow (scfm)} \times \frac{60 \text{ mins}}{1 \text{ hour}} \times \text{hours}$$

$$\text{Mass Removal Rate (lbs/day)}^{\text{Ave}} = \frac{\text{Mass Removed (lbs)}^{\text{Ave}}}{\text{Operating hours}} \times \frac{24 \text{ hours}}{\text{day}}$$

$$\text{Mass Removed (lbs)}^{\text{Instantaneous}} = \frac{\text{Conc. (ppmv)}}{1,000,000} \times \frac{\text{MW}_{\text{gas}}}{24.45 (*)} \times \frac{28.317 \text{ L}}{\text{ft}^3} \times \frac{1 \text{ lbs}}{453.592 \text{ g}} \times \text{flow (scfm)} \times \frac{60 \text{ mins}}{1 \text{ hour}} \times \text{hours}$$

$$\text{Mass Removal Rate (lbs/day)}^{\text{Instantaneous}} = \frac{\text{Mass Removed (lbs)}^{\text{Instantaneous}}}{\text{Operating hours}} \times \frac{24 \text{ hours}}{\text{day}}$$

**Table 13**  
**Additional Vapor Analytical Data**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Analyte	Units	Conc.	Sample Date & Time	Date & time Analyzed
<b>MW-1 (Day 1)</b>				
Benzene	ppm	800	8/17/16 9:00	8/19/16 10:00
Toluene	ppm	890	8/17/16 9:00	8/19/16 10:00
Ethylbenzene	ppm	35	8/17/16 9:00	8/19/16 10:00
p/m-Xylene	ppm	130	8/17/16 9:00	8/19/16 10:00
o-Xylene	ppm	38	8/17/16 9:00	8/19/16 10:00
Xylenes (total)	ppm	170	8/17/16 9:00	8/19/16 10:00
Methyl-t-Butyl Ether (MTBE)	ppm	<20	8/17/16 9:00	8/19/16 10:00
Tert-Butyl Alcohol (TBA)	ppm	<20	8/17/16 9:00	8/19/16 10:00
Diisopropyl Ether (DIPE)	ppm	<20	8/17/16 9:00	8/19/16 10:00
Ethyl-t-Butyl Ether (ETBE)	ppm	<20	8/17/16 9:00	8/19/16 10:00
Tert-Amyl-Methyl Ether (TAME)	ppm	<20	8/17/16 9:00	8/19/16 10:00
Gasoline Range Organics (C6-C12)	ppm	55000	8/17/16 9:00	8/19/16 10:00
<b>MW-1 (Day 2)</b>				
Gasoline Range Organics (C6-C12)	ppm	15000	8/18/16 13:25	8/20/16 18:39
Benzene	ppm	320	8/18/16 13:25	8/20/16 18:39
Toluene	ppm	230	8/18/16 13:25	8/20/16 18:39
Ethylbenzene	ppm	6.8	8/18/16 13:25	8/20/16 18:39
p/m-Xylene	ppm	24	8/18/16 13:25	8/20/16 18:39
o-Xylene	ppm	6.4	8/18/16 13:25	8/20/16 18:39
Xylenes (total)	ppm	30	8/18/16 13:25	8/20/16 18:39
MTBE	ppm	<5.0	8/18/16 13:25	8/20/16 18:39
TBA	ppm	<5.0	8/18/16 13:25	8/20/16 18:39
DIPE	ppm	<5.0	8/18/16 13:25	8/20/16 18:39
ETBE	ppm	<5.0	8/18/16 13:25	8/20/16 18:39
TAME	ppm	<5.0	8/18/16 13:25	8/20/16 18:39
<b>MW-1 (Day 3)</b>				
Acetone	ppm	<5.0	8/19/16 8:05	8/20/16 19:26
Benzene	ppm	310	8/19/16 8:05	8/20/16 19:26
Benzyl Chloride	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
Bromodichloromethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Bromoform	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Bromomethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
2-Butanone (Methyl Ethyl Ketone)	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
n-Butylbenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
sec-Butylbenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
tert-Butylbenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Carbon Disulfide	ppm	<5.0	8/19/16 8:05	8/20/16 19:26
Carbon Tetrachloride	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Chlorobenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Chloroethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Chloroform	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Chloromethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Dibromochloromethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,2-Dibromoethane (EDB)	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,2-Dichlorobenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,3-Dichlorobenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,4-Dichlorobenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Dichlorodifluoromethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,1-Dichloroethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,2-Dichloroethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,1-Dichloroethene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
c-1,2-Dichloroethene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
t-1,2-Dichloroethene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,2-Dichloropropane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
c-1,3-Dichloropropene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
t-1,3-Dichloropropene	ppm	<2.5	8/19/16 8:05	8/20/16 19:26
Dichlorotetrafluoroethane (Freon 114)	ppm	<5.0	8/19/16 8:05	8/20/16 19:26
1,1-Difluoroethane	ppm	<5.0	8/19/16 8:05	8/20/16 19:26
Ethylbenzene	ppm	3.8	8/19/16 8:05	8/20/16 19:26
4-Ethyltoluene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Hexachloro-1,3-Butadiene	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
2-Hexanone	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
Isopropanol	ppm	<12	8/19/16 8:05	8/20/16 19:26
MTBE	ppm	<5.0	8/19/16 8:05	8/20/16 19:26

**Table 13**  
**Additional Vapor Analytical Data**  
Chevron 97127  
10 Grant Line Road  
Mountain House, California

Analyte	Units	Conc.	Sample Date & Time	Date & time Analyzed
<b>MW-1 (Day 3) Continued</b>				
Methylene Chloride	ppm	<12	8/19/16 8:05	8/20/16 19:26
4-Methyl-2-Pentanone	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
Styrene	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
1,1,2,2-Tetrachloroethane	ppm	<2.5	8/19/16 8:05	8/20/16 19:26
Tetrachloroethene (PCE)	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Toluene	ppm	<b>220</b>	8/19/16 8:05	8/20/16 19:26
1,1,1-Trichloroethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
1,1,2-Trichloroethane	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Trichloroethene (TCE)	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Trichlorofluoromethane (Freon 11)	ppm	<2.5	8/19/16 8:05	8/20/16 19:26
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
1,2,4-Trimethylbenzene	ppm	<3.8	8/19/16 8:05	8/20/16 19:26
1,3,5-Trimethylbenzene	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
Vinyl Acetate	ppm	<5.0	8/19/16 8:05	8/20/16 19:26
Vinyl Chloride	ppm	<1.2	8/19/16 8:05	8/20/16 19:26
o-Xylene	ppm	<b>3.0</b>	8/19/16 8:05	8/20/16 19:26
p/m-Xylene	ppm	<b>12</b>	8/19/16 8:05	8/20/16 19:26
Xylenes (total)	ppm	<b>15</b>	8/19/16 8:05	8/20/16 19:26
Hydrogen Sulfide	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
Carbonyl Sulfide	ppm	<b>0.019</b>	8/19/16 8:05	8/29/16 13:20
Methyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
Ethyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
Dimethyl Sulfide	ppm	<b>0.0077</b>	8/19/16 8:05	8/29/16 13:20
Carbon Disulfide	ppm	<b>0.021</b>	8/19/16 8:05	8/29/16 13:20
Isopropyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
tert-Butyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
n-Propyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
Thiophene	ppm	<b>0.21</b>	8/19/16 8:05	8/29/16 13:20
Diethyl Disulfide	ppm	<b>0.010</b>	8/19/16 8:05	8/29/16 13:20
n-Butyl Mercaptan	ppm	<0.0070	8/19/16 8:05	8/29/16 13:20
Dimethyl Disulfide	ppm	<0.0035	8/19/16 8:05	8/29/16 13:20
Tetrahydrothiophene	ppm	<b>0.0093</b>	8/19/16 8:05	8/29/16 13:20
Tetraethyl Lead	mg/m <sup>3</sup>	<0.10	8/19/16 8:05	8/25/16 10:40
Tetramethyl Lead	mg/m <sup>3</sup>	<b>1.4</b>	8/19/16 8:05	8/25/16 10:40

**Notes:**  
ppmv = Parts per million by volume  
Conc. = Concentration  
< = Less than minimum reporting limit  
mg/m<sup>3</sup> = milligrams per cubic meter

**Table 14**  
**Cost Estimate for Air Sparge/Soil Vapor Extraction**  
**Chevron 97127**  
**10 W. Grantline Road, Mountain House, California**

**Capital Equipment, Design, and Construction**

SVE System	\$130,000
Air Compressor (Sparge)	\$15,000
Design	\$25,000
Permitting/Access	\$20,000
System Construction	\$150,000
O&M Manual with As-Builts	\$10,000
<b>Total Cap/Const Costs</b>	<b>\$350,000</b>

**Drilling Costs**

Number of AS Wells	8
Drillers Cost for Wells (\$/ft)	\$50
Depth per Well	50
Permits and Disposal	\$50,000
Consultant Fees	\$7,500
<b>Total Drilling Costs</b>	<b>\$77,500</b>

**Utility Costs**

Total Motor HP	22.5
Run Time (%)	85%
Power Cost (\$/kw-hr)	\$0.25
Monthly Power Cost	\$2,582
Expected Duration (months)	24
<b>Total Utility Costs</b>	<b>\$61,965</b>

**O&M Costs**

Expected Duration (months)	24
Monthly O&M (excluding Utilities)	\$1,000
Analytical (Permit Compliance)	\$500
<b>Total O&amp;M Costs (incl Utilities)</b>	<b>\$97,965</b>

**Groundwater Sampling**

Expected Duration (years)	5 (2 Quarterly, 3 Semiannual)
Quarterly GWM	\$14,000
Semiannual GWM	\$7,000
<b>Total GWM Costs</b>	<b>\$49,000</b>

**Well Destruction and System Decommissioning**

Well Destruction	\$179,000
System Decommissioning	\$44,000
<b>Total Well Destruction and System Decommissioning Costs</b>	<b>\$223,000</b>

<b>Total Cost</b>	<b>\$859,430</b>
-------------------	------------------

**Table 15**  
**Cost Estimate for Free Product Removal and Natural Source Zone Depletion**  
**Chevron 97127**  
**10 W. Grantline Road, Mountain House, California**

**Capital Equipment, Design, and Construction**

<b>Total Cap/Const Costs</b>	<b>\$0</b>
------------------------------	------------

**Drilling Costs**

<b>Total Drilling Costs</b>	<b>\$0</b>
-----------------------------	------------

**Utility Costs**

<b>Total Utility Costs</b>	<b>\$0</b>
----------------------------	------------

**Free Product Removal Costs (Quarterly)**

Expected Number of Events	8
Labor	\$1,000
Equipment Costs	\$250
<b>Total Injection Costs</b>	<b>\$10,000</b>

**Groundwater Sampling**

Expected Duration (years)	25
Semiannual GWM	\$7,000
<b>Total GWM Costs</b>	<b>\$175,000</b>

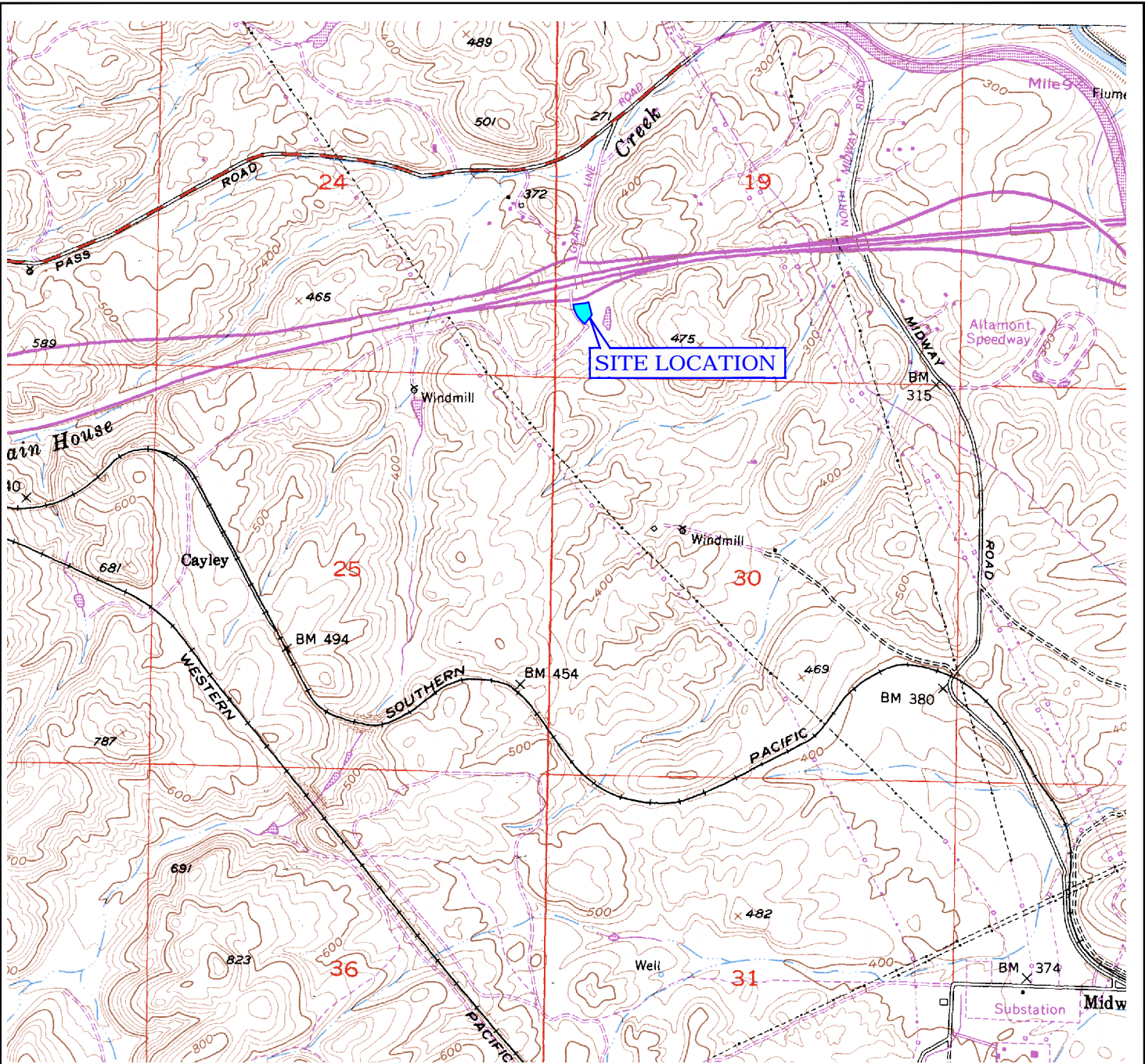
**Well Destruction**

Well Destruction	\$130,000
<b>Total Well Destruction Costs</b>	<b>\$130,000</b>

<b>Total Cost</b>	<b>\$315,000</b>
-------------------	------------------

## **FIGURES**

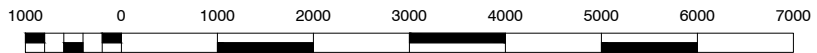




CALIFORNIA




SCALE IN MILE



SCALE IN FEET

REFERENCE: CA Digital Raster Graphics(<http://gis.ca.gov/casil/usgs.gov/>)  
 7.5 Minute Series, Albers NAD83, Trimmed  
 Block o37121f5, Dated 1953; Revised 1980









	FOR: CHEVRON SITE 97127 GRANT LINE ROAD AND INTERSTATE 580 TRACY, CALIFORNIA		FIGURE: <h1 style="text-align: center;">1</h1>	
	JOB NUMBER: 185750361	DRAWN BY: JY	CHECKED BY: RC	APPROVED BY: BW

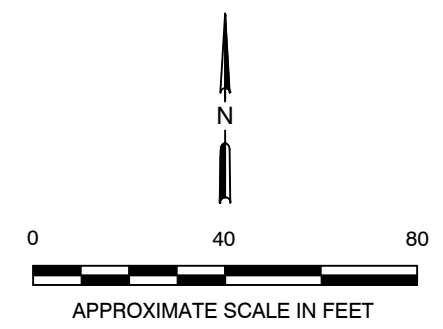
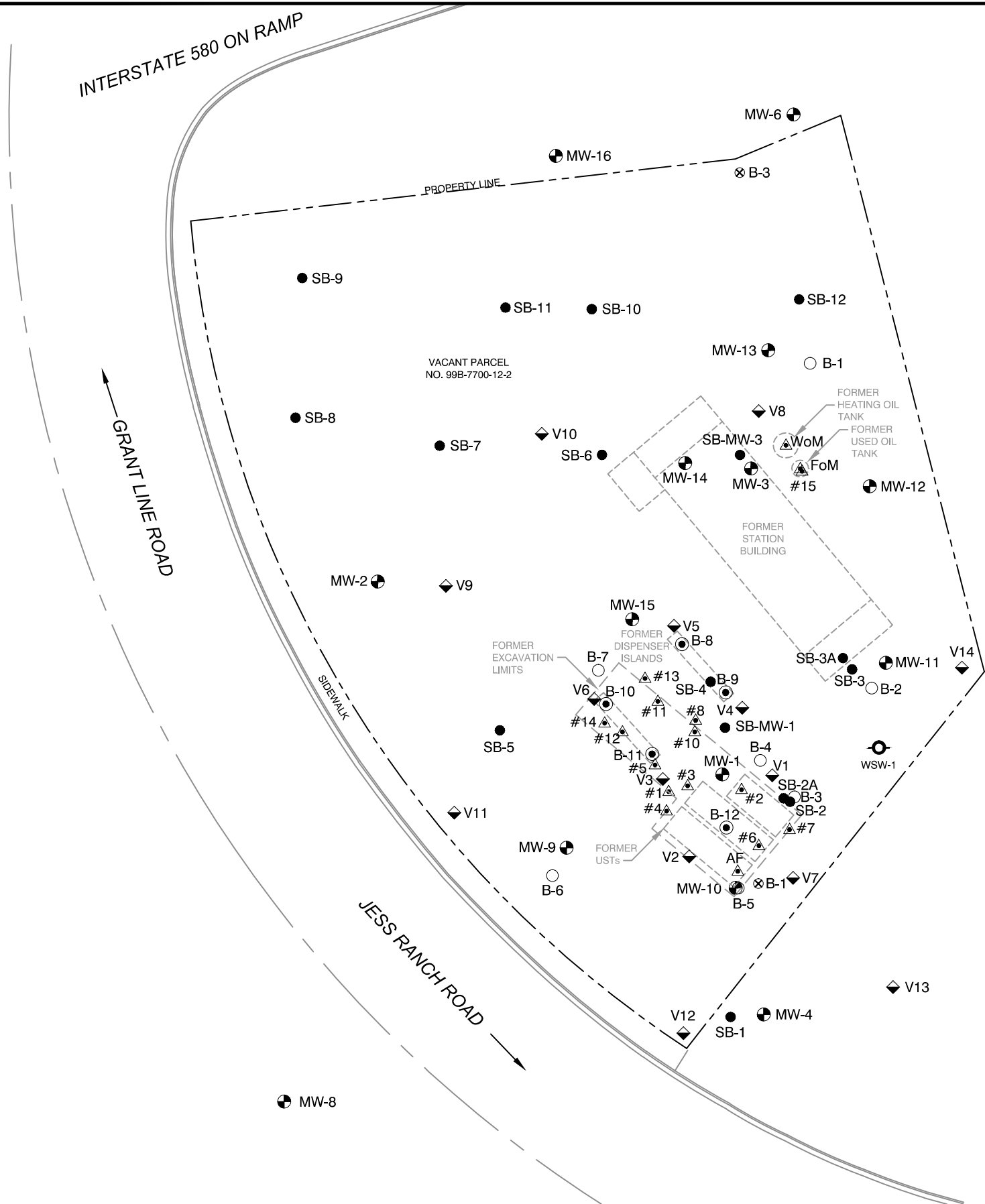
INTERSTATE 580 ON RAMP

GRANT LINE ROAD


JESS RANCH ROAD

**LEGEND:**

- PROPERTY LINE
- MW-2  GROUNDWATER MONITORING WELL
- WSW-1  FORMER WATER SUPPLY WELL
- SB-1  SOIL BORING (ARCADIS 2013)
- B-8  SOIL BORING (CRA 2011)
- B-1  SOIL BORING (PEG 1992-1993)
- B-1  SOIL BORING (KLEINFELDER 1987))
- #1  SOIL SAMPLE (BLAINE TECH SERVICES 1991)
- V1  SOIL VAPOR SAMPLE (EA 1987)



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	FOR: FORMER CHEVRON SERVICE STATION NO. 9-7127 10 GRANT LINE ROAD TRACY, CALIFORNIA		<b>SITE PLAN</b>		FIGURE: <b>2</b>
	JOB NUMBER: 185750447.718.0410	DRAWN BY: JY/STA	CHECKED BY: RC	APPROVED BY: BW	DATE: 04/28/16

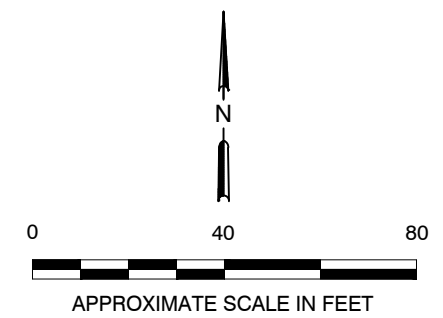
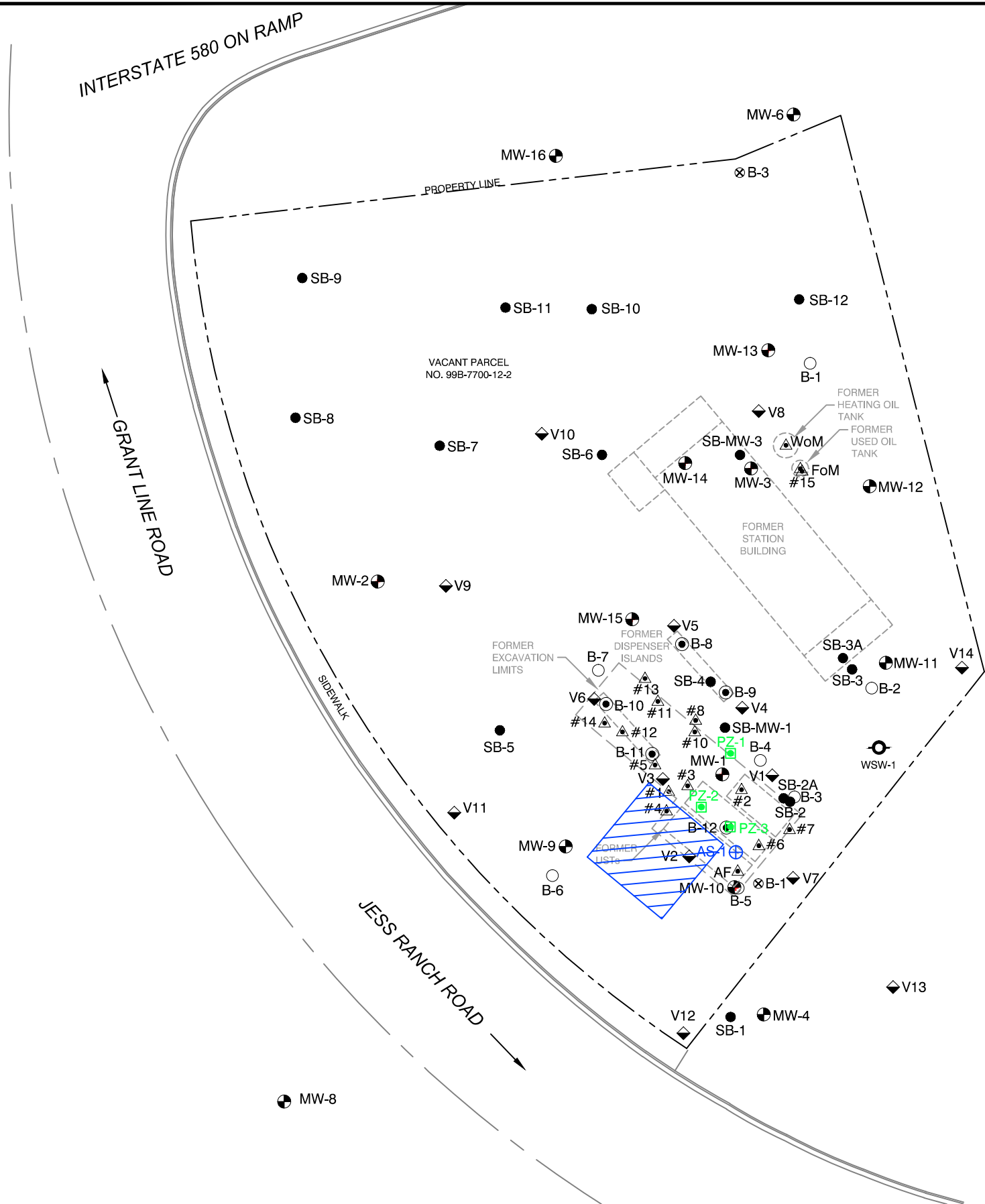
INTERSTATE 580 ON RAMP

GRANT LINE ROAD

JESS RANCH ROAD

**LEGEND:**

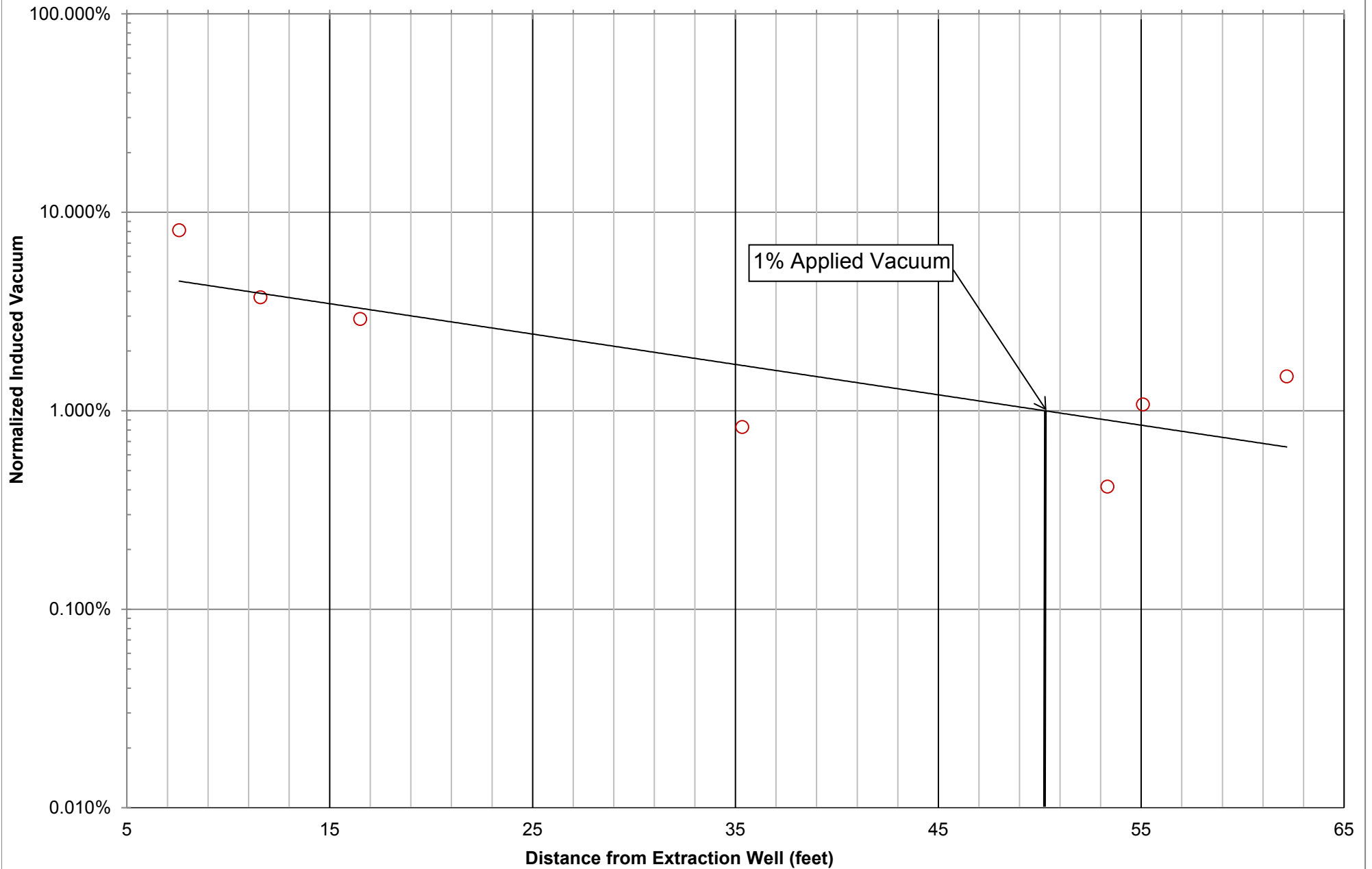
- PROPERTY LINE
- MW-1 ● GROUNDWATER MONITORING WELL
- WSW-1 ○ FORMER WATER SUPPLY WELL
- SB-1 ● SOIL BORING (ARCADIS 2013)
- B-8 ● SOIL BORING (CRA 2011)
- B-1 ⊗ SOIL BORING (PEG 1992-1993)
- B-1 ○ SOIL BORING (KLEINFELDER 1987)
- #1 ▲ SOIL SAMPLE (BLAINE TECH SERVICES 1991)
- V1 ◆ SOIL VAPOR SAMPLE (EA 1987)
- AS-1 ⊕ AIR SPARGE WELL
- PZ-3 ■ PIEZOMETER
- ▨ EQUIPMENT STAGING AREA



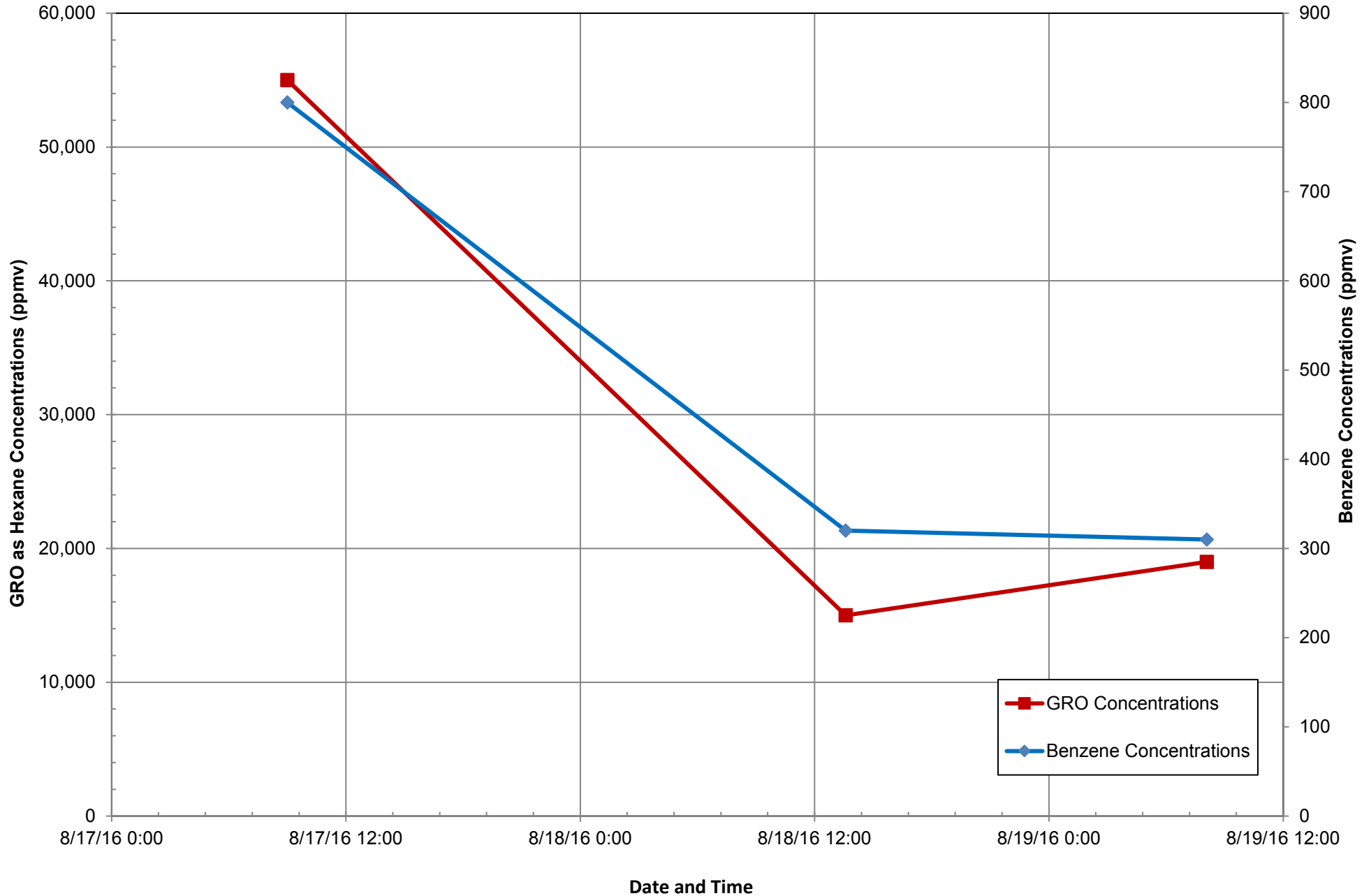
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	FOR: FORMER CHEVRON SERVICE STATION NO. 97127 10 GRANT LINE ROAD MOUNTAIN HOUSE, CALIFORNIA		<b>SITE PLAN WITH WELL LOCATIONS AND PILOT TEST LAYOUT</b>		FIGURE: <b>3</b>
	JOB NUMBER: 185750361	DRAWN BY: JY/STA	CHECKED BY: BR	APPROVED BY: BW	DATE: 08/11/16

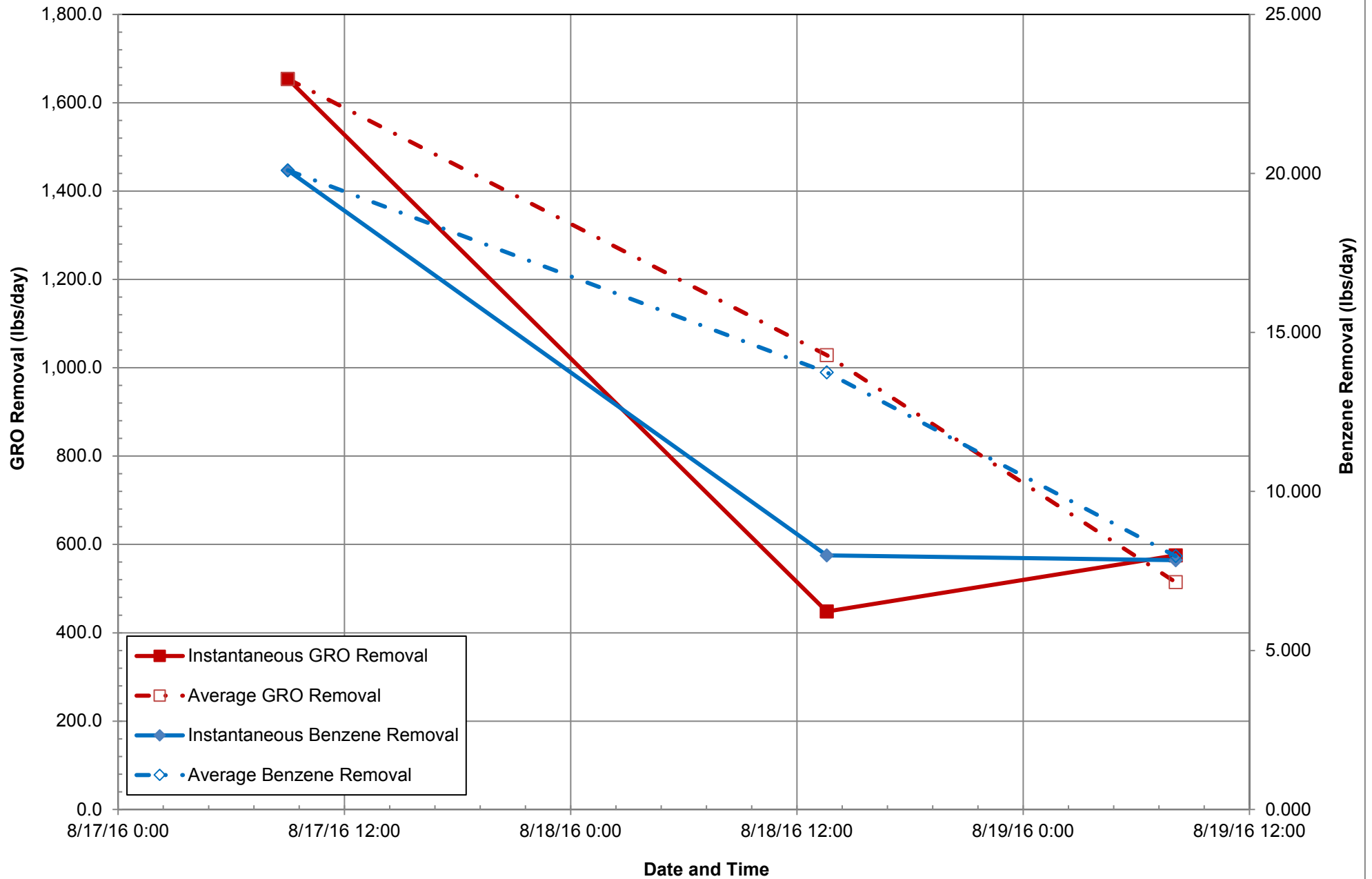
**FIGURE 4**  
**MW-1 - Normalized Radius of Influence**  
**Applied Vacuum of 8.8 in Hg**  
Former Chevron Service Station No. 9-7127  
10 Grant Line Road  
Mountain House, California

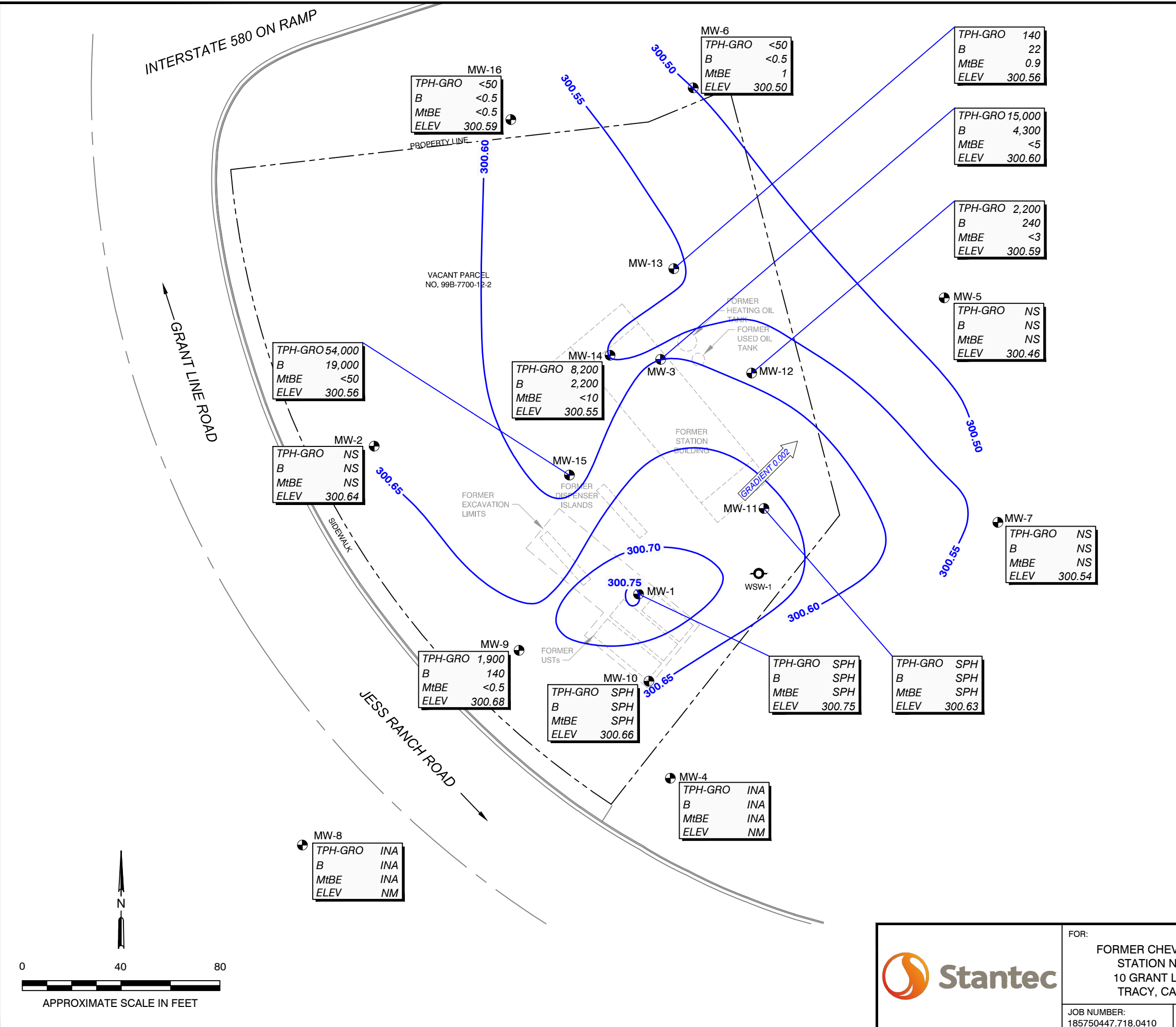


**FIGURE 5**  
**MW-1 Concentrations Versus Time**  
Former Chevron Service Station No. 9-7127  
10 Grant Line Road  
Mountain House, California



**FIGURE 6**  
**MW-1 Mass Removal Rate Versus Time**  
 Former Chevron Service Station No. 9-7127  
 10 Grant Line Road  
 Mountain House, California





**LEGEND:**

- PROPERTY LINE
- MW-2 GROUNDWATER MONITORING WELL
- WSW-1 FORMER WATER SUPPLY WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- 300.50 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- 300.75 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

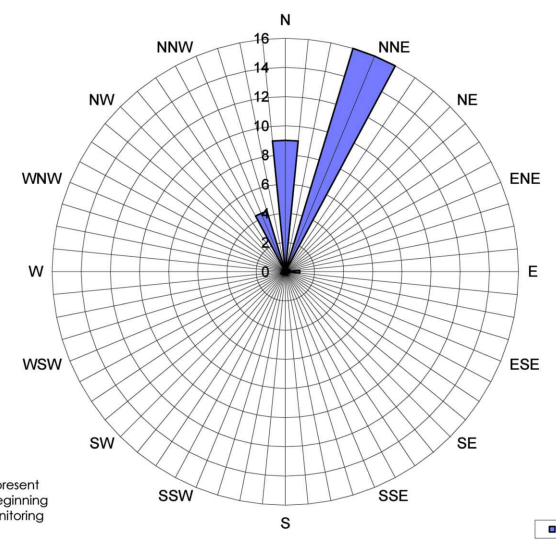
**CHEMICAL ANALYTICAL RESULTS:**

ANALYTE	TPH-GRO 15,000	CONCENTRATION (µg/L)
	B 4,300	
	MtBE <5	
	ELEV 300.60	

µg/L — MICROGRAMS PER LITER  
 NS — NOT SAMPLED  
 SPH — SEPARATE PHASE HYDROCARBONS  
 INA — WELL INACCESSIBLE

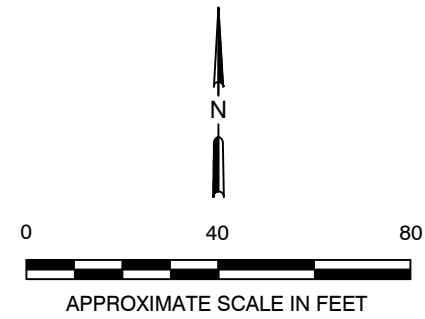
**ANALYTES:**

- TPH-GRO — TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS
- B — BENZENE
- MTBE — METHYL TERT-BUTYL ETHER
- ELEV — TERT-BUTYL ALCOHOL



*Note:*  
Concentric gridlines represent 31 monitoring events beginning 1Q05 through 4Q16 monitoring event.

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	FOR: FORMER CHEVRON SERVICE STATION NO. 9-7127 10 GRANT LINE ROAD TRACY, CALIFORNIA	<b>GROUNDWATER ELEVATION CONTOUR AND CONCENTRATION MAP OCTOBER 01, 2016</b>		FIGURE: <b>7</b>
	JOB NUMBER: 185750447.718.0410	DRAWN BY: JY/STA	CHECKED BY: RC	APPROVED BY: TF
			DATE: 11/7/16	

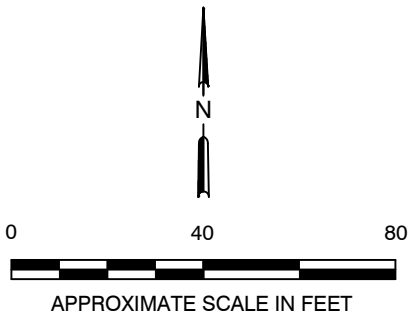
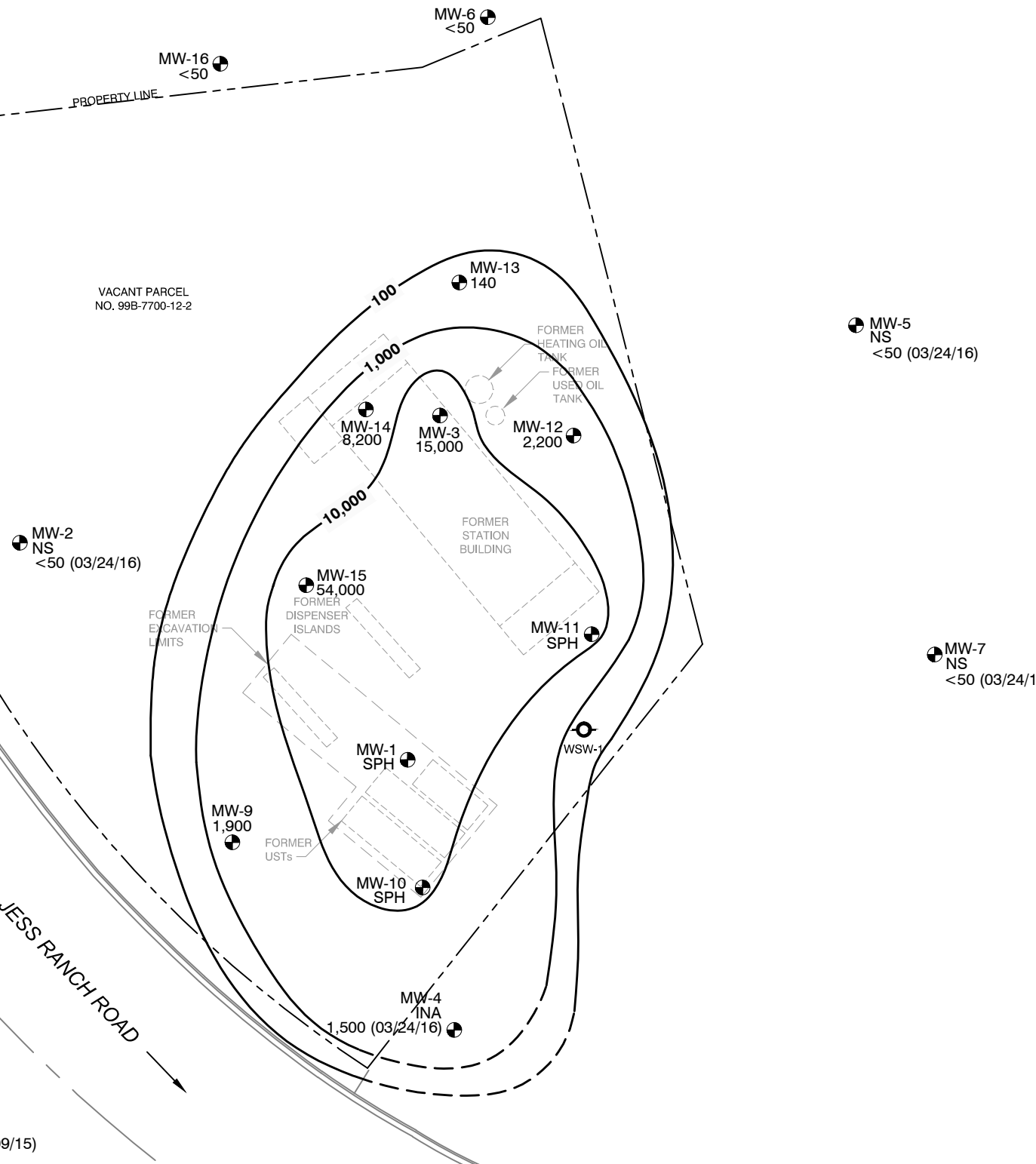
INTERSTATE 580 ON RAMP

GRANT LINE ROAD

JESS RANCH ROAD

VACANT PARCEL  
NO. 99B-7700-12-2

LEGEND:	
---	PROPERTY LINE
MW-2	GROUNDWATER MONITORING WELL
WSW-1	FORMER WATER SUPPLY WELL
100	TPH-GRO ISOCONCENTRATION CONTOUR
140	TPH-GRO CONCENTRATION
TPH-GRO	TOTAL PETROLEUM HYDROCARBON AS GASOLINE RANGE ORGANICS
SPH	SEPARATE PHASE HYDROCARBONS
NS	NOT SAMPLED
INA	WELL INACCESSIBLE



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	FOR:	FORMER CHEVRON SERVICE STATION NO. 9-7127 10 GRANT LINE ROAD TRACY, CALIFORNIA		FIGURE:	8
	JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	
	185750447.718.0410	JY/STA	RC	TF	11/07/16



INTERSTATE 580 ON RAMP

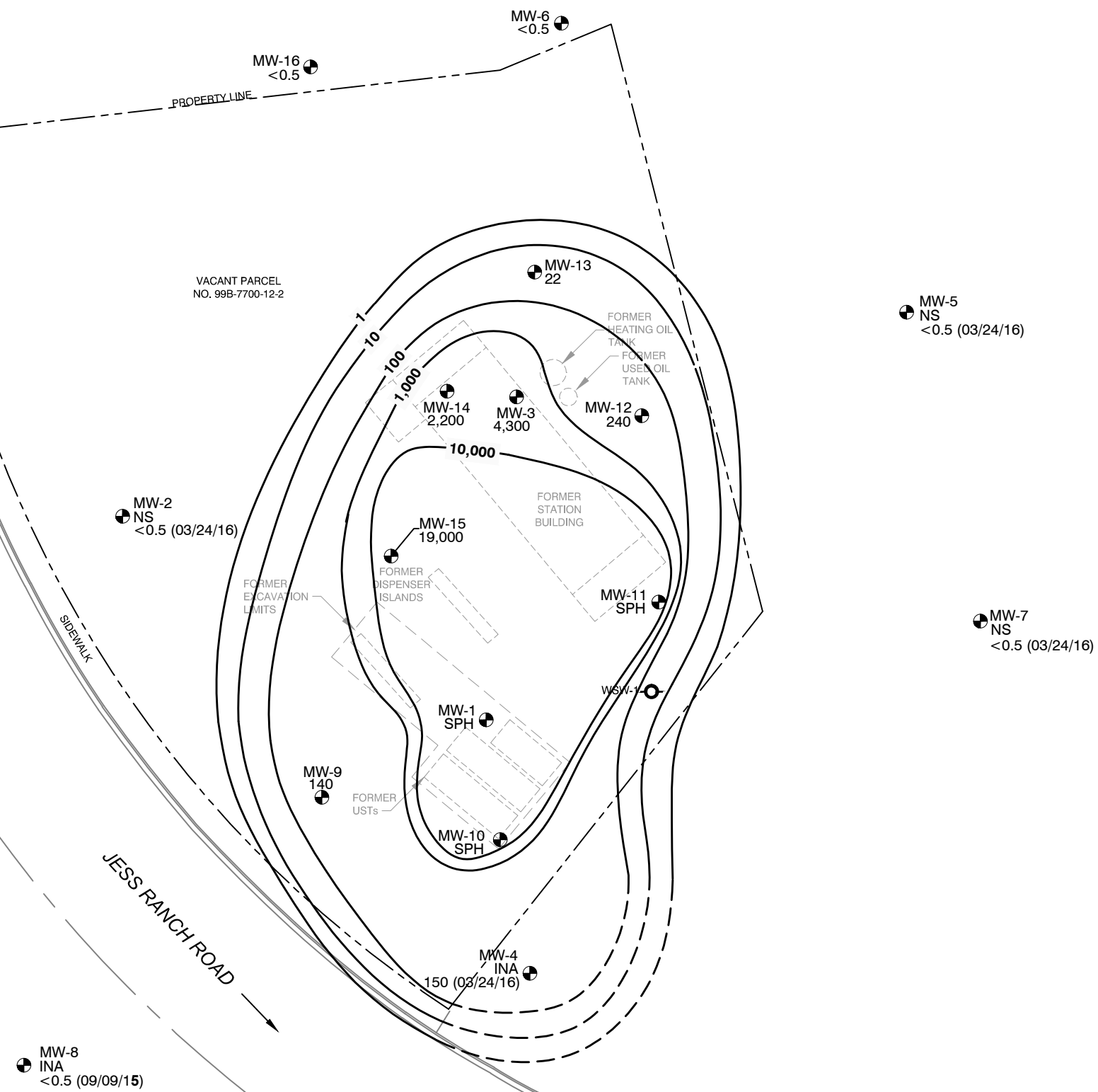
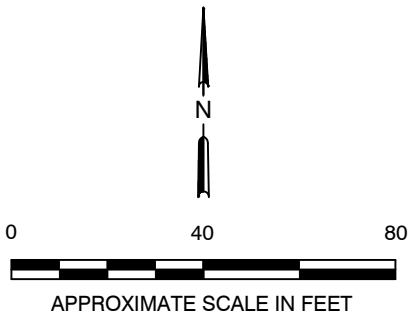
GRANT LINE ROAD

JESS RANCH ROAD

VACANT PARCEL  
NO. 99B-7700-12-2

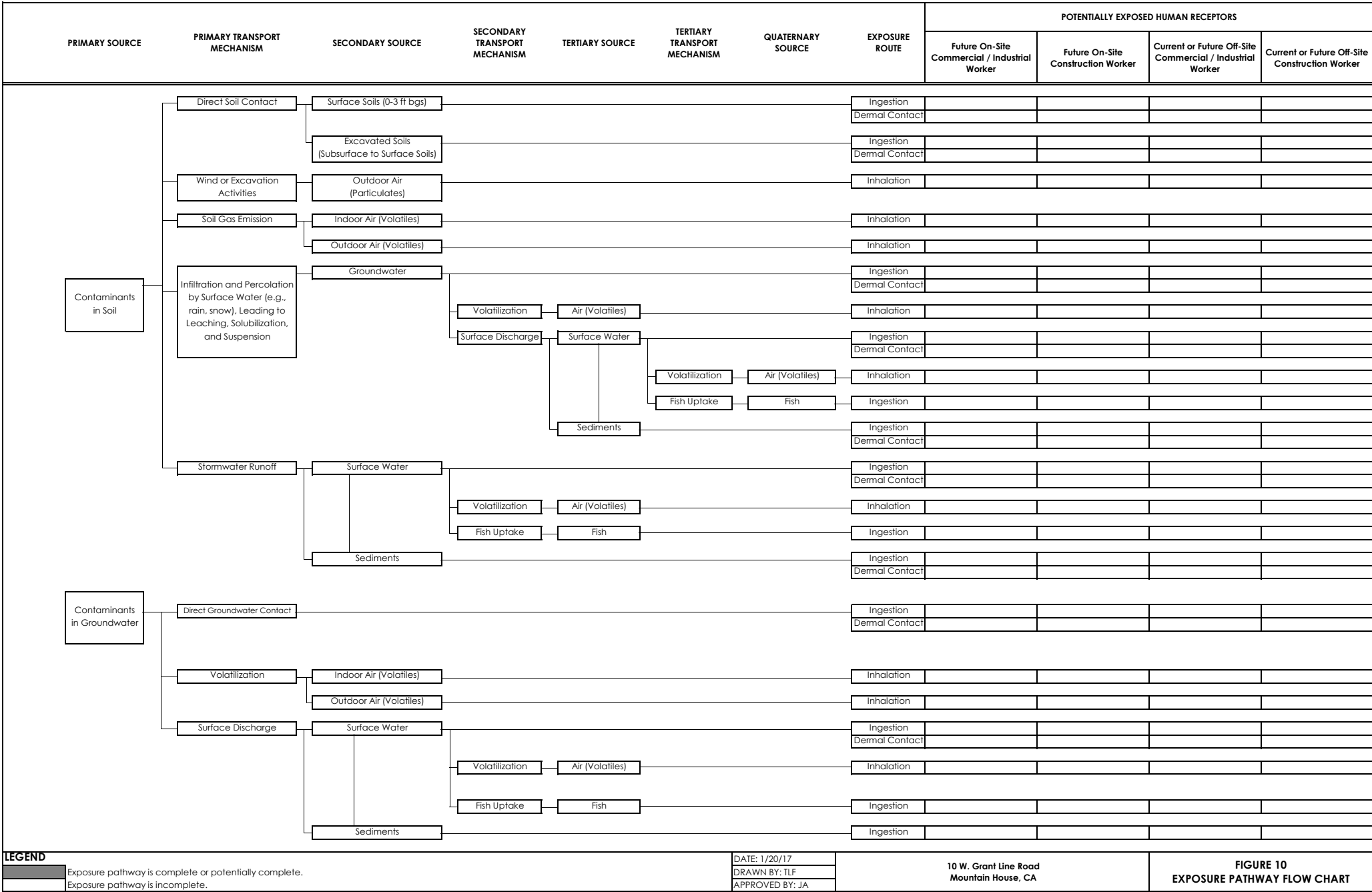
**LEGEND:**

---	PROPERTY LINE
MW-2	GROUNDWATER MONITORING WELL
WSW-1	FORMER WATER SUPPLY WELL
100	BENZENE ISOCONCENTRATION CONTOUR
140	BENZENE CONCENTRATION
SPH	SEPARATE PHASE HYDROCARBONS
NS	NOT SAMPLED
INA	WELL INACCESSIBLE



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	FOR:	<b>FORMER CHEVRON SERVICE STATION NO. 9-7127 10 GRANT LINE ROAD TRACY, CALIFORNIA</b>		FIGURE:	<b>9</b>
	JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	
	185750447.718.0410	JY/STA	RC	TF	11/07/16



**LEGEND**  
 Exposure pathway is complete or potentially complete.  
 Exposure pathway is incomplete.

DATE: 1/20/17  
DRAWN BY: TLF  
APPROVED BY: JA

10 W. Grant Line Road  
Mountain House, CA

**FIGURE 10**  
**EXPOSURE PATHWAY FLOW CHART**

**APPENDIX A**  
**Agency Correspondence**



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

December 11, 2015

Ms. Carryl MacLeod  
Chevron Environmental  
Management Company  
6001 Bollinger Canyon Road  
San Ramon, CA 94583  
(sent via electronic mail to:  
[CMacleod@chevron.com](mailto:CMacleod@chevron.com))

Mr. Onsori Ardavan  
37 Victoria Drive  
Atherton, CA 94027-4122  
(sent via electronic mail to:  
[dmbasmatirice@yahoo.com](mailto:dmbasmatirice@yahoo.com))

Frances & Louis Carnazzo  
Carnazzo Land Co, Inc, et al.  
P.O. Box 6031  
Atascadero, CA 93423-6031

Ahmad & Shahla Mostofi  
37 Victoria Drive  
Atherton, CA 94027-4122

Subject: Conditional Approval of Pilot Test Work Plan and Request for Water Supply Well Installation Schedule; Fuel Leak Case No. RO0000185 (Global ID #T0600102298), Chevron #9-7127, I 580 and Grant Line Road, Tracy, CA

Dear Ladies and Gentlemen:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above referenced site including the *Semi-Annual Groundwater Monitoring Report, Third Quarter 2015*, and the *Pilot Test Work Plan*, both dated October 29, 2015. The reports were prepared and submitted on your behalf by Stantec Consulting Services, Inc (Stantec).

Based on ACEH staff review of the work plan, the proposed scope of work is approved for implementation provided that the technical comments below are incorporated during the proposed work. We request that you address the following technical comments, perform the proposed work, and send us the report described below. Please provide 72-hour advance written notification to this office (e-mail preferred to: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)) prior to the start of field activities.

### **TECHNICAL COMMENTS**

- 1) **Work Plan Modifications** – The referenced work plan proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH requests several modifications to the approach. Submittal of a revised work plan or a work plan addendum is not required unless an alternate scope of work outside that described in the work plan or these technical comments is proposed. Please submit the results of the pilot tests in a site investigation report or Corrective Action Plan Addendum by the date specified below.
  - a) **Sufficient Observation Wells** – The referenced pilot test report states that wells MW-9, MW-10, MW-11, and MW-15 will be used as observation wells for the proposed Dual Phase Extraction and / or Air Sparging / Soil Vapor Extraction Tests proposed for the site. Each of these wells is a minimum of 40 feet from well MW-1, and may be too distant from MW-1 to effectively determine the radius of influence for the proposed tests. To expedite selection of corrective actions at the site, it is appropriate to install additional observation wells closer to well MW-1 prior or concurrent with conducting the pilot tests. Please submit a brief letter contingency work plan (revised Figure

2 with well locations, including the proposed air sparge well location), with standard well installation protocols by the date identified below, concurrent with project initiation.

- 2) **Water Supply Well Installation Schedule** – As discussed in the August 5, 2015 meeting and further requested in an email dated October 13, 2015, redevelopment proponents committed to scheduling the installation of a water supply well at the site, and communicating the schedule to all stakeholders. No further communications have been received by ACEH. As noted in the meeting, the lack of a viable water supply will necessarily preclude site redevelopment. Please communicate the well installation schedule by the date referenced below.
- 3) **Proposed Groundwater Sampling Interval Changes** – The referenced groundwater monitoring report proposed a groundwater sampling interval change from a quarterly groundwater sampling and monitoring interval to a semi-annual sampling and monitoring interval during the first and third quarters of a year. ACEH is in general agreement with the proposed change; sufficient data has been generated over a number of years at the site. This is subject to reevaluation based on data requirements of future corrective, or other, actions at the site.
- 4) **Groundwater Analytical Suite** – ACEH was not able to locate previously proposed groundwater Halogenated Volatile Organic Compound (HVOC) and Semi-Volatile Organic Compound (SVOC) analytical data for the site. The former presence of a waste oil underground storage tank (UST) indicates that HVOC and SVOC analysis is appropriate in the vicinity and downgradient of the former waste oil UST (MW-3, MW-12, and MW-13). If the data has previously been collected, please bring it forward into current groundwater tables. If it has not been previously collected, please collect the data during the next groundwater sampling event.

#### **TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with Attachment 1 and the specified file naming convention below, according to the following schedule:

- **January 8, 2016 – Water Supply Well Installation Schedule**
- **January 11, 2016 - Field Implementation of Work Plan**
- **January 11, 2016 – Contingency Work Plan (Observation Wells)**  
File to be named: RO185\_WP\_R\_YYYY-mm-dd
- **March 4, 2016 - Completion of Pilot Test**
- **March 18, 2016 - Variance for Septic Notification**
- **April 15, 2016 - Submittal of CAP Addendum (Limited and Simple); with Well Destruction Schedule;** File to be named: RO185\_CAP\_ADEND\_R\_YYYY-mm-dd
- **April 29, 2016 - Stakeholder Meeting**
- **May 16, 2016 - Start of 30-Day Public Participation Period**
- **May 13, 2016 – First 2016 Semi-Annual Groundwater Monitoring and Sampling**  
File to be named: RO185\_GWM\_R\_YYYY-mm-dd
- **June 27, 2016 - End of 30-Day Public Participation Period**
- **August 29, 2016 - CAP Implementation Plan (With System Design); Schedule Drillers**  
File to be named: RO185\_CAIP\_R\_YYYY-mm-dd
- **October 31, 2016 - System Well Installation**
- **November 4, 2016 – Second 2016 Semi-Annual Groundwater Monitoring and Sampling**  
File to be named: RO185\_GWM\_R\_YYYY-mm-dd

Ladies and Gentlemen  
RO0000185  
December 11, 2015, Page 3

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

If your email address is not listed on the first page of this letter, ACEH is requesting your email address to help expedite communications and to help lower overall costs. Please provide that information in the next submittal.

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org).

Sincerely,



Digitally signed by Mark Detterman  
DN: cn=Mark Detterman, o=ACEH,  
ou=ACEH,  
email=mark.detterman@acgov.org, c=US  
Date: 2015.12.11 10:44:42 -08'00'

Mark E. Detterman, PG, CEG  
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations and Electronic Report Upload (ftp) Instructions

cc: Brian Westhoff, Stantec, Inc, 3017 Kilgore Road, Suite 100, Rancho Cordova, CA 95670  
(sent via electronic mail to [brian.westhoff@stantec.com](mailto:brian.westhoff@stantec.com))

Vera Fischer, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, CA 95670-6114, (sent via electronic mail to: [vera.fischer@waterboards.ca.gov](mailto:vera.fischer@waterboards.ca.gov))

Dilan Roe, ACEH, (sent via electronic mail to [dilan.roe@acgov.org](mailto:dilan.roe@acgov.org))  
Mark Detterman, ACEH, (sent via electronic mail to [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org))  
Geotracker, Electronic File

## Attachment 1

### Responsible Party(ies) Legal Requirements / Obligations

#### REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

#### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)).

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)</b>	<b>REVISION DATE:</b> May 15, 2014
	<b>ISSUE DATE:</b> July 5, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses,** and the **Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload.** (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.



**From:** Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]  
**Sent:** Friday, April 08, 2016 3:31 PM  
**To:** Westhoff, Brian  
**Cc:** MacLeod, Carryl G; ACoulter@chevron.com  
**Subject:** RE: Chevron 97127-Mountain House Field Schedule - Extension Request

Hi Brian, Carryl, and Alexis,  
Thanks for the update on the site. The request is reasonable. I've extended the CAP Addendum and Well Destruction Schedule until June 30<sup>th</sup> and have placed a note in my calendar in June to arrange a stakeholder meeting around July 14<sup>th</sup>.

In regards to the project proponents, I understand that an application for a waste water discharge variance has been submitted; however, is pending a review. I also do not recall that a water supply well installation schedule has been submitted.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

**From:** Westhoff, Brian [mailto:Brian.Westhoff@stantec.com]  
**Sent:** Tuesday, April 05, 2016 4:08 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** MacLeod, Carryl G; ACoulter@chevron.com  
**Subject:** Chevron 97127-Mountain House Field Schedule - Extension Request

Hi Mark,

The yield test produced groundwater at an approximate rate of 4.7 gal/min. The groundwater generated during the yield test has been removed from the site. Based on our *Pilot Test Work Plan*, dated October 29, 2015, for high groundwater flow conditions, we are moving forward with an air sparge/soil vapor extraction pilot test and will be installing one air sparge well. Based on our January 8, 2016 *Pilot Test Work Plan Addendum*, we will also be installing three piezometers at the site. Below is a field schedule of action items that are coming:

- Permits have been submitted to Zone 7 for approval
- Private Utility Locate is scheduled for April 12, 2016
- Gregg Drilling is scheduled for well installation from April 18-21, 2016
- Gettler-Ryan is scheduled for well development the week of April 25, 2016
- AS/SVE test will be completed in early-mid May

Based on the Alameda County regulatory letter, dated January 11, 2016, a CAP Addendum with Well Destruction Schedule is due April 15, 2016. Based on the above schedule, we respectfully

request an extension on the CAP Addendum with Well Destruction Schedule until June 30, 2016. We also request that the Stakeholder meeting be scheduled near the July 14, 2016 date.

Thanks,

Brian

**Brian Westhoff, PG (CA, ID, OR, UT, & WA)**

Senior Geologist

Stantec

3017 Kilgore Road, Rancho Cordova, CA 95670

Phone: (916) 384-0710

Cell: (916) 291-9223

Fax: (916) 861-0430

Brian.Westhoff@stantec.com



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## Flora, Travis

---

**From:** Detterman, Mark, Env. Health <Mark.Detterman@acgov.org>  
**Sent:** Tuesday, November 08, 2016 4:18 PM  
**To:** 'MacLeod, Carryl G'  
**Cc:** Flora, Travis; Coulter, Alexis N  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Carryl,

While I have not received an extension request, based on the RSRT meeting and the “new” project manager at Stantec, it appears appropriate to extend the CAP Addendum and Well Destruction Schedule to January 9, 2017.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: mark.detterman@acgov.org*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

---

**From:** MacLeod, Carryl G [mailto:CMacleod@chevron.com]  
**Sent:** Thursday, October 13, 2016 8:44 AM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Travis Flora (travis.flora@stantec.com); Coulter, Alexis N  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Mark,

Following up on my message from this week, the RSRT meeting was rescheduled to November 15<sup>th</sup>. In addition, the site has transitioned to Travis Flora (cc'd) and we have been bringing Travis up to speed.

We have not heard any updates from Mr. Onson regarding his water supply well and have not seen any evidence of a new well being installed at the property.

Thanks,

**Carryl MacLeod**  
Project Manager  
[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

**Chevron Environmental Management Company**  
Marketing Business Unit  
6001 Bollinger Canyon Road  
San Ramon, CA 94583  
Tel +1 925 842 3201  
Mobile +1 925 548 6572

***ALWAYS Do Every Task... The Right Way... Every Time!***

---

**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Monday, October 03, 2016 10:26 AM  
**To:** MacLeod, Carryl G  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** [\*\*EXTERNAL\*\*] RE: 97127 Tracy RO185 Update

Hi Carryl,

I wanted to follow-up on the status of the subject site, the pilot test, and the RSRT meeting. The CAP addendum is long overdue as is the stakeholder meeting based on it. FYI - I've not heard anything more in regards to a water supply well or the septic variance.

Let me know.

Thanks,

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

---

**From:** MacLeod, Carryl G [<mailto:CMacleod@chevron.com>]  
**Sent:** Monday, August 22, 2016 12:17 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** RE: 97127 Tracy RO185 Update

Mark,

The pilot test occurred last week and finished on Friday August 19<sup>th</sup>. The data will need to be reviewed, analyzed and tabulated by Stantec. We will also be meeting with Chevron's remediation system review team (RSRT) prior to making any recommendations or decisions.

The next available RSRT meeting is Sept 20<sup>th</sup> and we are trying to get on that schedule, I should know by the end of the week if they can fit us in.

Has the property owner received a variance on his septic tank? Or made any progress on his domestic well and determining if he will have water source? Knowing the property owners plans will help us in making our decisions.

Let me know if you have any other questions.

Thank you,

**Carryl MacLeod**  
Project Manager  
[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

**Chevron Environmental Management Company**  
Marketing Business Unit

6001 Bollinger Canyon Road <<<<<<--- Note New Address  
San Ramon, CA 94583  
Tel +1 925 842 3201 <<<<<<--- Note New Phone Number  
Mobile +1 925 548 6572

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---

**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Monday, August 22, 2016 11:46 AM  
**To:** MacLeod, Carryl G  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** **[\*\*EXTERNAL\*\*]** RE: 97127 Tracy RO185 Update

Hi Carryl,  
I need to followup on the status of the pilot testing and reporting. The January 11, 2016 directive letter requested the results by April 15, 2016 (in a CAP Addendum to be used in the public comment period), an air board permit may not be necessary for a pilot test, and should not take more than 60 days to receive at worst. Let me know.  
Thanks,

*Mark Detterman  
Senior Hazardous Materials Specialist, PG, CEG  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502  
Direct: 510.567.6876  
Fax: 510.337.9335  
Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

---

**From:** MacLeod, Carryl G [<mailto:CMacleod@chevron.com>]  
**Sent:** Wednesday, June 08, 2016 2:48 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** 97127 Tracy RO185 Update

Hi Mark,

Per our conversation, the remediation wells have been installed. We are currently coordinating the transportation of the remediation trailers from Southern California to the site. In addition, we are working on getting permission to operate either under air permit discharge or exemption.

These scopes of work will be worked out while I am out of town, we should be able to provide you with a better indication of when we will be in the field to perform the pilot test in late June, after my return.

Thank you for the update on the conditional use permit underway by Mr. Onsori. Perhaps when all parties meet following the pilot test results/CAP addendum, we will be able to obtain an update on the water supply well and septic variance.

Thank you,

**Carryl MacLeod**  
Project Manager

[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

**Chevron Environmental Management Company**

Marketing Business Unit

6001 Bollinger Canyon Road <<<<<<--- Note New Address

San Ramon, CA 94583

Tel +1 925 842 3201 <<<<<<--- Note New Phone Number

Mobile +1 925 548 6572

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## Flora, Travis

---

**From:** Detterman, Mark, Env. Health <Mark.Detterman@acgov.org>  
**Sent:** Friday, January 06, 2017 1:32 PM  
**To:** Flora, Travis  
**Cc:** 'MacLeod, Carryl G'  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Travis, Carryl,

Two weeks? That would be reasonable. I've extended the timeline on Geotracker, and if needed you can use this email to document the extension.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: mark.detterman@acgov.org*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** Flora, Travis [mailto:Travis.Flora@stantec.com]  
**Sent:** Friday, January 06, 2017 12:07 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** 'MacLeod, Carryl G'  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Mark,

Would you mind if we extended this to 1/20/17? The holiday break crunched our schedule. It's nearly done; we would like some more time for QA/QC. It covers all the work from last year (well install, pilot test, CSM, remedial eval...), so it is a lot to review.

Thanks,

**Travis L. Flora**

Senior Project Manager  
Stantec  
15575 Los Gatos Boulevard Building C Los Gatos CA 95032-2569  
Phone: (408) 827-3876  
Cell: (408) 458-6320  
Travis.Flora@stantec.com



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**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Tuesday, November 08, 2016 4:18 PM  
**To:** 'MacLeod, Carryl G' <[CMacleod@chevron.com](mailto:CMacleod@chevron.com)>  
**Cc:** Flora, Travis <[Travis.Flora@stantec.com](mailto:Travis.Flora@stantec.com)>; Coulter, Alexis N <[ACoulter@chevron.com](mailto:ACoulter@chevron.com)>  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Carryl,

While I have not received an extension request, based on the RSRT meeting and the "new" project manager at Stantec, it appears appropriate to extend the CAP Addendum and Well Destruction Schedule to January 9, 2017.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
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*Direct: 510.567.6876*  
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*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

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---

**From:** MacLeod, Carryl G [<mailto:CMacleod@chevron.com>]  
**Sent:** Thursday, October 13, 2016 8:44 AM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Travis Flora ([travis.flora@stantec.com](mailto:travis.flora@stantec.com)); Coulter, Alexis N  
**Subject:** RE: 97127 Tracy RO185 Update

Hi Mark,

Following up on my message from this week, the RSRT meeting was rescheduled to November 15<sup>th</sup>. In addition, the site has transitioned to Travis Flora (cc'd) and we have been bringing Travis up to speed.

We have not heard any updates from Mr. Onsori regarding his water supply well and have not seen any evidence of a new well being installed at the property.

Thanks,

**Carryl MacLeod**  
Project Manager  
[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

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6001 Bollinger Canyon Road  
San Ramon, CA 94583  
Tel +1 925 842 3201  
Mobile +1 925 548 6572

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---

**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Monday, October 03, 2016 10:26 AM



**To:** MacLeod, Carryl G  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** [**\*\*EXTERNAL\*\***] RE: 97127 Tracy RO185 Update

Hi Carryl,  
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*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

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*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** MacLeod, Carryl G [<mailto:CMacleod@chevron.com>]  
**Sent:** Monday, August 22, 2016 12:17 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** RE: 97127 Tracy RO185 Update

Mark,

The pilot test occurred last week and finished on Friday August 19<sup>th</sup>. The data will need to be reviewed, analyzed and tabulated by Stantec. We will also be meeting with Chevron's remediation system review team (RSRT) prior to making any recommendations or decisions.

The next available RSRT meeting is Sept 20<sup>th</sup> and we are trying to get on that schedule, I should know by the end of the week if they can fit us in.

Has the property owner received a variance on his septic tank? Or made any progress on his domestic well and determining if he will have water source? Knowing the property owners plans will help us in making our decisions.

Let me know if you have any other questions.

Thank you,

**Carryl MacLeod**  
Project Manager  
[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

**Chevron Environmental Management Company**  
Marketing Business Unit  
6001 Bollinger Canyon Road <<<<<<--- Note New Address  
San Ramon, CA 94583  
Tel +1 925 842 3201 <<<<<<--- Note New Phone Number  
Mobile +1 925 548 6572

***ALWAYS Do Every Task... The Right Way... Every Time!***

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**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Monday, August 22, 2016 11:46 AM  
**To:** MacLeod, Carryl G  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** **[\*\*EXTERNAL\*\*]** RE: 97127 Tracy RO185 Update

Hi Carryl,  
I need to followup on the status of the pilot testing and reporting. The January 11, 2016 directive letter requested the results by April 15, 2016 (in a CAP Addendum to be used in the public comment period), an air board permit may not be necessary for a pilot test, and should not take more than 60 days to receive at worst. Let me know.  
Thanks,

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Department of Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** MacLeod, Carryl G [<mailto:CMacleod@chevron.com>]  
**Sent:** Wednesday, June 08, 2016 2:48 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** Westhoff, Brian; Coulter, Alexis N  
**Subject:** 97127 Tracy RO185 Update

Hi Mark,

Per our conversation, the remediation wells have been installed. We are currently coordinating the transportation of the remediation trailers from Southern California to the site. In addition, we are working on getting permission to operate either under air permit discharge or exemption.

These scopes of work will be worked out while I am out of town, we should be able to provide you with a better indication of when we will be in the field to perform the pilot test in late June, after my return.

Thank you for the update on the conditional use permit underway by Mr. Onsoni. Perhaps when all parties meet following the pilot test results/CAP addendum, we will be able to obtain an update on the water supply well and septic variance.

Thank you,

**Carryl MacLeod**  
Project Manager  
[cmacleod@chevron.com](mailto:cmacleod@chevron.com)

**Chevron Environmental Management Company**  
Marketing Business Unit  
6001 Bollinger Canyon Road <<<<<<--- Note New Address

San Ramon, CA 94583

Tel +1 925 842 3201 <<<<<<--- Note New Phone Number

Mobile +1 925 548 6572

**ALWAYS Do Every Task... The Right Way... Every Time!**

## **Appendix B**

### **Boring Logs**

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**AS-1** PAGE 1 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **28**  
 STATIC DTW (ft): **28.4**  
 WELL CASING DIA. (in): **2**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **40.0**  
 DEPTH (ft): **40.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
0 - 5		SP	<b>POORLY GRADED SAND LITTLE GRAVEL</b> ; SP; 10YR 4/3 brown; fine to medium-grained sand; loose; dry; fine gravel; some construction material (10,90,0)					0.3	0	8" Monument Well Box
5 - 6.5		SAA	SAA; moist		940 AS-1-5	6.5		0.2	6.5	
6.5 - 10		SAA	SAA; large cobbles					0.2	10	Type I/II Portland Cement
10 - 10.8		ML	<b>SILT WITH SAND</b> ; ML; 10YR 4/2 dark grayish brown; low plasticity; soft; moist; fine sand; fine gravel (25,25,50)						10.8	
10.8 - 15.3		GP	<b>POORLY GRADED GRAVEL WITH SAND</b> ; GP; 10YR 4/3 brown; fine-grained gravel; loose; moist; fine sand (70,25,5)		1030 AS-1-10	3.5		0.8	15.3	2" Sch40 PVC casing
15.3 - 20.3		SAA	SAA; 10YR 3/1 very dark gray			5			20.3	
20.3 - 21.8		SAA			1040 AS-1-15			1.5	21.8	

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**AS-1** PAGE 2 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **28**  
 STATIC DTW (ft): **28.4**  
 WELL CASING DIA. (in): **2**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **40.0**  
 DEPTH (ft): **40.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
		GP								Type I/II Portland Cement
		SP	<b>POORLY GRADED SAND WITH GRAVEL ;</b> SP; 10YR 4/1 dark gray; fine to medium-grained sand; loose; moist; fine gravel (25,70,5)			5				2" Sch40 PVC casing
20					1045 AS-1-20			169.5	20	
25					1110 AS-1-25	10		1,083	25	
			SAA; wet							
					1112 AS-1-30			1,612		

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**AS-1** PAGE 3 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **28**  
 STATIC DTW (ft): **28.4**  
 WELL CASING DIA. (in): **2**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **40.0**  
 DEPTH (ft): **40.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
35		GP	POORLY GRADED GRAVEL WITH SAND ; GP; 10YR 2/1 black; coarse-grained gravel; loose; wet; (70,25,5)		1120 AS-1-35	10		63.8	35
40			Borehole terminated at 40 feet.		1130 AS-1-40			4.7	40

Type I/II Portland Cement  
 2" Sch40 PVC casing  
 Bentonite Seal  
 1' #30 sand  
 #3 sand  
 2" Sch40 PVC .020 screen

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-1** PAGE 1 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **27.5**  
 STATIC DTW (ft): **29.05**  
 WELL CASING DIA. (in): **1**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **37.0**  
 DEPTH (ft): **37.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
0.0 - 5.5		SP	<b>POORLY GRADED SAND LITTLE GRAVEL</b> ; SP; 10YR 4/3 brown; fine to medium-grained sand; loose; dry; fine gravel; some construction material (10,90,0)			5.5		0.1 0.1	0.0 0.1	8" Monument Well Box
5.5 - 10.0		ML	<b>SILT WITH SAND</b> ; ML; 10YR 3/2 very dark grayish brown; low plasticity; soft; moist; fine sand; fine gravel (10,20,70)			4.5		0.0 0.1	5	Type I/II Portland Cement
10.0 - 13.5								1.2	10	1" Sch40 PVC casing
13.5 - 17.0		SP	<b>POORLY GRADED SAND WITH GRAVEL</b> ; SP; 10YR 2/1 black; medium-grained sand; loose; moist; strong petroleum odor; coarse gravel (25,70,5)			5		289.5		



PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-1** PAGE 2 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft): EASTING (ft):  
 LAT: LONG:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **27.5** WELL DEPTH (ft): **37.0**  
 STATIC DTW (ft): **29.05** DEPTH (ft): **37.0**  
 WELL CASING DIA. (in): **1** BOREHOLE DIA. (in): **8.75**  
 LOGGED BY: **Jake Prowse** CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
20		GP	<b>POORLY GRADED GRAVEL WITH SAND ;</b> GP; 10YR 2/1 black; coarse-grained gravel; loose; moist; strong petroleum odor; medium sand (70,25,5)			5			20	Type I/II Portland Cement
		SP	SAA; 10YR 4/1 dark gray		1020 PZ-1-20			818.3		Bentonite Seal
25		SP	<b>POORLY GRADED SAND WITH GRAVEL ;</b> SP; 10YR 2/1 black; fine to medium-grained sand; loose; moist; strong petroleum odor; fine to coarse gravel (25,70,5)			10		528.6	25	1" #30 Sand
			SAA; wet					787.5		1" Sch40 PVC casing
										1" Sch40 PVC .020 screen

GEO FORM 304 CHEVRON 97127.GPJ 20150710.GDT 4/28/16

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-1** PAGE 3 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **27.5**  
 STATIC DTW (ft): **29.05**  
 WELL CASING DIA. (in): **1**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **37.0**  
 DEPTH (ft): **37.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
35		SP				7		2.2	35
40			Borehole terminated at 37 feet.					536.1	40

1" Sch40 PVC .020 screen

#3 sand

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-2** PAGE 1 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft): EASTING (ft):  
 LAT: LONG:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **Not Encountered** WELL DEPTH (ft): **37.0**  
 STATIC DTW (ft): **28.9** DEPTH (ft): **37.0**  
 WELL CASING DIA. (in): **1** BOREHOLE DIA. (in): **8.75**  
 LOGGED BY: **Jake Prowse** CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
0 - 5		SP	<b>POORLY GRADED SAND LITTLE GRAVEL</b> ; SP; 10YR 4/3 brown; fine to medium-grained sand; loose; dry; fine gravel; some construction material (10,90,0)						0.1	8" Monument Well Box
5 - 10		ML	<b>SILT WITH SAND</b> ; ML; 10YR 4/2 dark grayish brown; low plasticity; soft; moist; fine sand; fine gravel (10,20,70)			5.5			0.1	
10 - 11		GP	<b>POORLY GRADED GRAVEL WITH SAND</b> ; GP; 10YR 4/3 brown; fine to coarse-grained gravel; loose; moist; fine sand (70,25,5)						0.2	5
11 - 12		SP	<b>POORLY GRADED SAND WITH GRAVEL</b> ; SP; 10YR 4/3 brown; medium-grained sand; loose; moist; fine gravel (25,70,5)						0.8	10
12 - 13		SP	<b>POORLY GRADED SAND WITH GRAVEL</b> ; SP; 10YR 4/3 brown; medium-grained sand; loose; moist; fine gravel (25,70,5)						5	Type I/II Portland Cement
13 - 14		SP	<b>POORLY GRADED SAND WITH GRAVEL</b> ; SP; 10YR 4/3 brown; medium-grained sand; loose; moist; fine gravel (25,70,5)			5			9.5	1" Sch40 PVC casing

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-2** PAGE 2 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft): EASTING (ft):  
 LAT: LONG:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **Not Encountered** WELL DEPTH (ft): **37.0**  
 STATIC DTW (ft): **28.9** DEPTH (ft): **37.0**  
 WELL CASING DIA. (in): **1** BOREHOLE DIA. (in): **8.75**  
 LOGGED BY: **Jake Prowse** CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
20		SP								
		GP	<b>POORLY GRADED GRAVEL WITH SAND ;</b> GP; 10YR 3/2 very dark grayish brown; coarse-grnd gravel to cobble; dense; moist; stratified 1/2" to 1 1/2" sandstone; fine sand (75,20,5)			5			20	Type I/II Portland Cement
		SP	<b>POORLY GRADED SAND WITH GRAVEL ;</b> SP; 10YR 2/1 black; medium-grained sand; loose; moist; coarse gravel (25,70,5)			2.5		0.8	20	Bentonite Seal
25			No Recovery		1400 PZ-2-25			117.7	25	1' #30 Sand
						7.5				1" Sch40 PVC casing
										1" Sch40 PVC .020 screen
										#3 sand
								21.1		

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-2** PAGE 3 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/19/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft): EASTING (ft):  
 LAT: LONG:  
 GROUND ELEV (ft): TOC ELEV (ft):  
 INITIAL DTW (ft): **Not Encountered** WELL DEPTH (ft): **37.0**  
 STATIC DTW (ft): **28.9** DEPTH (ft): **37.0**  
 WELL CASING DIA. (in): **1** BOREHOLE DIA. (in): **8.75**  
 LOGGED BY: **Jake Prowse** CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
35		SP	<b>POORLY GRADED SAND WITH GRAVEL ; SP; 10YR 2/1 black; medium-grained sand; loose; moist; coarse gravel (25,70,5)</b>			7		2.1	35
			Borehole terminated at 37 feet.					2.8	40

1" Sch40 PVC .020 screen

#3 sand

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-3** PAGE 1 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **26.5**  
 STATIC DTW (ft): **28.41**  
 WELL CASING DIA. (in): **1**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **37.0**  
 DEPTH (ft): **37.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
0 - 5		SP	<b>POORLY GRADED SAND LITTLE GRAVEL</b> ; SP; 10YR 4/3 brown; fine to medium-grained sand; loose; dry; fine gravel; some construction material (10,90,0)						0.2	8" Monument Well Box
5 - 7		ML	<b>SILT WITH SAND</b> ; ML; 10YR 4/2 dark grayish brown; low plasticity; soft; moist; fine sand; fine gravel (15,25,60)			5.5		0.1	5	
7 - 10		GP	<b>POORLY GRADED GRAVEL WITH SAND</b> ; GP; 10YR 4/3 brown; fine to coarse-grained gravel; loose; moist; fine sand (75,20,5)			4.5		0.2		Type I/II Portland Cement
10 - 17		ML	<b>SILT WITH SAND</b> ; ML; 10YR 4/2 dark grayish brown; low plasticity; soft; moist; fine sand; fine gravel (15,25,60)		800 PZ-3-10			1.7	10	1" Sch40 PVC casing
17 - 37		GP	<b>POORLY GRADED GRAVEL WITH SAND</b> ; GP; 10YR 2/1 black; fine to coarse-grained gravel; loose; moist; fine sand (75,20,5)		810 PZ-3-15	5			17.8	

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-3** PAGE 2 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **26.5**  
 STATIC DTW (ft): **28.41**  
 WELL CASING DIA. (in): **1**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **37.0**  
 DEPTH (ft): **37.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
		GP								
		SP	<b>POORLY GRADED SAND WITH GRAVEL ;</b> SP; 10YR 4/1 dark gray; fine to medium-grained sand; loose; moist; fine to coarse gravel (25,70,5)			5				
20		GP	<b>POORLY GRADED GRAVEL WITH SAND ;</b> GP; 10YR 5/1 gray; coarse-grained gravel; loose; moist; fine sand (75,20,5)		815 PZ-3-20			227.8	20	Type I/II Portland Cement
			SAA; 10YR 2/1 black; (70,25,5)		825 PZ-3-22			857.6		Bentonite Seal
25			SAA; cobbles; wet		828 PZ-3-25	10		1,495	25	1' #30 Sand
					835 PZ-3-30			513.7		1" Sch40 PVC casing
										1" Sch40 PVC .020 screen

PROJECT: **Chevron 97127**  
 LOCATION: **10 Grant Line Rd., Tracy, CA 95377**  
 PROJECT NUMBER: **185750447**

BORING NO:

**PZ-3** PAGE 3 OF 3



INSTALLATION:  
 STARTED **4/18/16** COMPLETED: **4/20/16**  
 DRILLING COMPANY: **Gregg Drilling**  
 EQUIPMENT: **Sonic/Air-knife**  
 METHOD: **Sonic**  
 SAMPLING EQUIPMENT: **Sonic core barrel**

NORTHING (ft):  
 LAT:  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): **26.5**  
 STATIC DTW (ft): **28.41**  
 WELL CASING DIA. (in): **1**  
 LOGGED BY: **Jake Prowse**

EASTING (ft):  
 LONG:  
 TOC ELEV (ft):  
 WELL DEPTH (ft): **37.0**  
 DEPTH (ft): **37.0**  
 BOREHOLE DIA. (in): **8.75**  
 CHECKED BY: **B. Westhoff**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	
35		GP			840 PZ-3-35	7		1,820	35	
40			Borehole terminated at 37 feet.		845 PZ-3-37			23.9		



**Appendix C**  
**Site History and Previous Investigations**

## SITE HISTORY AND PREVIOUS INVESTIGATIONS

Former Chevron Service Station No. 97127  
January 4, 2017

Former Chevron Service Station No. 97127 (the "site") is currently a vacant parcel (Alameda County assessor parcel number 99B-7700-12-2) located on the east side of Grant Line Road, south of Interstate 580 in Mountain House, California. The site is bordered by Grant Line Road to the west, an Interstate 580 on-ramp to the north, and undeveloped (grazing) land to the east and south. A former fuel-dispensing service station previously operated at the site from 1971 to 1986, which included one 1,000-gallon and two 10,000-gallon fuel underground storage tanks (USTs), one 1,000-gallon used oil UST, one 750-gallon heating oil UST, product line piping, two dispenser islands, and a station building. The USTs and associated piping were removed in April 1991 and the dispenser islands and station building were demolished soon after. The site is currently a vacant parcel. The following site history and previous investigations originated from ARCADIS U.S., Inc *Feasibility Study/Corrective Action Plan*, dated March 26, 2015.

### **October 1987 – Soil Vapor Investigation**

EA Engineering, Science, and Technology, Inc. (EA) collected fifteen soil vapor samples (V1 through V15) from temporary sample points. The soil vapor sample points were located both on- and off-site and ranged in depth from 3 to 12 feet bgs. Based on the soil vapor sample analytical results, EA determined that LNAPL may exist near the USTs and pump island (EA 1987).

### **1987-1988 – Subsurface Investigation and Well Sampling**

During December 1987, Kleinfelder advanced seven on-site soil borings (B-1 through B-7) to depths ranging from 5 to 20 feet bgs. Total petroleum hydrocarbons as gasoline range organics (TPH-GRO) was detected at a maximum concentration of 2,300 milligrams per kilogram (mg/kg) and benzene was detected at a maximum concentration of 19 mg/kg at a depth of 15 feet bgs. In December 1987 and January 1988, Kleinfelder collected water samples from a water tap located on the south side of the former station building and a water tap located adjacent to the on-site domestic well. Both taps are supplied by the onsite domestic well located near the southeast corner of the site. The water samples

collected from both taps had detectable concentrations of benzene of 2 and 4 micrograms per liter ( $\mu\text{g/L}$ ), exceeding the California recommended action level (Kleinfelder 1988). Water samples were collected as part of the initial site assessment.

### **1988 through 1991 Domestic Well Monitoring**

Due to the benzene concentrations detected during the initial site assessment, GeoStrategies Inc. (GeoStrategies) conducted further water sampling of the on-site domestic well and conveyance piping. During January 1988, GeoStrategies collected water samples from the tap located adjacent to the on-site domestic well, benzene was found at concentrations of 1 and 1.1  $\mu\text{g/L}$ . During February 1988, GeoStrategies collected water samples from the water tap located on the south side of the former station building and the on-site domestic well, detectable concentration of benzene were not found. During March 1989, Gettler-Ryan, Inc. (G-R) collected water samples from the on-site domestic well, the tap located adjacent to the on-site domestic well, and a spigot located off-site, benzene was found at concentrations of 3.7, 2.7 and 1.4  $\mu\text{g/L}$ , respectively. During April 1989, G-R collected water samples from the spigot located off-site and the on-site domestic well, benzene was found at concentrations of 2 and 7  $\mu\text{g/L}$  (GeoStrategies 1989).

During May 1989, G-R installed a carbon adsorption water treatment system on the wellhead and weekly sampling commenced. Between August 1989 and March 1991, G-R collected water samples from the on-site domestic well. Of the 26 water samples, TPH-GRO and benzene were not detected above their respective laboratory reporting limits with the exception of two

## **SITE HISTORY AND PREVIOUS INVESTIGATIONS**

Former Chevron Service Station No. 97127  
January 4, 2017

samples; one which contained TPH-GRO at a concentration of 320 µg/L and one which contained benzene at a concentration of 0.07 µg/L (Kleinfelder 1988 and 1989; Pacific Environmental Group [PEG] 1993).

### ***April 1991 – Tank, Product Piping, and Dispenser Island Removal***

During April 1991, Blaine Tech Services, Inc. (BTS) demolished the service station removing two 10,000-gallon and one 6,000-gallon gasoline USTs, one 1,000-gallon used oil UST, a 750-gallon heating oil UST, two dispenser islands and associated product piping. The USTs were all constructed of fiberglass, and no holes were observed during UST removal activities. Elevated petroleum hydrocarbons were observed during the initial confirmation soil sampling in the UST pit area and the product piping area, therefore, over excavation was conducted to depths ranging from 13 to 18 feet bgs. Final confirmation soil samples contained concentrations of TPH-GRO at 710 mg/kg and benzene at 0.085 mg/kg at depths of 15 and 14 feet bgs, respectively. In an effort to reduce the concentrations of TPH-GRO in excavated soil to less than 10 mg/kg, Blaine Tech aerated the excavated soil on-site. Blaine Tech then used the aerated excavation soil as backfill (BTS 1991).

### ***December 1992 – Monitoring Well Installation/1993 – Water-Supply Well Sampling***

During December 1992, PEG installed one soil boring (B-1) and three monitoring wells (MW-1 through MW-3) at the site and collected soil samples at various depths. Concentrations of TPH-GRO were detected up to 8,100 mg/kg and concentrations of benzene were detected up to 21 mg/kg. Subsequent to installation, PEG observed LNAPL in monitoring well MW-1 at a thickness of 1.67 feet. PEG sampled the water supply well weekly from January through March 1993. During one event, water samples contained benzene and toluene at concentrations of 3 and 2 µg/L, respectively. Water samples from the remaining events did not contain detectable concentrations of TPH-GRO and benzene, toluene, ethylbenzene and total xylenes (collectively, BTEX) (PEG 1993a). Results of the sampling event can be found within the PEG report.

### ***1993 – LNAPL Removal***

During 1993, PEG bailed LNAPL on a weekly basis from MW-1. Additionally, in January 1993 installed a passive skimmer in monitoring well MW-1. As of March 1993, approximately 2 gallons total of LNAPL has been recovered from MW-1 (PEG 1993a).

### ***May 1993 – Monitoring Well Installation***

PEG advanced one soil boring (B-3) and two monitoring wells (MW-4 and MW-5) during May 1993. Concentrations of TPH-GRO and benzene were not detected in the soil samples collected from monitoring well MW-5 at 10 and 15 feet bgs. PEG collected a grab groundwater sample from boring B-3. The grab groundwater sample contained concentrations of TPH-GRO at 96 µg/L and benzene at 1 µg/L (PEG 1993b).

### ***October 1994 – Comprehensive Site Evaluation***

Weiss Associates (WA) performed a comprehensive site evaluation in October 1994 to address an additional investigation request, summarize investigative and remedial activities performed at the site to date, evaluate whether the site meets non-attainment criteria and outline a future action plan. The historical data suggested that the hydrocarbon source areas had been removed and that the plume was primarily contained on-site. The full extent of the plume was still unknown, and the installation of an additional monitoring well off-site, to the north was recommended (WA 1994).

## **SITE HISTORY AND PREVIOUS INVESTIGATIONS**

Former Chevron Service Station No. 97127  
January 4, 2017

### **October 1995 – Monitoring Well Installation**

PEG installed three monitoring wells (MW-6 through MW-8) at the site in October 1995 and collected soil samples at multiple depths. TPH-GRO and benzene were not detected in any of the soil samples collected (PEG 1996).

### **June 1997 – Risk-Based Assessment**

In June 1997, PEG completed a Tier-2, Risk-Based Corrective Action (RBCA) assessment. PEG determined that due to the elevated concentrations of TPH-GRO and benzene in monitoring wells MW-1, MW-3 and MW-4, groundwater ingestion may pose a risk to human health. In addition the RBCA assessment concluded that the on-site water supply well was a potential receptor for residual petroleum hydrocarbons in soil and groundwater beneath the site (PEG 1997).

### **1998-2001 – Bioremediation**

In August 1998, Chevron's subcontractor installed Oxygen Release Compound® (ORC) socks in wells MW-1, MW-2 and MW-4 to enhance biodegradation and reduce petroleum hydrocarbon concentrations. PEG replaced the ORC sock in monitoring well MW-1 in July 2001 with a passive skimmer. (Delta Environmental Consultants, Inc. [Delta] 2003). Chevron's subcontractor removed the ORC socks in the remaining wells at an unknown date.

### **December 1999 – Hydrogen Peroxide Injection**

Cambria Environmental Technology (Cambria, now Conestoga Rovers Associates [CRA]) injected hydrogen peroxide at various concentrations in MW-1 and MW-3 during December 1999 to reduce LNAPL and petroleum hydrocarbon concentrations in groundwater at the site (Cambria 2000).

### **May 2001 – Corrective Action Plan (CAP)**

During May 2001, Delta submitted a CAP which recommended the destruction of the on-site water supply well and monthly bailing of LNAPL from MW-1 for two quarters (Delta 2001).

### **2001-2002 – Remedial Activities**

In July 2001, Delta installed a passive skimmer in well MW-1 and seven groundwater vacuum extraction events were conducted through April 2002. During these vacuum extraction events, Delta removed approximately 8,300 gallons of groundwater and 2.19 gallons of LNAPL from well MW-1. Delta initiated vacuum extraction from well MW-3 in July 2002. Delta terminated vacuum extraction from both wells in October 2002 due to an increase in LNAPL thickness. (Delta 2003).

### **April 2003 – Remedial Action Plan and Feasibility Study**

Delta submitted a Remedial Action Plan and Feasibility Study (RAP/FS) in April 2003. Based on data presented in the report, Delta suggested that a perched zone of groundwater was present at approximately 10 to 40 feet bgs with confining bedrock underlying the perched zone. Delta also suggested that impacted soil is limited in the areas near the former USTs of the capillary fringe zone at approximately 25 to 30 feet bgs. The preferred remedial alternative of this RAP/FS was the use of an active mechanical skimmer with monitored natural attenuation (Delta 2003).

## **SITE HISTORY AND PREVIOUS INVESTIGATIONS**

Former Chevron Service Station No. 97127  
January 4, 2017

### ***March and April 2007 – Groundwater Extraction***

During March and April, CRA removed approximately 5,100 gallons of impacted groundwater from well MW-1 in a series of three batch groundwater extraction events. LNAPL thickness was 0.5 feet before the first event, 0.36 before the second event, and 0.39 before the third event.

### ***May 2007 – CAP***

During May 2007 CRA submitted a CAP which evaluated the following alternatives: oxygen injection, batch groundwater extraction, and surfactant-enhanced recovery. The preferred remedial alternative was surfactant-enhanced recovery with groundwater extraction (CRA 2007a).

### ***October 2007 – Interim Remedial Action Plan (IRAP)***

To further characterize hydrocarbon distribution, hydrogeologic conditions, and facilitate the remediation of groundwater and soil vapor from bedrock fracture, the October 2007 IRAP proposed the installation of three monitoring wells surrounding MW-1. In addition, surfactant-enhanced recovery was recommended to remove LNAPL from the pore space of the subsurface (CRA 2007b).

### ***December 2008 – CAP Addendum and Proposed Feasibility Study***

In order to further evaluate the hydrogeologic conditions and behavior of groundwater at the site, CRA recommended groundwater pumping tests in the December 2008 CAP Addendum and Proposed FS (CRA 2008).

### ***May 2010 Vacuum Extraction Event/Pilot Test***

In May 2010, CRA performed a vacuum extraction pilot test in order to remove LNAPL and evaluate hydrogeologic conditions to evaluate if surfactant-enhanced recovery would be an effective remedial option for the removal of LNAPL. The results of the pilot test indicated that MW-1 and MW-3 were hydrogeologically connected, as evidence of drawdown and a reduction in LNAPL observed in MW-3. It was also observed that MW-5 through MW-7 were hydrogeological connected with MW-1 and MW-3. It was assumed that if surfactant were placed in MW-1 and MW-3, they could be easily recovered. In addition, surrounding monitoring wells would be useful as observation wells. Surfactant-enhanced recovery was identified as a preferred and feasible alternative. A work plan outlining this method was submitted to ACEHD (CRA 2010). ACEHD didn't agree with the proposed alternative.

### ***August 2011 Site Investigation and Monitoring Well Installation***

In August 2011, monitoring wells MW-9 through MW-15 and soil borings B-8 through B-12 were installed onsite. Soil borings B-8 through B-12 were located in the vicinity of the former dispenser islands and gasoline USTs. Monitoring wells MW-9 through MW-12 were installed on the eastern portion of the site. Soil samples were collected for chemical analysis in 5 foot intervals from all the borings with additional soil samples collected at B-9, B-11 and MW-10 due to elevated PID readings. A grab groundwater sample was collected from B-8. Grab groundwater samples were not collected from B-9 through B-12 due to the presence of LNAPL. The highest BTEX concentration in soil was detected in boring B-11 at 27 feet bgs. methyl tertiary butyl ether (MTBE) was not detected in above laboratory detection limits in any of the soil samples (CRA 2011).

## SITE HISTORY AND PREVIOUS INVESTIGATIONS

Former Chevron Service Station No. 97127  
January 4, 2017

### **October to November 2013 Site Investigation**

Between October and November 2013, Cascade Drilling, LP (Cascade), under the supervision of ARCADIS, advanced 13 soil borings to delineate soil and grab groundwater impacts. Four additional soil borings were advanced to collect depth-discrete samples for saturated core analysis. Grab groundwater samples collected from SB-1 through SB-13 were analyzed for approximately 120 volatile hydrocarbons including paraffinic, isoparaffinic, aromatic, naphthenic, olefinic, and sulfur-containing cyclic compounds (i.e., PIANO) (ARCADIS 2014a).

A video log was completed on the onsite water supply well in November 2013 to determine well construction details and to observe the condition of the water supply well. The screen and the well casing were observed to be in good condition. The screen interval is 27 to 80 feet bgs with a total depth of the well at 82 feet bgs. There was a lot of rust present; however, there was no sheen observed in the water supply well (ARCADIS 2014a).

A LNAPL baildown test was also completed at monitoring well MW-1 in October 2013 to evaluate the transmissivity of LNAPL at the site. LNAPL transmissivity as a result of a LNAPL baildown test completed at monitoring well MW-1 indicates that LNAPL recovery at this well may be significant, as the transmissivity is greater than the lower limit of recoverability of 0.1 to 0.8 foot<sup>2</sup>/day (ITRC 2009). After the baildown test, a LNAPL sample was submitted for chemical analysis. Forensic analysis of LNAPL from well MW-1 indicates the sample is comprised primarily of light hydrocarbons in the gasoline range.

The LNAPL mobility evaluation shows that the LNAPL is stable and not migrating beyond its current extent. The LNAPL that is present at MW-1 is mobile in the pore scale, meaning, LNAPL will recover back in the well despite draining the LNAPL. The LNAPL has insufficient mobility to result in the expansion of the plume footprint. The LNAPL plume is not migrating and is stable. The extent of the LNAPL plume is defined vertically and horizontally (ARCADIS 2014a).

### **July 2014 Offsite Monitoring Well Installation**

Between July 14 and 15, 2014, Cascade, under the supervision of ARCADIS, advanced one offsite monitoring well, MW-16. The location of the monitoring well was selected to delineate soil and groundwater impacts offsite. The well screen was installed from 15 to 30 feet bgs. There is no evidence of petroleum hydrocarbon contamination at this offsite location in soil and groundwater (ARCADIS 2014b).

### **2015 LNAPL Recovery**

LNAPL recovery events have been occurring since January 2015, as outlined within ARCADIS' *Light Non-Aqueous Phase Liquid (LNAPL) Recovery Work Plan* dated August 28, 2014.

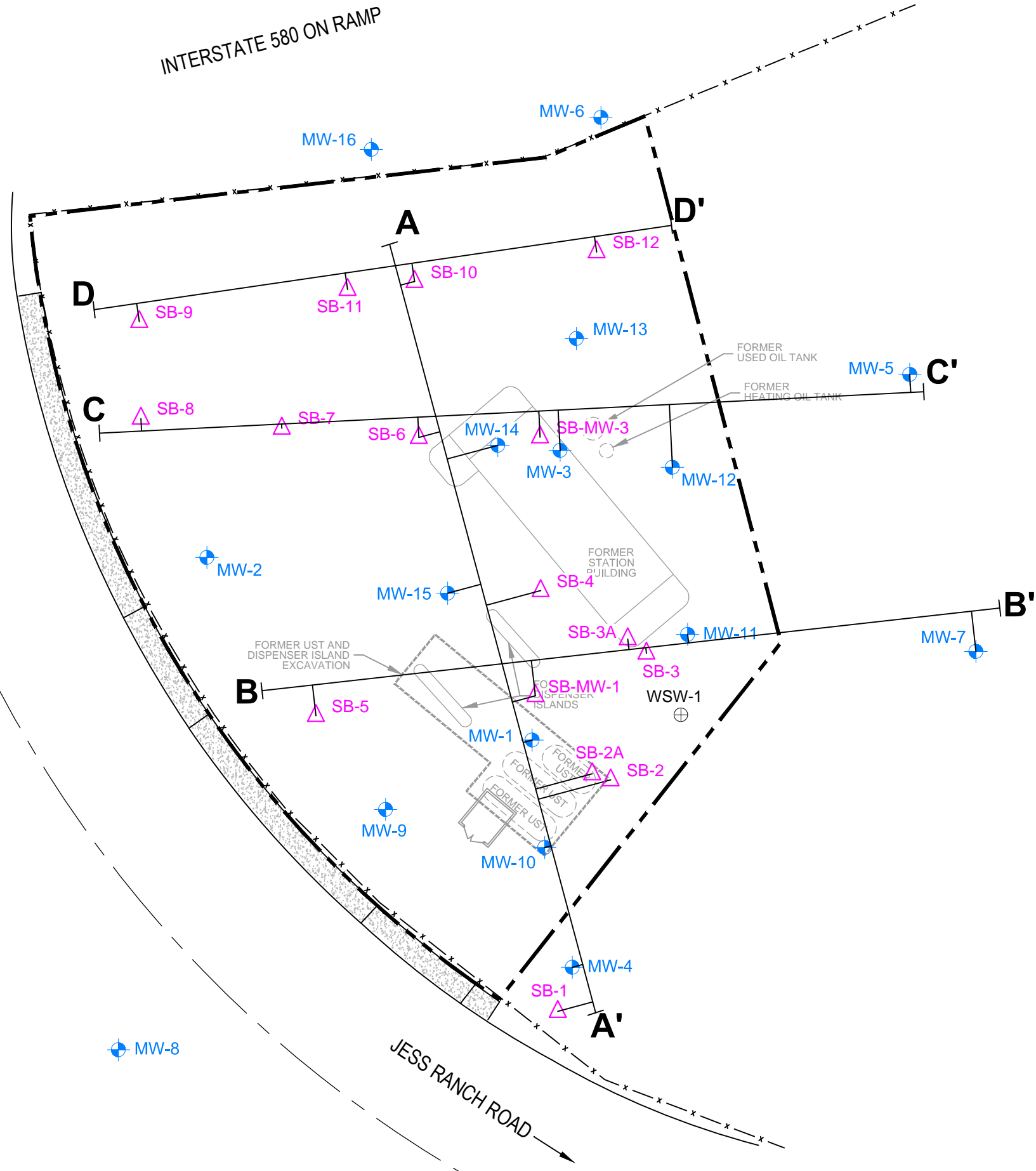
### **February 2015 Pump Test**

On February 17, 2015, Blaine Tech Services, Inc. (Blaine Tech) attempted to complete an eight hour pump test at MW-1 to determine the aquifer recovery rate. The results of the test would aid in determining if dual phase extraction system (DPE) would be a feasible technology at the site. Monitoring well MW-1 was chosen as it is the only 4-inch diameter well installed at the site. The test was stopped after approximately one hour of pumping because there wasn't enough water in the water column to sustain a steady flow using a pneumatic pump.

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GRANT LINE ROAD

INTERSTATE 580 ON RAMP



**LEGEND**

- PROPERTY BOUNDARY
- FENCE
- MW-1 MONITORING WELL LOCATION
- WSW-1 WATER SUPPLY WELL (LIVESTOCK)
- SB-1 SOIL BORING (ARCADIS 2013)<sup>4</sup>
- CROSS SECTION LINE

**NOTES:**

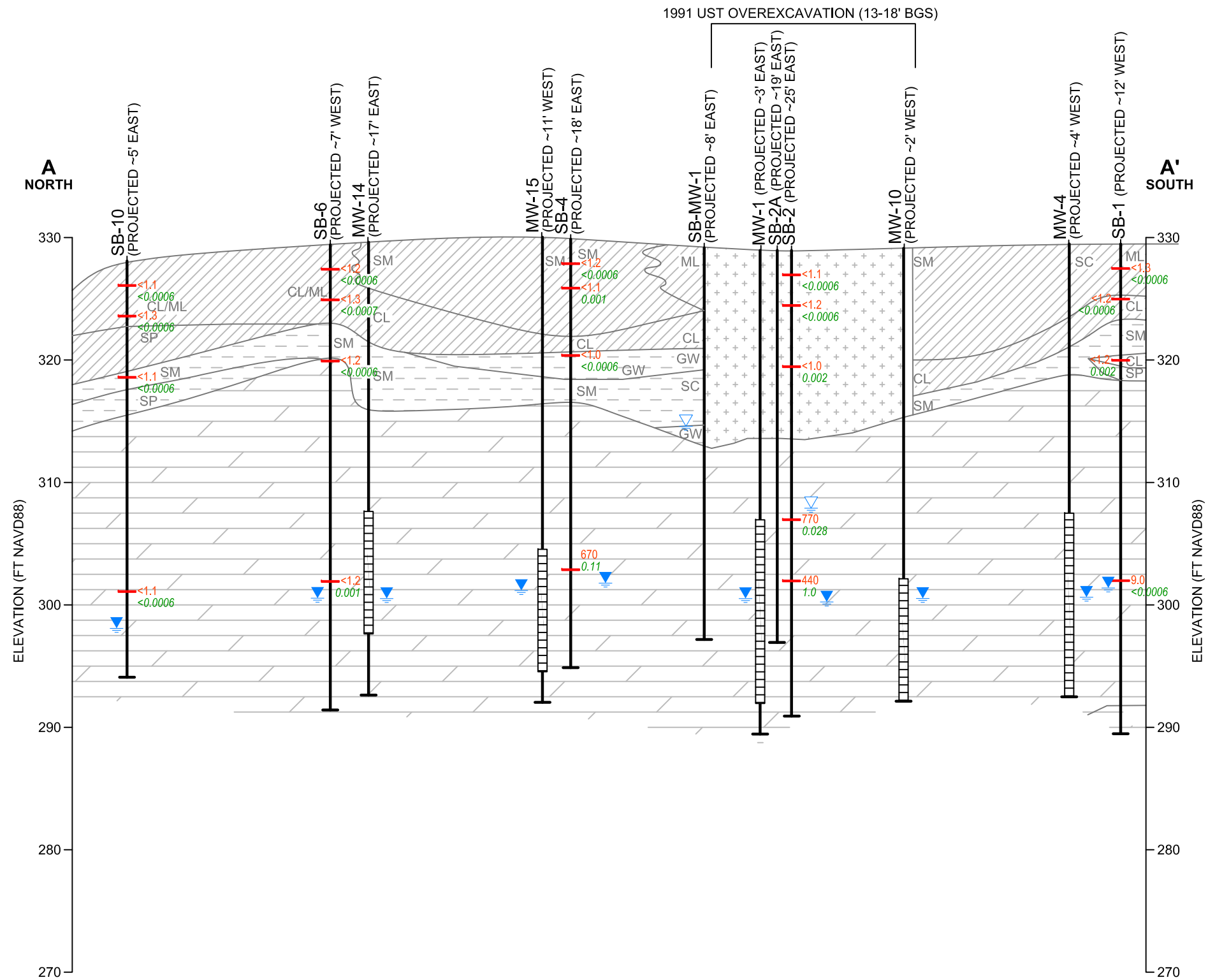
1. MONITORING WELL LOCATIONS BASED ON SURVEY DATA PROVIDED BY VIRGIL CHAVEZ LAND SURVEYING (SEPTEMBER 2011) DRAWING FILE 305620cad.dwg. MW-6 LOCATION WAS NOT SURVEYED AND IS APPROXIMATE.
2. MAP MODIFIED FROM CONESTOGA-ROVERS & ASSOCIATES (CRA) FIGURE ENTITLED "FIGURE 2 CONCENTRATION MAP" DATED FEBRUARY 21, 2012, DRAWING FILE xsite.dwg. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. MONITORING WELL MW-8 DISCONTINUED FROM MONITORING AND SAMPLING PROGRAM.
4. SOIL BORING LOCATIONS ARE APPROXIMATE AND BASED OFF OF FIELD MEASUREMENTS TO GENERATE CROSS SECTIONS. SURVEY DATA WAS NOT AVAILABLE DURING THE TIME CROSS SECTIONS WERE GENERATED.



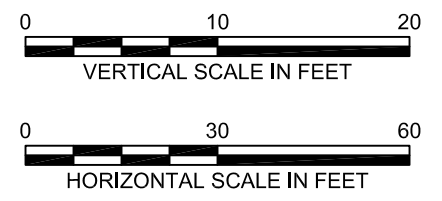
CHEVRON SITE ID 97127  
GRANT LINE ROAD AND INTERSTATE 580  
TRACY, CALIFORNIA

**SITE PLAN SHOWING  
CROSS SECTION LINES**





- LEGEND:**
- MW-14 — BORING/WELL IDENTIFICATION
  - TPHG — SOIL - CONCENTRATIONS IN mg/kg
  - BENZENE — SOIL - CONCENTRATIONS IN mg/kg
  - WELL LOCATION
  - WELL SCREEN
  - FIRST WATER
  - SATURATED / WATER LEVEL COLLECTED DURING FOURTH QUARTER 2013 GROUNDWATER MONITORING EVEND (DECEMBER 4, 2013)
  - FILL
  - WEATHERED BEDROCK
  - BEDROCK (SANDSTONE, SILTSTONE, MUDSTONE)
  - 1991 UST OVEREXCAVATION (13-18' BGS)
  - NAVD88 : NORTH AMERICAN VERTICAL DATUM OF 1988
  - CL : CLAY
  - ML : SILT
  - SC, SM, SW, SP : SAND; CLAYEY, SILTY, WELL GRADED, POORLY GRADED
  - GW : GRAVEL; WELL GRADED
  - mg/kg : MILLIGRAMS PER KILOGRAM



CHEVRON SITE ID 97127  
 GRANT LINE ROAD AND INTERSTATE 580  
 TRACY, CALIFORNIA

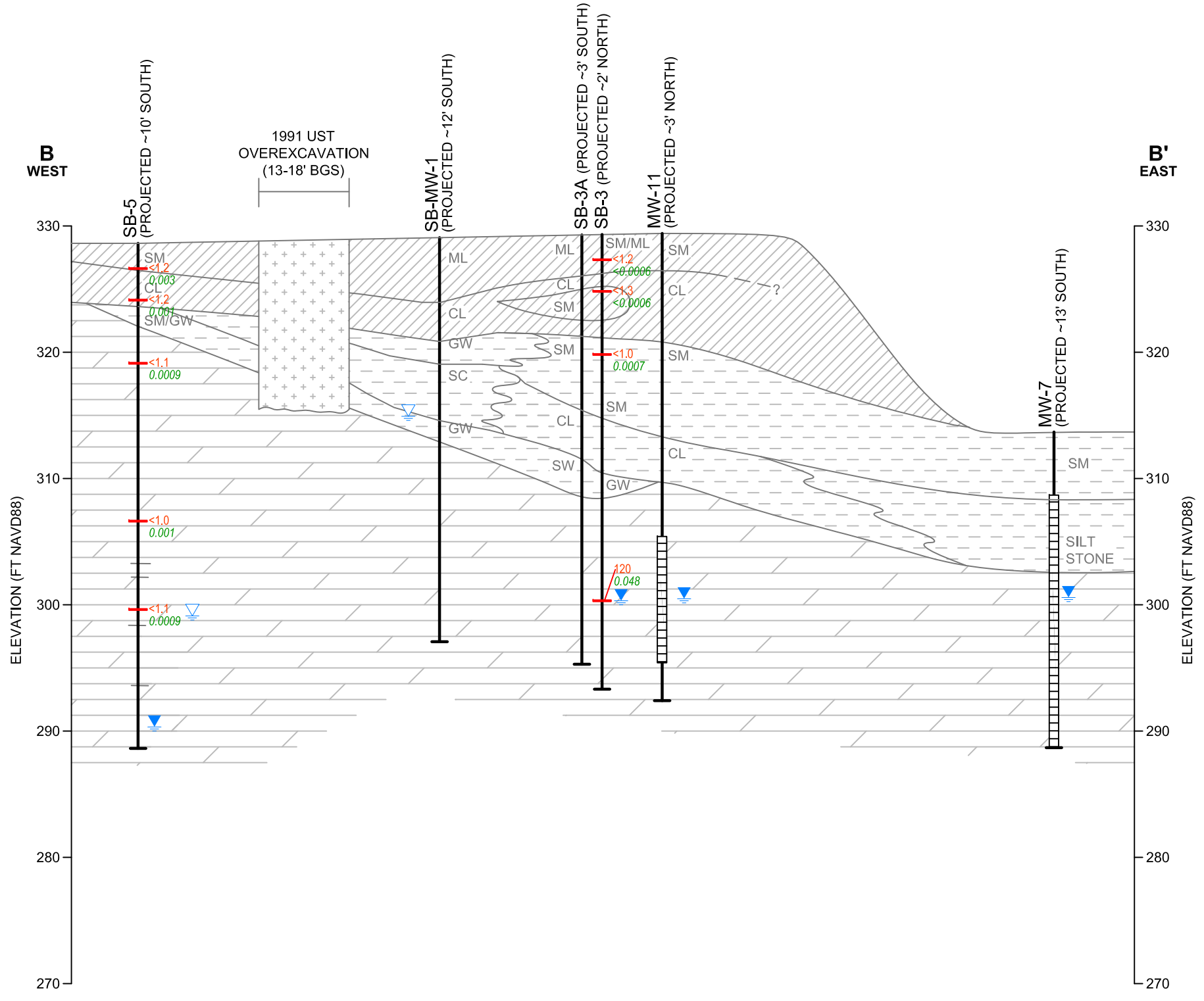
**CROSS SECTION A-A'**

**ARCADIS**

FIGURE  
**6**



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**LEGEND:**

- MW-14 — BORING/WELL IDENTIFICATION
- TPHG, BENZENE — SOIL - CONCENTRATIONS IN mg/kg
- WELL LOCATION
- WELL SCREEN
- FIRST WATER
- SATURATED / WATER LEVEL COLLECTED DURING FOURTH QUARTER 2013 GROUNDWATER MONITORING EVEND (DECEMBER 4, 2013)
- FILL
- WEATHERED BEDROCK
- BEDROCK (SANDSTONE, SILTSTONE, MUDSTONE)
- 1991 UST OVEREXCAVATION (13-18' BGS)
- NAVD88 : NORTH AMERICAN VERTICAL DATUM OF 1988
- CL : CLAY
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- SC, SM, SW, SP : SAND; CLAYEY, SILTY, WELL GRADED, POORLY GRADED
- GW : GRAVEL; WELL GRADED
- mg/kg : MILLIGRAMS PER KILOGRAM

0 10 20  
 VERTICAL SCALE IN FEET

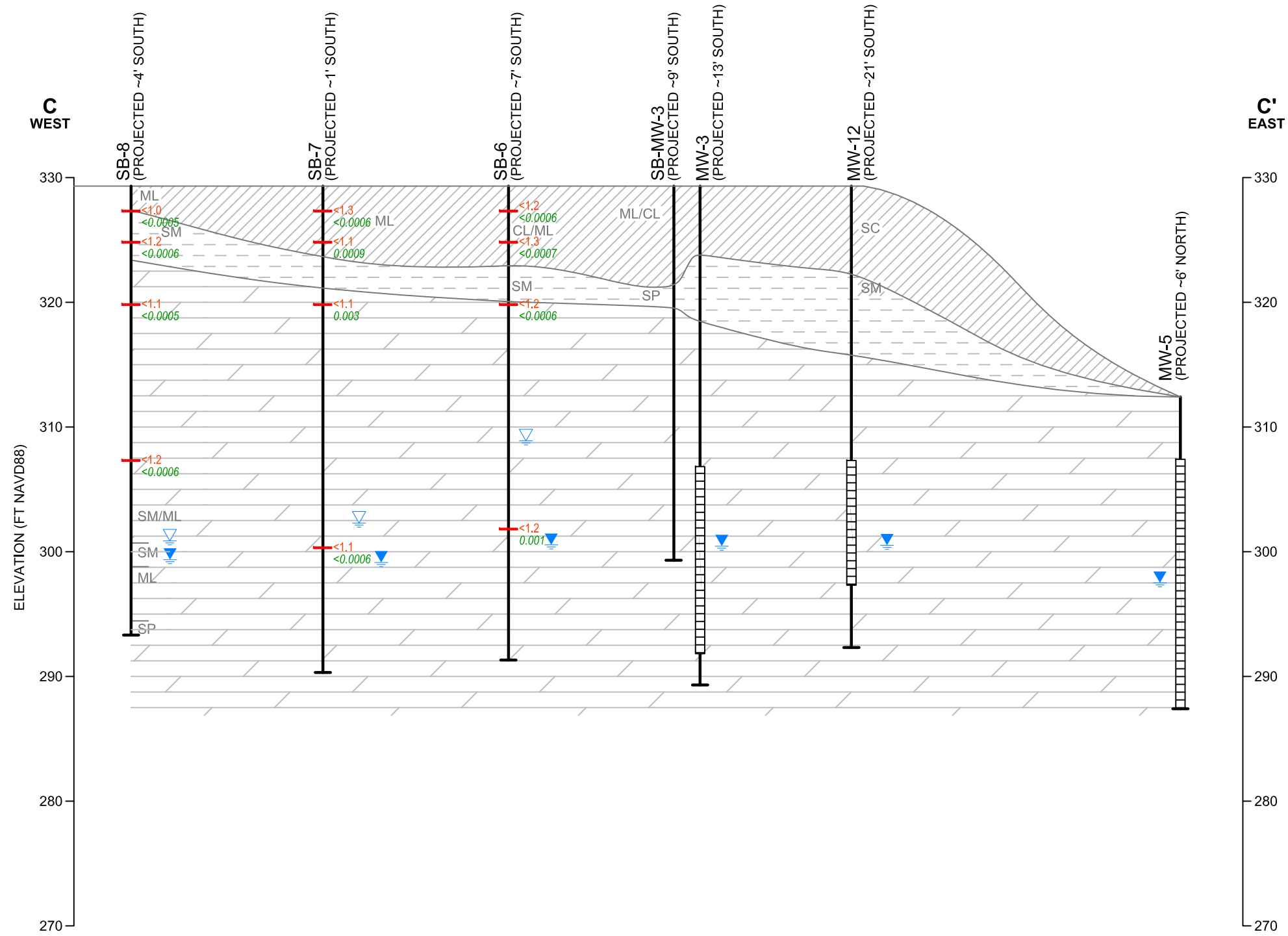
0 30 60  
 HORIZONTAL SCALE IN FEET

CHEVRON SITE ID 97127  
 GRANT LINE ROAD AND INTERSTATE 580  
 TRACY, CALIFORNIA

**CROSS SECTION B-B'**

**ARCADIS**

FIGURE  
**7**



**LEGEND:**

- BORING/WELL IDENTIFICATION
- SOIL - CONCENTRATIONS IN mg/kg
- WELL LOCATION
- WELL SCREEN
- FIRST WATER
- SATURATED / WATER LEVEL COLLECTED DURING FOURTH QUARTER 2013 GROUNDWATER MONITORING EVEND (DECEMBER 4, 2013)

FILL  
 WEATHERED BEDROCK  
 BEDROCK (SANDSTONE, SILTSTONE, MUDSTONE)

NAVD88 : NORTH AMERICAN VERTICAL DATUM OF 1988  
 CL : CLAY  
 ML : SILT  
 SC, SM, SW, SP : SAND; CLAYEY, SILTY, WELL GRADED, POORLY GRADED  
 GW : GRAVEL; WELL GRADED  
 mg/kg : MILLIGRAMS PER KILOGRAM

0 10 20  
 VERTICAL SCALE IN FEET

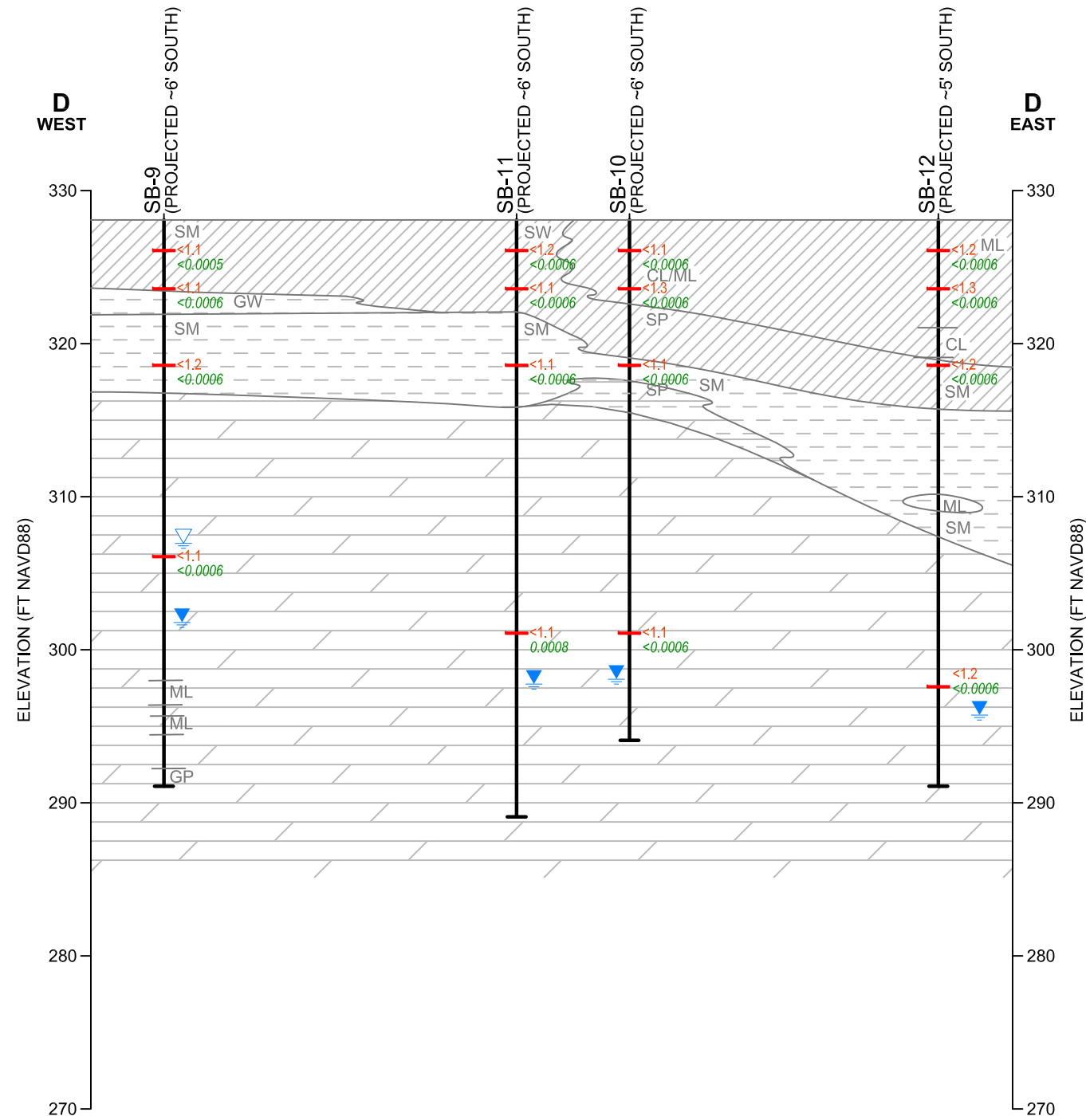
0 30 60  
 HORIZONTAL SCALE IN FEET

CHEVRON SITE ID 97127  
 GRANT LINE ROAD AND INTERSTATE 580  
 TRACY, CALIFORNIA

**CROSS SECTION C-C'**

**ARCADIS**

FIGURE **8**



**LEGEND:**

- MW-14 — BORING/WELL IDENTIFICATION
- TPHG, BENZENE — SOIL - CONCENTRATIONS IN mg/kg
- WELL LOCATION
- WELL SCREEN
- FIRST WATER
- SATURATED / WATER LEVEL COLLECTED DURING FOURTH QUARTER 2013 GROUNDWATER MONITORING EVEND (DECEMBER 4, 2013)

FILL  
 WEATHERED BEDROCK  
 BEDROCK (SANDSTONE, SILTSTONE, MUDSTONE)

NAVD88 : NORTH AMERICAN VERTICAL DATUM OF 1988  
 CL : CLAY  
 ML : SILT  
 SC, SM, SW, SP : SAND; CLAYEY, SILTY, WELL GRADED, POORLY GRADED  
 GW : GRAVEL; WELL GRADED  
 mg/kg : MILLIGRAMS PER KILOGRAM

0 10 20  
 VERTICAL SCALE IN FEET  
 0 30 60  
 HORIZONTAL SCALE IN FEET

CHEVRON SITE ID 97127  
 GRANT LINE ROAD AND INTERSTATE 580  
 TRACY, CALIFORNIA

**CROSS SECTION D-D'**

**ARCADIS**

FIGURE **9**

**Appendix D**  
**Groundwater Yield Test Summary**



3017 Kilgore Road, Suite 100  
Rancho Cordova, CA 95670  
Phone: 916-861-0400

February 9, 2016

**Attention: Ms. Carryl MacLeod**

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

**Reference: Groundwater Yield Test Summary**

Former Chevron Service Station No. 97127  
Alameda County Case No. RO0000185  
10 Grant Line Road, Mountain House, California

Dear Ms. MacLeod,

Stantec Consulting Services Inc. (Stantec) presents this *Groundwater Yield Test Summary* for the Former Chevron Service Station No. 97127, located at 10 Grant Line Road in Mountain House, California (the 'site') **Figures 1 and 2**. This summary was created to present the results of the groundwater yield test conducted at the site by Stantec on January 20, 2016 and to present recommendations for the next phase of remediation testing.

**GROUNDWATER YIELD TEST MATERIALS**

Stantec utilized the following equipment to conduct the groundwater yield test:

- AutoPump Ultra 4.0 Bottom Inlet Short pneumatic pump manufactured by QED
- 6,500 gallon Baker tank with built in ladder.
- Baker tank secondary containment berm
- Atlas Copco XAS 375 air compressor
- Totalizer
- Interface probe
- Miscellaneous tubing, connectors, and fittings.

The following wells were used during the groundwater yield test:

- MW-1: Extraction well
- MW-9: Observation well
- MW-10: Observation well
- MW-11: Observation well
- MW-15: Observation well

**GROUNDWATER YIELD TEST SETUP**

On January 20, 2016 Stantec met a representative of Belshire Environmental Services Inc. (Belshire) onsite and oversaw the drop off of a 6,500 gallon holding tank and secondary containment berm. The berm and tank were setup directly adjacent to extraction well MW-1. A round of background measurements was collected from each observation well and from the extraction well. Measurements included depth to well bottom (DTB), depth to water (DTW), and depth to product (DTP) when product was observed in a well. All measurements were recorded in feet from the top of each well casing.

A pressure regulator was installed on the air compressor to control and, if necessary, modify the pumping rate. A quick connect airline was connected from the regulator to the wellhead



February 9, 2016  
Caryl MacLeod  
Page 2 of 3

**Reference: Groundwater Yield Test Summary**

Former Chevron Service Station No. 97127  
Alameda County Case No. RO0000185  
10 Grant Line Road, Mountain House, California

where a coupler was used to connect the line to QED supplied tubing. The tubing was run from the wellhead to the pump's air supply port using a length long enough to set the pump one foot above the bottom of well MW-1. A water return line was connected to the pump and run through a totalizer set at ground level then up to the access port on the top of the holding tank.

### **GROUNDWATER YIELD TEST PROCEDURE**

The groundwater yield test was initiated by activating the air compressor and setting the pressure regulator to 40 pounds per square inch. This pressure resulted in a groundwater pumping rate of approximately four gallons per minute (gpm). This pumping rate was maintained throughout the course of the test.

The DTW and DTP were periodically measured in observation wells MW-9, MW-10, MW-11, and MW-15 to determine if drawdown resulted from extracting at MW-1. The DTP was periodically measured in extraction well MW-1 to monitor drawdown in that well. To determine average groundwater extraction rates a totalizer was used to measure the total volume of water extracted over regular time intervals. This volume was then divided by that interval. A test average was calculated by dividing the total volume of water extracted by the total time of extraction.

The duration of the test was conditional and based on the observed groundwater yield rate. As discussed in the *Pilot Test Work Plan* dated October 29, 2015, if a yield rate of greater than 2.5 gpm was sustained for five to eight hours, the test would be terminated; otherwise the test would be conducted for 24 continuous hours.

Field notes documenting the groundwater yield test are provided in **Attachment A**. Results of the groundwater yield test are presented on **Table 1** and discussed below.

### **GROUNDWATER YIELD TEST RESULTS**

After extracting for five continuous hours the following observation were made:

- The total volume of water extracted was approximately 1,415 gallons resulting in an average extraction rate of approximately 4.7 gpm.
- Minimal drawdown of the water table was observed in the observation wells, specifically:
  - 0.08 feet in MW-9
  - 0.68 feet in MW-10
  - 0.12 feet in MW-11
  - 0.13 feet in MW-15



February 9, 2016  
Caryl MacLeod  
Page 3 of 3

**Reference: Groundwater Yield Test Summary**

Former Chevron Service Station No. 97127  
Alameda County Case No. RO0000185  
10 Grant Line Road, Mountain House, California

- The DTP measured in the extraction well dropped from 30.62 feet to 32.10 feet indicating minimal drawdown of the water table in the vicinity of the extraction well as a result of pumping at that rate.

Field measurements indicated a groundwater yield rate of greater than 2.5 gpm with no significant drawdown in either the extraction or observation wells. Consequently the test was terminated at the five hour mark. The equipment was disassembled and, with the exception of the holding tank and berm, removed from the site.

**RECOMMENDATIONS**

The groundwater extraction rate observed during the yield test was greater than 2.5 gpm at an average rate of 4.7 gpm. Based on Stantec's *Pilot Test Work Plan*, dated October 29, 2015, if groundwater yield was observed greater than 2.5 gpm, dual-phase extraction as a remedial strategy for the site will not be feasible; therefore, Stantec recommends proceeding with an air sparge/soil vapor extraction pilot test at the site.

Please feel free to contact me at 916-384-0710 or 916-291-9223 if you have any questions or concerns.

Regards,

**Stantec Consulting Services Inc.**

Brian Westhoff, PG  
Senior Geologist

Adrian Perez, PE  
Senior Engineer

cc. Ms. Caryl MacLeod, EMC (via electronic upload to Strata)  
Mr. Ardavan Onori, DM Livermore, Inc.  
Mr. Wyman Hong, Zone 7 Water Agency  
Martin & Jeanne Moghadam  
Ahmad & Shala Mostofi – 37 Victoria Drive, Atherton, CA 94027

**Figure 1 – Site Location Map**

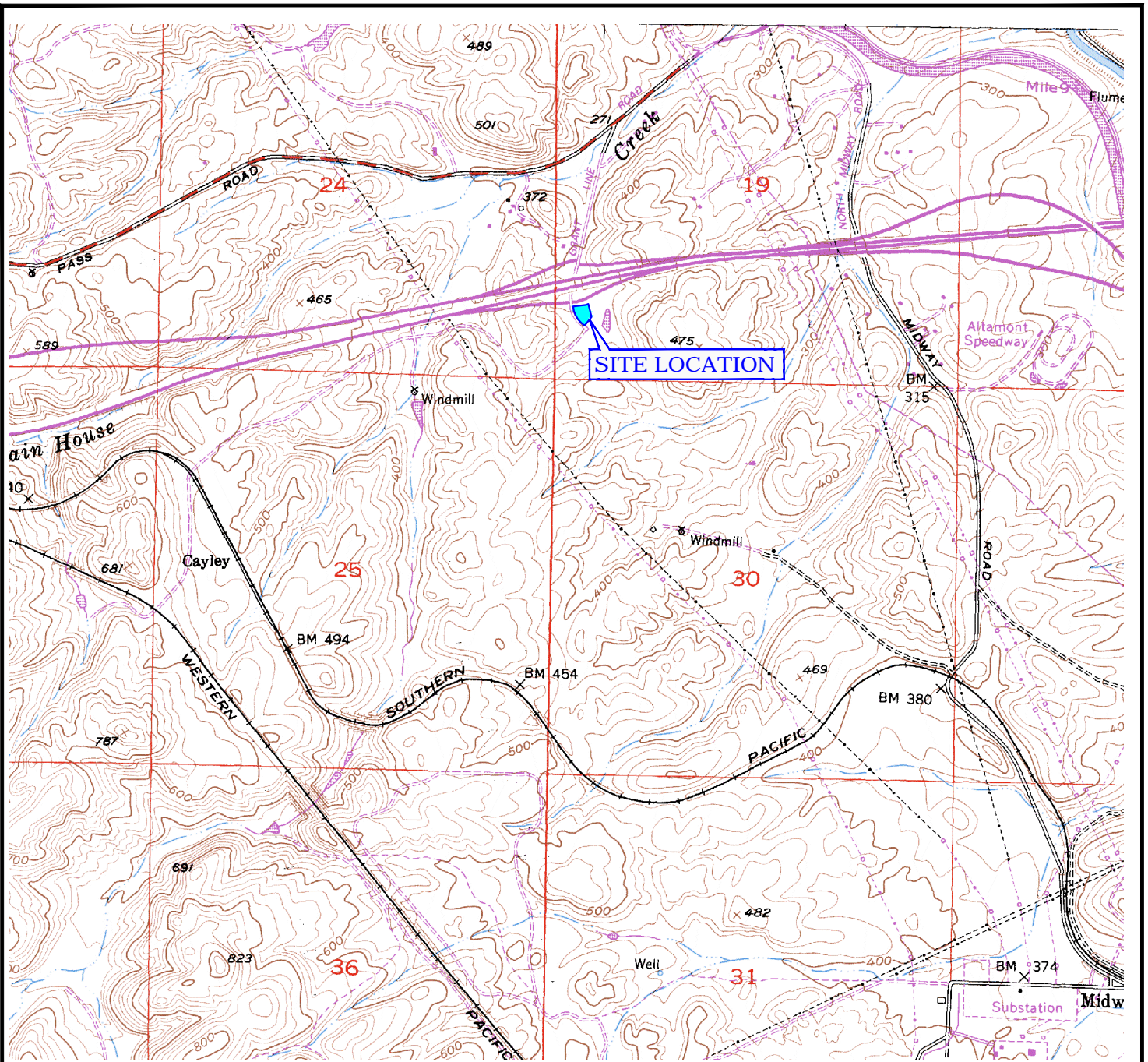
**Figure 2 – Site Plan**

**Table 1 – Groundwater Yield Test Data**

**Attachment A – Field Notes**

# FIGURES





CALIFORNIA




SCALE IN MILE



SCALE IN FEET

REFERENCE: CA Digital Raster Graphics(<http://gis.ca.gov/casil/usgs.gov/>)  
7.5 Minute Series, Albers NAD83, Trimmed  
Block o37121f5, Dated 1953; Revised 1980

	FOR: FORMER CHEVRON SERVICE STATION NO. 97127 10 GRANT LINE ROAD, MOUNTAIN HOUSE, CALIFORNIA		FIGURE: <h1 style="text-align: center;">1</h1>	
	JOB NUMBER: 185750361	DRAWN BY: JY	CHECKED BY: JR	APPROVED BY: BW

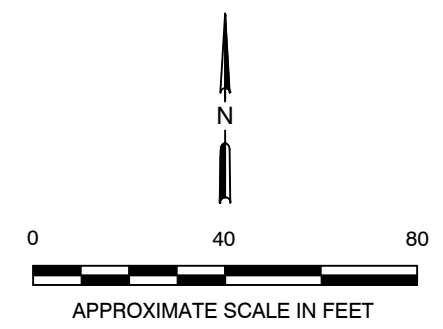
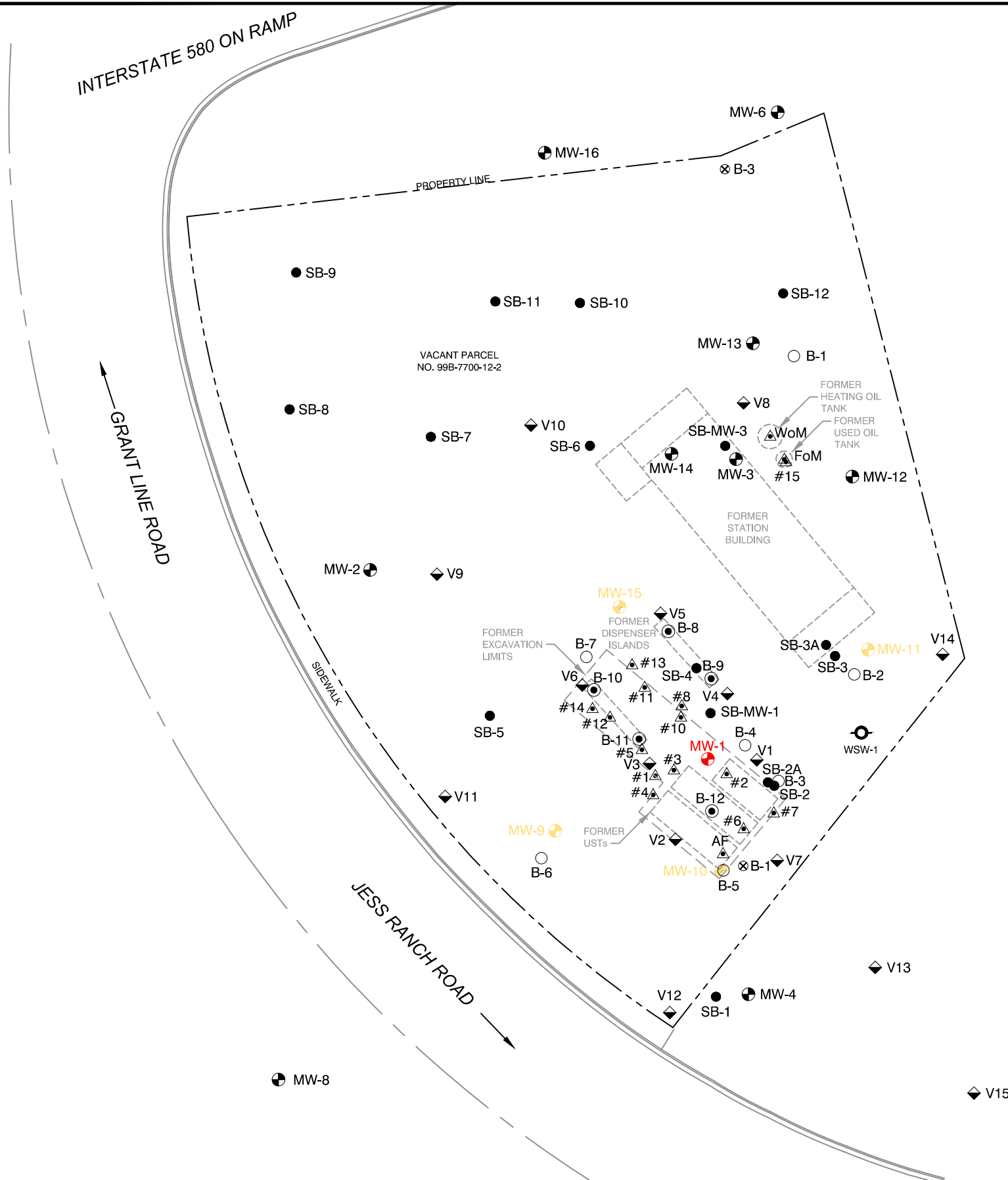
INTERSTATE 580 ON RAMP

GRANT LINE ROAD

JESS RANCH ROAD

**LEGEND:**

- PROPERTY LINE
- MW-2 GROUNDWATER MONITORING WELL
- MW-1 GROUNDWATER YIELD TEST EXTRACTION WELL
- MW-9 GROUNDWATER YIELD TEST OBSERVATION WELL
- WSW-1 FORMER WATER SUPPLY WELL
- SB-1 SOIL BORING (ARCADIS 2013)
- B-8 SOIL BORING (CRA 2011)
- B-1 SOIL BORING (PEG 1992-1993)
- B-1 SOIL BORING (KLEINFELDER 1987))
- #1 SOIL SAMPLE (BLAINE TECH SERVICES 1991)
- V1 SOIL VAPOR SAMPLE (EA 1987)



No warranty is made by Stantec Consulting Services 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.

	FOR: FORMER CHEVRON SERVICE STATION NO. 97127 10 GRANT LINE ROAD MOUNTAIN HOUSE, CALIFORNIA		<b>SITE PLAN WITH GROUNDWATER                  YIELD TEST WELL LOCATIONS</b>		FIGURE: <b>2</b>
	JOB NUMBER: 185750447.718.0410	DRAWN BY: JY/STA	CHECKED BY: BG	APPROVED BY: BW	DATE: 02/08/16

# TABLE

**TABLE 1**  
**Groundwater Yield Test Data**  
**Former Chevron Service Station No.97127**  
**10 Grant Line Road, Mountain House, CA**

**Baseline Parameters**

Well ID	Time	Depth to Bottom (feet)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Comments
MW-1	10:20	40.23	32.22	30.62	1.60	
MW-9	10:12	40.58	31.66	--	0.00	
MW-10	10:17	40.36	32.06	30.53	1.53	
MW-11	10:15	37.71	31.07	--	0.00	
MW-15	10:14	39.18	32.00	--	0.00	

**Groundwater Yield Test**

Time	Totalizer (gallons)	Average Gallons Per Minute	MW-9 Depth to Water (feet)	MW-10 <sup>1</sup> Depth to Water (feet)	MW-11 Depth to Water (feet)	MW-15 Depth to Water (feet)	MW-1 Depth to Product (feet)
11:30	6,336	Start of Test					
12:30	6,598	4.37	31.66	30.60 / --	31.09	32.02	32
13:30	6,860	4.37	31.69	30.64 / --	31.13	32.06	32
14:30	7,124	4.40	31.71	30.68 / --	31.15	32.09	32
15:00	7,252	4.27	31.72	30.69 / 32.56	31.17	32.11	32
15:30	7,388	4.53	31.73	30.70 / 32.59	31.18	32.12	32.03
16:00	7,516	4.27	31.74	30.71 / 32.62	31.19	32.13	32.10
16:30	7,751	7.83	31.74	30.71 / 32.74	31.19	32.13	32.10

4.72 = Average gallons per minute during five hour test

**Notes:**

-- = Not measured

1 = First number is depth to product / second number is depth to water

# **APPENDIX A**

## **Field Notes**

JOB NAME:	Chevron 97127	JOB NUMBER:	185750447
SITE ADDRESS:	10 Grant Line Road	START DATE:	1/20/2016
	Mountain House, CA	DATE PREPARED:	1/16/2016
PREPARED FOR:	B. Schoenneman	PREPARED BY:	Brian Goss

**WORK REQUEST FORM**

**SCOPE OF WORK: Groundwater Yield Test**

**DESCRIPTION OF ACTIVITIES ON SITE AND NOTES (cont.)**

Field Work Conducted By: \_\_\_\_\_

Date: \_\_\_\_\_

Well	DTP	Initial DTW	DTP / PT	DTW	Time	DTR
MW-9		31.66			1012	40.58
MW-15		32.00			1014	39.18
MW-11		31.09			1015	37.71
MW-10	30.53	32.06	1.53		1017	40.36
MW-1	30.62	32.22	1.60		1020	40.23

Start of Test @ 11:30      6332 Gallons

Time	Totalizer	MW-9	MW-15	MW-11	MW-10	MW-1
12:30	6598	31.66	32.02	31.09	P30.60 / 32/P	
13:30	6860	31.69	32.06	31.13	P30.64 / 32/P	
14:30	7124	31.71	32.09	31.15	P30.68 / 32/P	
15:00	7252	31.72	32.11	31.17	P30.69 / 32.52w 32/P	
15:30	7388	31.73	32.12	31.18	P30.70 / 32.59w 32.03P	
16:00	7516	31.74	32.13	31.19	P30.71 / 32.62w 32.10P	
16:30	7751	31.74	32.13	31.19	P30.71 / 32.74w 32.10P	

## **Appendix E**

### **Permits**



# ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306  
E-MAIL [whong@zone7water.com](mailto:whong@zone7water.com)

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1-580 and Grantline Rd

PERMIT NUMBER 2011080  
WELL NUMBER 2S/4E-19N8 to 19N15  
APN 99B-7700-012-02

10 S. Grantline Rd, Livermore CA 94550

Coordinates Source \_\_\_\_\_ ft. Accuracy \_\_\_\_\_ ft.  
LAT: 37°44'21.33" N ft. LONG: 121°35'07.20" W ft.  
APN 99B-7700-12-2

### PERMIT CONDITIONS (Circled Permit Requirements Apply)

CLIENT  
Name Chyron Environmental Management Co  
Address 2080 Box 6012 Rm K2204 Phone \_\_\_\_\_  
City San Ramon, CA Zip 94583

- A. GENERAL**
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
  2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
  3. Permit is void if project not begun within 90 days of approval date.
  4. **Notify Zone 7 at least 24 hours before the start of work.**

APPLICANT  
Name Conistoga-Lovers & Associates (John Bostick)  
Email jbostick@claworld.com Fax 916 889-8999  
Address 10919 Trade Center Dr #107 Phone 916 889 8932  
City Rancho Cordova CA Zip 95670

- B. WATER SUPPLY WELLS**
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
  3. Grout placed by tremie.
  4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
  5. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT:  
Well Construction  Geotechnical Investigation \_\_\_\_\_  
Well Destruction \_\_\_\_\_ Contamination Investigation \_\_\_\_\_  
Cathodic Protection \_\_\_\_\_ Other \_\_\_\_\_

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
  3. Grout placed by tremie.

PROPOSED WELL USE:  
Domestic \_\_\_\_\_ Irrigation \_\_\_\_\_  
Municipal \_\_\_\_\_ Remediation \_\_\_\_\_  
Industrial \_\_\_\_\_ Groundwater Monitoring   
Dewatering \_\_\_\_\_ Other \_\_\_\_\_

- D. GEOTECHNICAL.** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:  
Mud Rotary \_\_\_\_\_ Air Rotary \_\_\_\_\_ Hollow Stem Auger \_\_\_\_\_  
Cable Tool \_\_\_\_\_ Direct Push \_\_\_\_\_ Other Sonic

- E. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.

DRILLING COMPANY Spant Longyear

- F. WELL DESTRUCTION.** See attached.

DRILLER'S LICENSE NO. 094696 Exp 8/31/11

- G. SPECIAL CONDITIONS.** Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

WELL SPECIFICATIONS:  
Drill Hole Diameter 8 in. Maximum \_\_\_\_\_  
Casing Diameter 4 in. Depth 40 ft.  
Surface Seal Depth 20 ft. Number 7

SOIL BORINGS:  
Number of Borings 5 Maximum \_\_\_\_\_  
Hole Diameter 6 in. Depth 40 ft.

ESTIMATED STARTING DATE 8/15/11  
ESTIMATED COMPLETION DATE 8/19/11

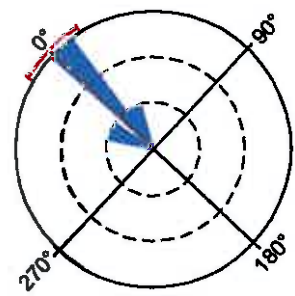
I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved Wyman Hong Date 8/9/11  
Wyman Hong

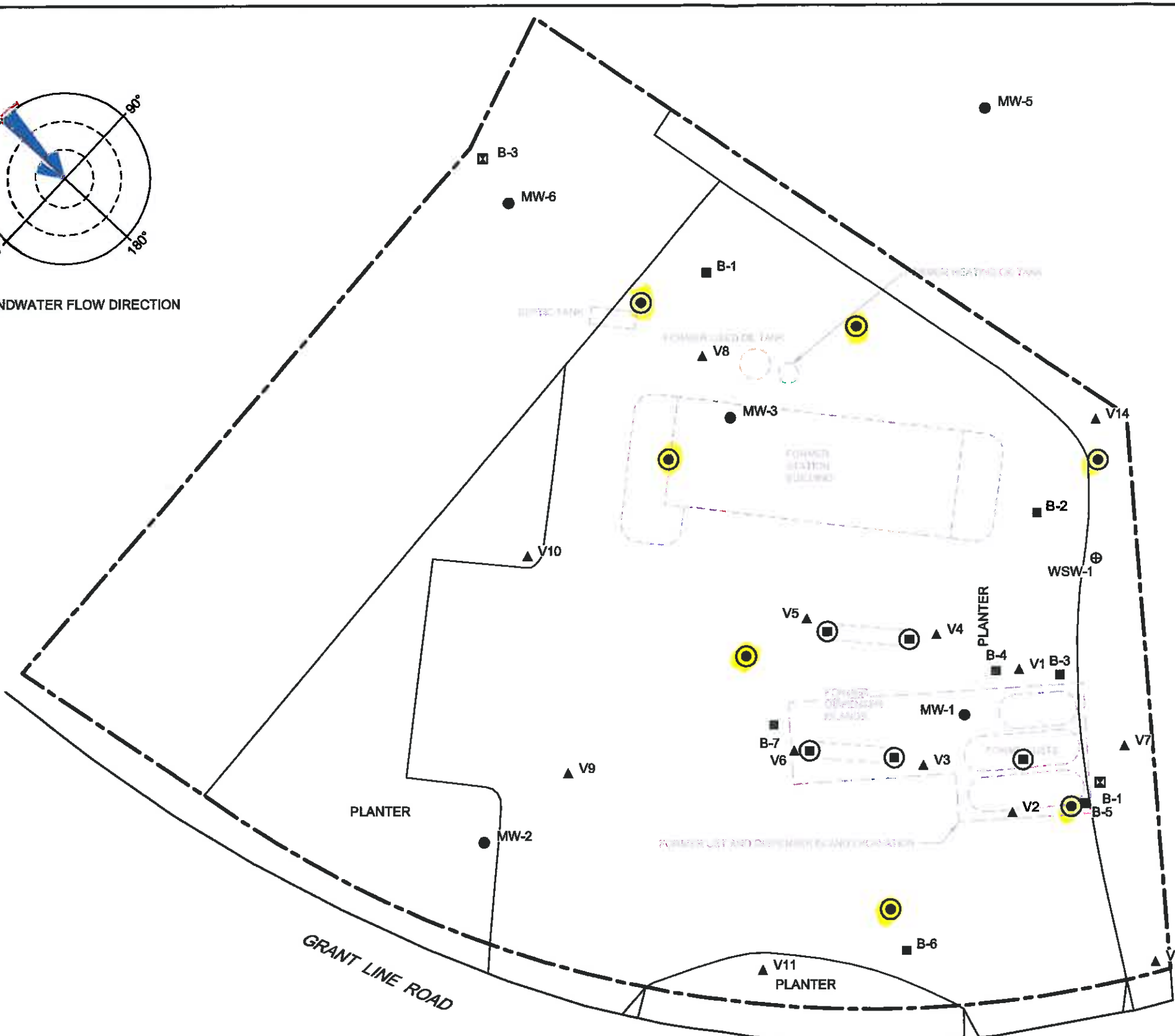
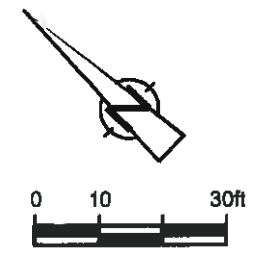
APPLICANT'S SIGNATURE JL Bostick Date 8/14/11

ATTACH SITE PLAN OR SKETCH





GROUNDWATER FLOW DIRECTION



- LEGEND**
- PROPOSED MONITORING WELL LOCATION
  - ◻ PROPOSED BORING LOCATION
  - MONITORING WELL LOCATION
  - ⊕ WATER SUPPLY WELL (LIVESTOCK)
  - SOIL BORING LOCATION (KLEINFELDER)
  - ◻ SOIL BORING LOCATION (PEG)
  - ▲ APPROXIMATE SOIL VAPOR SAMPLE LOCATION

Figure 2  
 SITE PLAN AND PROPOSED BORING AND WELL LOCATIONS  
 FORMER CHEVRON SERVICE STATION 9-7127  
 GRANT LINE ROAD AND INTERSTATE 580  
 Tracy, California



## Kelly, Maureen

---

**From:** Cline, Wes  
**Sent:** Wednesday, June 08, 2016 6:44 AM  
**To:** callen@baaqmd.gov  
**Subject:** SVE Pilot Test - Mountain House CA - Permit Exemption Notification

Carol,

Thank you for your time on the phone. Please see details below for a 5 day or less SVE pilot test to be conducted. Please respond acknowledging permit exemption for the duration of the test.

Dates: July 18-22, 2016

Address: 10 Grant Line Road, Mountain House, CA 94550 (Alameda County).

Emissions control device: Intellishare Environmental ECO 300 electric catalytic oxidizer. Oxidizer is rated for 98% destruction efficiency up to 2,800 ppmv at 500 scfm.

Operations will be in compliance with BAAQMD Regulation 8, Rule 47.

Responsible Person: Adrian Perez, Senior Engineer, (916) 442-3230

Thanks,

### Wes Cline CIH, CSP

Engineering Consultant  
Stantec Consulting Services Inc.  
Phone: (615) 499-7157  
Cell: (916) 281-7459  
Fax: (615) 885-1102  
Wes.Cline@stantec.com



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**From:** Carol Allen [<mailto:CAllen@baaqmd.gov>]  
**Sent:** Tuesday, June 14, 2016 12:09 PM  
**To:** Cline, Wes  
**Subject:** RE: SVE Pilot Test - Mountain House CA - Permit Exemption Notification

OK, Thank you.  
Carol

**From:** Cline, Wes [<mailto:Wes.Cline@stantec.com>]  
**Sent:** Tuesday, June 14, 2016 6:32 AM  
**To:** Carol Allen <[CAllen@baaqmd.gov](mailto:CAllen@baaqmd.gov)>  
**Cc:** Westhoff, Brian <[Brian.Westhoff@stantec.com](mailto:Brian.Westhoff@stantec.com)>  
**Subject:** RE: SVE Pilot Test - Mountain House CA - Permit Exemption Notification

Carol,

Thank you for your response, we will notify by email at start and finish per your request.

The nearest labeled cross street is technically I-580, the site is on the southeast corner of W Grant Line Rd and the 580 east bound onramp.

You have to use Livermore as the city to find it on google maps: <https://www.google.com/maps/place/10+Grant+Line+Rd,+Livermore,+CA+94550/@37.7382496,-121.5888256,17z/data=!4m5!3m4!1s0x80901fa04d9e1521:0xd919c4a73c2d35d4!8m2!3d37.739389!4d-121.585334>

### Wes Cline CIH, CSP

HSE Coordinator, Environmental Services - US  
Stantec Consulting Services Inc.  
Cell: (916) 281-7459



**From:** Carol Allen [<mailto:CAllen@baaqmd.gov>]  
**Sent:** Monday, June 13, 2016 5:19 PM  
**To:** Cline, Wes  
**Subject:** RE: SVE Pilot Test - Mountain House CA - Permit Exemption Notification

Wes,

This pilot test is approved and is exempt from permitting requirements provided it does not exceed 5 consecutive days. Please notify me by email at the start and finish of this pilot test.

Also, can you please provide the nearest cross street for this location. I found several conflicting locations using Google Maps and Google Earth.

Thank you,  
Carol Allen  
Supervising Air Quality Engineer  
Engineering Division, BAAQMD  
(415) 749-4702  
[Callen@baaqmd.gov](mailto:Callen@baaqmd.gov)

### **The Air District Headquarters has Moved!**

Our new mailing address and location are:  
The Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**From:** Cline, Wes [<mailto:Wes.Cline@stantec.com>]  
**Sent:** Wednesday, June 8, 2016 6:44 AM  
**To:** Carol Allen <[Callen@baaqmd.gov](mailto:Callen@baaqmd.gov)>  
**Subject:** SVE Pilot Test - Mountain House CA - Permit Exemption Notification

Carol,

Thank you for your time on the phone. Please see details below for a 5 day or less SVE pilot test to be conducted. Please respond acknowledging permit exemption for the duration of the test.

Dates: July 18-22, 2016

Address: 10 Grant Line Road, Mountain House, CA 94550 (Alameda County).

Emissions control device: Intellishare Environmental ECO 300 electric catalytic oxidizer. Oxidizer is rated for 98% destruction efficiency up to 2,800 ppmv at 500 scfm.

Operations will be in compliance with BAAQMD Regulation 8, Rule 47.

Responsible Person: Adrian Perez, Senior Engineer, (916) 442-3230

Thanks,

#### **Wes Cline CIH, CSP**

Engineering Consultant  
Stantec Consulting Services Inc.  
Phone: (615) 499-7157  
Cell: (916) 281-7459  
Fax: (615) 885-1102  
[Wes.Cline@stantec.com](mailto:Wes.Cline@stantec.com)



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**Appendix F**  
**Waste Manifests**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: **CAR000163311**

2. Page 1 of **1**

3. Emergency Response Phone: **(800) 424-9300**

4. Manifest Tracking Number: **009708081 FLE**

5. Generator's Name and Mailing Address: **Chevron Environmental Management Co., c/o Chevron Products Company Waste Desk, P.O. Box 6004, San Ramon, CA 94583**

Generator's Site Address (if different than mailing address): **Chevron 97127, I-580 & Grant Line Rd., Tracy, CA 95376**

Generator's Phone: **(877) 386-6044**

6. Transporter 1 Company Name: **BELSHIRE**

U.S. EPA ID Number: **CAR000183913**

7. Transporter 2 Company Name: **BESI**

U.S. EPA ID Number: **CAR000165175**

8. Designated Facility Name and Site Address: **Veolia ES Technical Solutions, LLC, 1704 W. First St., Azusa, CA 91702**

Facility's Phone: **(626) 334-5117**

U.S. EPA ID Number: **CAD008302903**

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
X	1. <b>NA3082, HAZARDOUS WASTE LIQUID, N.O.S. (benzene, lead), 9, PGLIII.</b>	002	DM	40	G	222	D018	D008
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: **WEAR ALL APPROPRIATE PROTECTIVE CLOTHING**, **BESI: 269560**, **ERG#: 171 WR3434**, **PROFILE # 884047**, **LX55**

FOLD LABEL AT LINE, AFFIX TO SIDE OF HAZ MATERIAL BAGS, TAB STICKS OUT. LTR001 © 1997 EPA

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offoror's Printed/Typed Name: **Larry Moothart of BESI on behalf of generator**

Signature: *[Signature]*

Month Day Year: **06/30/16**

16. International Shipments:  Import to U.S.  Export from U.S.

Port of entry/exit: \_\_\_\_\_

Date leaving U.S.: \_\_\_\_\_

17. Transporter Acknowledgment of Receipt of Materials

Transporter signature (for exports only): \_\_\_\_\_

Transporter 1 Printed/Typed Name: **Rongreen**, Signature: *[Signature]*, Month Day Year: **06/30/16**

Transporter 2 Printed/Typed Name: **Rongreen**, Signature: *[Signature]*, Month Day Year: **07/01/16**

18. Discrepancy:  Quantity  Type  Residue  Partial Rejection  Full Rejection

18a. Discrepancy Indication Space: \_\_\_\_\_

Manifest Reference Number: \_\_\_\_\_

U.S. EPA ID Number: \_\_\_\_\_

18b. Alternate Facility (or Generator): \_\_\_\_\_

Facility's Phone: \_\_\_\_\_

18c. Signature of Alternate Facility (or Generator): \_\_\_\_\_

Month Day Year: \_\_\_\_\_


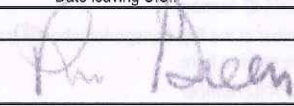
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. **H01** 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: **Alondra Arcas**, Signature: *[Signature]*, Month Day Year: **7/7/16**

DESIGNATED FACILITY TO DESTINATION STATE (IF REQU

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>CAR000163311</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 424-9300</b>	4. Manifest Tracking Number <b>009708081 FLE</b>			
5. Generator's Name and Mailing Address <b>Chevron Environmental Management Co. c/o Chevron Products Company Waste Desk P.O. Box 8004 San Ramon, CA 94583</b>				Generator's Site Address (if different than mailing address) <b>Chevron 97127 I-580 &amp; Grant Line Rd. Tracy, CA 95276</b>				
Generator's Phone: <b>(877) 388-6044</b>								
6. Transporter 1 Company Name <b>BELSHIRE</b>				U.S. EPA ID Number <b>CAR000163913</b>				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address <b>Veolia ES Technical Solutions, LLC 1704 W. First St. Azusa, CA 91702</b>				U.S. EPA ID Number <b>CAD008302903</b>				
Facility's Phone: <b>(626) 394-5117</b>								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
<b>X</b>	<b>1. NA3082, HAZARDOUS WASTE LIQUID, N.O.S. (benzene, lead), 9, PGIII.</b>	<b>002</b>	<b>DM</b>	<b>40</b>	<b>G</b>	<b>222</b>	<b>D019</b>	<b>D008</b>
	<b>RECEIVED BY BESTI 7/16/16</b>							
14. Special Handling Instructions and Additional Information <b>ERG#: 171 WR3434</b>				<b>WEAR ALL APPROPRIATE PROTECTIVE CLOTHING</b>				
				<b>BESTI:269560</b>				
				<b>PROFILE # 884047</b>				
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offor's Printed/Typed Name <b>Larry Moothart of BESTI on behalf of generator</b>				Signature 		Month <b>06</b>	Day <b>30</b>	Year <b>16</b>
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name <b>Ringreen</b>				Signature 		Month <b>06</b>	Day <b>30</b>	Year <b>16</b>
Transporter 2 Printed/Typed Name				Signature		Month	Day	Year
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
18b. Alternate Facility (or Generator)				Manifest Reference Number: _____ U.S. EPA ID Number _____				
Facility's Phone: _____								
18c. Signature of Alternate Facility (or Generator)						Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1.	2.	3.	4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name _____				Signature _____		Month	Day	Year

GENERATOR	<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number CAR000163311	2. Page 1 of 1	3. Emergency Response Phone (606) 424-8300	4. Waste Tracking Number WR3434-002	
	5. Generator's Name and Mailing Address Chevron Environmental Management Co. c/o Chevron Products Company Waste Desk P.O. Box 6004 San Ramon, CA 94583 Generator's Phone: (877) 366-6044			Generator's Site Address (if different than mailing address) Chevron 97127 I-580 & Grant Line Rd. Tracy, CA 95376		
	6. Transporter 1 Company Name BELSHIRE			U.S. EPA ID Number CAR000163313		
	7. Transporter 2 Company Name			U.S. EPA ID Number		
	8. Designated Facility Name and Site Address Altamont Landfill and Resource Recovery Fac. 10840 Altamont Pass Road Livermore, CA 94550 Facility's Phone: (925) 455-7300			U.S. EPA ID Number CAD981382732		
TRANSPORTER	9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-DOT regulated material (petroleum contact water, non hazardous)	No. 001	Type DM	55	G	
	2.					
	3.					
	4.					
DESIGNATED FACILITY	13. Special Handling Instructions and Additional Information BESI:269560 ERG: N/A WEAR LEVEL D PPE & SPLASH PROTECTION (IF APPLICABLE) SITE ID: 97127 WR3434 PROFILE #: 627218CA					
	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
	Generator's/Offeror's Printed/Typed Name Larry Moothart of BESI on behalf of generator			Signature <i>[Signature]</i>		Month Day Year 06 30 16
	15. International Shipments	<input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit:	Date leaving U.S.:	
	16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name Kingreen			Signature <i>[Signature]</i>		Month Day Year 06 30 16	
Transporter 2 Printed/Typed Name			Signature		Month Day Year	
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
17b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number						
Facility's Phone:						
17c. Signature of Alternate Facility (or Generator) Month Day Year						
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name			Signature		Month Day Year	



GENERATOR	<b>NON-HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number CAR000183314	2. Page 1 of 1	3. Emergency Response Phone (800) 424-9330	4. Waste Tracking Number WR3434-001	
	5. Generator's Name and Mailing Address Chevron Environmental Management Co. c/o Chevron Products Company Waste Desk P.O. Box 8004 San Ramon, CA 94583 Generator's Phone: (877) 386-6044			Generator's Site Address (if different than mailing address) Chevron 37127 I-580 & Grant Line Rd. Tracy, CA 95376		
	6. Transporter 1 Company Name BELSHIRE				U.S. EPA ID Number CAR000183913	
	7. Transporter 2 Company Name				U.S. EPA ID Number	
	8. Designated Facility Name and Site Address Altamont Landfill and Resource Recovery Fac. 10840 Altamont Pass Road Livermore, CA 94550 Facility's Phone: (925) 455-7300				U.S. EPA ID Number CAD981382732	
	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
			No. Type			
	1. NON DOT REGULATED MATERIAL (Soil contaminated with Petroleum Products, Non Hazardous)		010 DM		5000 P	
2.						
3.						
4.						
13. Special Handling Instructions and Additional Information Soil contaminated with petroleum products BESI:269560 ERG: N/A WEAR LEVEL D PPE & SPLASH PROTECTION (IF APPLICABLE) SITE ID: 87127 WR3434 PROFILE #: 827147CA						
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
Generator's/Offeror's Printed/Typed Name Larry Mochart of BESI on behalf of generator				Signature <i>[Signature]</i>		Month Day Year 06 30 16
TRANSPORTER	15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Transporter Signature (for exports only): _____ Date leaving U.S.: _____					
	16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name Ringreen				Signature <i>[Signature]</i>		Month Day Year 06 30 16
Transporter 2 Printed/Typed Name				Signature		Month Day Year
DESIGNATED FACILITY	17. Discrepancy					
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
	Manifest Reference Number:					
	17b. Alternate Facility (or Generator)				U.S. EPA ID Number	
	Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)				Month Day Year		
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name				Signature		Month Day Year

**Appendix G**  
**Certified Laboratory Analytical Reports and**  
**Chain-of-Custody Documentation**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-145577-1

Client Project/Site: CVX 9-7127

For:

Stantec Consulting Corp.

3017 Kilgore Road

Suite 100

Rancho Cordova, California 95670

Attn: Brian Westhoff



Authorized for release by:

5/4/2016 4:20:01 PM

Lena Davidkova, Project Manager II

(949)261-1022

[lena.davidkova@testamericainc.com](mailto:lena.davidkova@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Sample Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145577-1	AS-1-S-5-160418	Solid	04/18/16 09:40	04/27/16 09:50
440-145577-5	AS-1-S-25-160420	Solid	04/20/16 11:10	04/27/16 09:50
440-145577-9	PZ-1-S-20-160419	Solid	04/19/16 10:20	04/27/16 09:50
440-145577-10	PZ-2-S-25-160419	Solid	04/19/16 14:00	04/27/16 09:50

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# Case Narrative

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

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**Job ID: 440-145577-1**

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**Laboratory: TestAmerica Irvine**

## Narrative

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**Job Narrative  
440-145577-1**

### Comments

No additional comments.

### Receipt

The samples were received on 4/27/2016 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

The client will be notified in sample acknowledgement email; the laboratory will proceed with the 8260 analyses unless requested otherwise by the client reply.

### GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Client Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

**Client Sample ID: AS-1-S-5-160418**

**Lab Sample ID: 440-145577-1**

**Date Collected: 04/18/16 09:40**

**Matrix: Solid**

**Date Received: 04/27/16 09:50**

**Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>0.0037</b>		0.0010	mg/Kg			04/28/16 14:08	1
Ethylbenzene	ND		0.0010	mg/Kg			04/28/16 14:08	1
m,p-Xylene	ND		0.0020	mg/Kg			04/28/16 14:08	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0020	mg/Kg			04/28/16 14:08	1
o-Xylene	ND		0.0010	mg/Kg			04/28/16 14:08	1
<b>Toluene</b>	<b>0.0046</b>		0.0010	mg/Kg			04/28/16 14:08	1
Xylenes, Total	ND		0.0020	mg/Kg			04/28/16 14:08	1
Naphthalene	ND		0.0020	mg/Kg			04/28/16 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		79 - 120		04/28/16 14:08	1
Dibromofluoromethane (Surr)	96		60 - 120		04/28/16 14:08	1
Toluene-d8 (Surr)	105		79 - 123		04/28/16 14:08	1

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.10	mg/Kg			04/28/16 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		60 - 120		04/28/16 14:08	1
4-Bromofluorobenzene (Surr)	92		79 - 120		04/28/16 14:08	1
Toluene-d8 (Surr)	105		79 - 123		04/28/16 14:08	1

# Client Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

**Client Sample ID: AS-1-S-25-160420**

**Lab Sample ID: 440-145577-5**

**Date Collected: 04/20/16 11:10**

**Matrix: Solid**

**Date Received: 04/27/16 09:50**

**Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	9.0		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
Ethylbenzene	32		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
m,p-Xylene	120		4.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
Methyl-t-Butyl Ether (MTBE)	ND		4.9	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
o-Xylene	44		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
Toluene	120		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000
Xylenes, Total	160		4.0	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		65 - 140	04/28/16 15:05	04/29/16 12:55	2000
Dibromofluoromethane (Surr)	94		55 - 140	04/28/16 15:05	04/29/16 12:55	2000
Toluene-d8 (Surr)	102		60 - 140	04/28/16 15:05	04/29/16 12:55	2000

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	3700		200	mg/Kg		04/28/16 15:05	04/29/16 12:55	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	94		55 - 140	04/28/16 15:05	04/29/16 12:55	2000
4-Bromofluorobenzene (Surr)	90		65 - 140	04/28/16 15:05	04/29/16 12:55	2000
Toluene-d8 (Surr)	102		60 - 140	04/28/16 15:05	04/29/16 12:55	2000



# Client Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

**Client Sample ID: PZ-1-S-20-160419**

**Lab Sample ID: 440-145577-9**

**Date Collected: 04/19/16 10:20**

**Matrix: Solid**

**Date Received: 04/27/16 09:50**

**Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.013		0.00099	mg/Kg			04/28/16 15:08	1
Ethylbenzene	0.0017		0.00099	mg/Kg			04/28/16 15:08	1
m,p-Xylene	0.0060		0.0020	mg/Kg			04/28/16 15:08	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0020	mg/Kg			04/28/16 15:08	1
o-Xylene	0.0024		0.00099	mg/Kg			04/28/16 15:08	1
Toluene	0.028		0.00099	mg/Kg			04/28/16 15:08	1
Xylenes, Total	0.0084		0.0020	mg/Kg			04/28/16 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		79 - 120		04/28/16 15:08	1
Dibromofluoromethane (Surr)	94		60 - 120		04/28/16 15:08	1
Toluene-d8 (Surr)	103		79 - 123		04/28/16 15:08	1

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	0.22		0.099	mg/Kg			04/28/16 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	94		60 - 120		04/28/16 15:08	1
4-Bromofluorobenzene (Surr)	90		79 - 120		04/28/16 15:08	1
Toluene-d8 (Surr)	103		79 - 123		04/28/16 15:08	1

# Client Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

**Client Sample ID: PZ-2-S-25-160419**

**Lab Sample ID: 440-145577-10**

**Date Collected: 04/19/16 14:00**

**Matrix: Solid**

**Date Received: 04/27/16 09:50**

**Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>0.0023</b>		0.00099	mg/Kg			04/28/16 14:38	1
Ethylbenzene	ND		0.00099	mg/Kg			04/28/16 14:38	1
m,p-Xylene	ND		0.0020	mg/Kg			04/28/16 14:38	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0020	mg/Kg			04/28/16 14:38	1
o-Xylene	ND		0.00099	mg/Kg			04/28/16 14:38	1
<b>Toluene</b>	<b>0.0013</b>		0.00099	mg/Kg			04/28/16 14:38	1
Xylenes, Total	ND		0.0020	mg/Kg			04/28/16 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		79 - 120		04/28/16 14:38	1
Dibromofluoromethane (Surr)	94		60 - 120		04/28/16 14:38	1
Toluene-d8 (Surr)	104		79 - 123		04/28/16 14:38	1

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.099	mg/Kg			04/28/16 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	94		60 - 120		04/28/16 14:38	1
4-Bromofluorobenzene (Surr)	91		79 - 120		04/28/16 14:38	1
Toluene-d8 (Surr)	104		79 - 123		04/28/16 14:38	1

# Method Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

Method	Method Description	Protocol	Laboratory
8260B/5030B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	Volatile Organic Compounds by GC/MS	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# Lab Chronicle

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

**Client Sample ID: AS-1-S-5-160418**

**Date Collected: 04/18/16 09:40**

**Date Received: 04/27/16 09:50**

**Lab Sample ID: 440-145577-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.01 g	10 mL	327033	04/28/16 14:08	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.01 g	10 mL	327034	04/28/16 14:08	SS	TAL IRV

**Client Sample ID: AS-1-S-25-160420**

**Date Collected: 04/20/16 11:10**

**Date Received: 04/27/16 09:50**

**Lab Sample ID: 440-145577-5**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10.12 g	10 mL	327169	04/28/16 15:05	AL	TAL IRV
Total/NA	Analysis	8260B/5030B		2000	10.12 g	10 mL	327284	04/29/16 12:55	AL	TAL IRV
Total/NA	Prep	5030B			10.12 g	10 mL	327169	04/28/16 15:05	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		2000	10.12 g	10 mL	327285	04/29/16 12:55	AL	TAL IRV

**Client Sample ID: PZ-1-S-20-160419**

**Date Collected: 04/19/16 10:20**

**Date Received: 04/27/16 09:50**

**Lab Sample ID: 440-145577-9**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	327033	04/28/16 15:08	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.04 g	10 mL	327034	04/28/16 15:08	SS	TAL IRV

**Client Sample ID: PZ-2-S-25-160419**

**Date Collected: 04/19/16 14:00**

**Date Received: 04/27/16 09:50**

**Lab Sample ID: 440-145577-10**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	327033	04/28/16 14:38	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.04 g	10 mL	327034	04/28/16 14:38	SS	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-327033/4**  
**Matrix: Solid**  
**Analysis Batch: 327033**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg			04/28/16 08:16	1
Ethylbenzene	ND		0.0010	mg/Kg			04/28/16 08:16	1
m,p-Xylene	ND		0.0020	mg/Kg			04/28/16 08:16	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0020	mg/Kg			04/28/16 08:16	1
o-Xylene	ND		0.0010	mg/Kg			04/28/16 08:16	1
Toluene	ND		0.0010	mg/Kg			04/28/16 08:16	1
Xylenes, Total	ND		0.0020	mg/Kg			04/28/16 08:16	1
Naphthalene	ND		0.0020	mg/Kg			04/28/16 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		79 - 120		04/28/16 08:16	1
Dibromofluoromethane (Surr)	103		60 - 120		04/28/16 08:16	1
Toluene-d8 (Surr)	99		79 - 123		04/28/16 08:16	1

**Lab Sample ID: LCS 440-327033/5**  
**Matrix: Solid**  
**Analysis Batch: 327033**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0480		mg/Kg		96	65 - 120
Ethylbenzene	0.0500	0.0449		mg/Kg		90	70 - 125
m,p-Xylene	0.0500	0.0478		mg/Kg		96	70 - 125
Methyl-t-Butyl Ether (MTBE)	0.0500	0.0571		mg/Kg		114	60 - 140
o-Xylene	0.0500	0.0465		mg/Kg		93	70 - 125
Toluene	0.0500	0.0469		mg/Kg		94	70 - 125
Naphthalene	0.0500	0.0593		mg/Kg		119	55 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		79 - 120
Dibromofluoromethane (Surr)	100		60 - 120
Toluene-d8 (Surr)	98		79 - 123

**Lab Sample ID: 440-145508-A-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 327033**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0498	0.0469		mg/Kg		94	65 - 130
Ethylbenzene	ND		0.0498	0.0453		mg/Kg		91	70 - 135
m,p-Xylene	ND		0.0498	0.0486		mg/Kg		97	70 - 130
Methyl-t-Butyl Ether (MTBE)	ND		0.0498	0.0561		mg/Kg		113	55 - 155
o-Xylene	ND		0.0498	0.0454		mg/Kg		91	65 - 130
Toluene	ND		0.0498	0.0478		mg/Kg		96	70 - 130
Naphthalene	ND		0.0498	0.0625		mg/Kg		126	40 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		79 - 120

TestAmerica Irvine

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-145508-A-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 327033**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	98		60 - 120
Toluene-d8 (Surr)	100		79 - 123

**Lab Sample ID: 440-145508-A-1 MSD**  
**Matrix: Solid**  
**Analysis Batch: 327033**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0498	0.0499		mg/Kg		100	65 - 130	6	20
Ethylbenzene	ND		0.0498	0.0482		mg/Kg		97	70 - 135	6	25
m,p-Xylene	ND		0.0498	0.0517		mg/Kg		104	70 - 130	6	25
Methyl-t-Butyl Ether (MTBE)	ND		0.0498	0.0593		mg/Kg		119	55 - 155	6	35
o-Xylene	ND		0.0498	0.0485		mg/Kg		97	65 - 130	7	25
Toluene	ND		0.0498	0.0504		mg/Kg		101	70 - 130	5	20
Naphthalene	ND		0.0498	0.0643		mg/Kg		129	40 - 150	3	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		79 - 120
Dibromofluoromethane (Surr)	97		60 - 120
Toluene-d8 (Surr)	101		79 - 123

**Lab Sample ID: MB 440-327284/4**  
**Matrix: Solid**  
**Analysis Batch: 327284**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10	mg/Kg			04/29/16 08:23	100
Ethylbenzene	ND		0.10	mg/Kg			04/29/16 08:23	100
m,p-Xylene	ND		0.20	mg/Kg			04/29/16 08:23	100
Methyl-t-Butyl Ether (MTBE)	ND		0.25	mg/Kg			04/29/16 08:23	100
o-Xylene	ND		0.10	mg/Kg			04/29/16 08:23	100
Toluene	ND		0.10	mg/Kg			04/29/16 08:23	100
Xylenes, Total	ND		0.20	mg/Kg			04/29/16 08:23	100

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		65 - 140		04/29/16 08:23	100
Dibromofluoromethane (Surr)	96		55 - 140		04/29/16 08:23	100
Toluene-d8 (Surr)	103		60 - 140		04/29/16 08:23	100

**Lab Sample ID: LCS 440-327284/5**  
**Matrix: Solid**  
**Analysis Batch: 327284**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	2.32		mg/Kg		93	65 - 120
Ethylbenzene	2.50	2.38		mg/Kg		95	80 - 120
m,p-Xylene	2.50	2.53		mg/Kg		101	70 - 125

TestAmerica Irvine

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-327284/5**  
**Matrix: Solid**  
**Analysis Batch: 327284**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl-t-Butyl Ether (MTBE)	2.50	2.53		mg/Kg		101	55 - 145
o-Xylene	2.50	2.42		mg/Kg		97	70 - 125
Toluene	2.50	2.47		mg/Kg		99	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		65 - 140
Dibromofluoromethane (Surr)	95		55 - 140
Toluene-d8 (Surr)	102		60 - 140

**Lab Sample ID: LCSD 440-327284/6**  
**Matrix: Solid**  
**Analysis Batch: 327284**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	2.50	2.38		mg/Kg		95	65 - 120	2	20
Ethylbenzene	2.50	2.39		mg/Kg		95	80 - 120	0	20
m,p-Xylene	2.50	2.54		mg/Kg		101	70 - 125	0	20
Methyl-t-Butyl Ether (MTBE)	2.50	2.59		mg/Kg		103	55 - 145	2	25
o-Xylene	2.50	2.43		mg/Kg		97	70 - 125	0	20
Toluene	2.50	2.47		mg/Kg		99	80 - 120	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		65 - 140
Dibromofluoromethane (Surr)	94		55 - 140
Toluene-d8 (Surr)	102		60 - 140

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 440-327034/4**  
**Matrix: Solid**  
**Analysis Batch: 327034**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.10	mg/Kg			04/28/16 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		60 - 120		04/28/16 08:16	1
4-Bromofluorobenzene (Surr)	90		79 - 120		04/28/16 08:16	1
Toluene-d8 (Surr)	99		79 - 123		04/28/16 08:16	1

**Lab Sample ID: LCS 440-327034/6**  
**Matrix: Solid**  
**Analysis Batch: 327034**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1.00	0.807		mg/Kg		81	60 - 135

TestAmerica Irvine

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 440-327034/6**  
**Matrix: Solid**  
**Analysis Batch: 327034**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	100		60 - 120
4-Bromofluorobenzene (Surr)	90		79 - 120
Toluene-d8 (Surr)	100		79 - 123

**Lab Sample ID: 440-145508-A-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 327034**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Volatile Fuel Hydrocarbons (C4-C12)	0.12		3.44	3.74		mg/Kg		105	55 - 140

Surrogate	MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	98		60 - 120
4-Bromofluorobenzene (Surr)	93		79 - 120
Toluene-d8 (Surr)	100		79 - 123

**Lab Sample ID: 440-145508-A-1 MSD**  
**Matrix: Solid**  
**Analysis Batch: 327034**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Volatile Fuel Hydrocarbons (C4-C12)	0.12		3.44	3.92		mg/Kg		110	55 - 140	5	25

Surrogate	MSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	97		60 - 120
4-Bromofluorobenzene (Surr)	91		79 - 120
Toluene-d8 (Surr)	101		79 - 123

**Lab Sample ID: MB 440-327285/4**  
**Matrix: Solid**  
**Analysis Batch: 327285**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Volatile Fuel Hydrocarbons (C4-C12)	ND		10	mg/Kg			04/29/16 08:23	100

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	96		55 - 140		04/29/16 08:23	100
4-Bromofluorobenzene (Surr)	89		65 - 140		04/29/16 08:23	100
Toluene-d8 (Surr)	103		60 - 140		04/29/16 08:23	100

TestAmerica Irvine



# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 440-327285/7**  
**Matrix: Solid**  
**Analysis Batch: 327285**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	50.0	44.9		mg/Kg		90	60 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	94		55 - 140				
4-Bromofluorobenzene (Surr)	90		65 - 140				
Toluene-d8 (Surr)	103		60 - 140				

**Lab Sample ID: LCSD 440-327285/8**  
**Matrix: Solid**  
**Analysis Batch: 327285**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	50.0	45.6		mg/Kg		91	60 - 130	2	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCSD Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	92		55 - 140						
4-Bromofluorobenzene (Surr)	92		65 - 140						
Toluene-d8 (Surr)	103		60 - 140						

# QC Association Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## GC/MS VOA

### Analysis Batch: 327033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145508-A-1 MS	Matrix Spike	Total/NA	Solid	8260B/5030B	
440-145508-A-1 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/5030B	
440-145577-1	AS-1-S-5-160418	Total/NA	Solid	8260B/5030B	
440-145577-9	PZ-1-S-20-160419	Total/NA	Solid	8260B/5030B	
440-145577-10	PZ-2-S-25-160419	Total/NA	Solid	8260B/5030B	
LCS 440-327033/5	Lab Control Sample	Total/NA	Solid	8260B/5030B	
MB 440-327033/4	Method Blank	Total/NA	Solid	8260B/5030B	

### Analysis Batch: 327034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145508-A-1 MS	Matrix Spike	Total/NA	Solid	8260B/CA_LUFT MS	
440-145508-A-1 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/CA_LUFT MS	
440-145577-1	AS-1-S-5-160418	Total/NA	Solid	8260B/CA_LUFT MS	
440-145577-9	PZ-1-S-20-160419	Total/NA	Solid	8260B/CA_LUFT MS	
440-145577-10	PZ-2-S-25-160419	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-327034/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-327034/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

### Prep Batch: 327169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145577-5	AS-1-S-25-160420	Total/NA	Solid	5030B	

### Analysis Batch: 327284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145577-5	AS-1-S-25-160420	Total/NA	Solid	8260B/5030B	327169
LCS 440-327284/5	Lab Control Sample	Total/NA	Solid	8260B/5030B	
LCSD 440-327284/6	Lab Control Sample Dup	Total/NA	Solid	8260B/5030B	
MB 440-327284/4	Method Blank	Total/NA	Solid	8260B/5030B	

### Analysis Batch: 327285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145577-5	AS-1-S-25-160420	Total/NA	Solid	8260B/CA_LUFT MS	327169
LCS 440-327285/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 440-327285/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-327285/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

# Definitions/Glossary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145577-1

## Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine

**Chain of Custody Record**

**Client Information**  
 Sampler: Jake Prowse  
 Lab Pmt: Wagner, Heather  
 Client Contact: Brian Westhoff  
 Phone: 916-384-0710  
 E-Mail: heather.wagner@testamericainc.com  
 Carrier Tracking No(s): 4895540491684  
 COC No: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Job #: \_\_\_\_\_

**Company:** Stantec Consulting Corp.  
**Address:** 3017 Kilgore Road Suite 100  
**City:** Rancho Cordova  
**State, Zip:** CA, 95670  
**Phone:** 916-384-0743  
**PO #:** \_\_\_\_\_  
**Purchase Order Requested:** \_\_\_\_\_  
**WO #:** \_\_\_\_\_  
**Email:** brian.westhoff@stantec.com  
**Project Name:** Chevron multiline  
**Project #:** 185750447  
**SSOW#:** \_\_\_\_\_

Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	PRE-SERVE
	DATE	TIME			
AS-1-5	4/18/16	940	SOIL	1	NA
AS-1-10	4/20/16	1030	SOIL	1	NA
AS-1-15	4/20/16	1040	SOIL	1	NA
AS-1-20	4/20/16	1045	SOIL	1	NA
AS-1-25	4/20/16	1110	SOIL	1	NA
AS-1-30	4/20/16	1112	SOIL	1	NA
AS-1-35	4/20/16	1120	SOIL	1	NA
AS-1-40	4/20/16	1130	SOIL	1	NA
PZ-1-20	4/19/16	1020	SOIL	1	NA
PZ-2-25	4/19/16	1400	SOIL	1	NA

**Due Date Requested:** \_\_\_\_\_  
**TAT Requested (days):** 5  
**Due Date Requested:** \_\_\_\_\_

Analysis Requested	TPHg - EPA Method 8260	BTEX/MRE - EPA Method 8260	Naphthalene	Hold	Special Instructions/Note:
	X	X	X		145
	X			X	4/27/16 10:20
	X			X	#4895-540491684
	X	X		X	2.0/1.8/2.73
	X			X	
	X			X	
	X			X	
	X			X	
	X			X	
	X			X	
	X			X	

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
**Special Instructions/QC Requirements:** \_\_\_\_\_

**Method of Shipment:** \_\_\_\_\_

**Received by:** Jake Prowse Date/Time: 4-22-16 9:40 Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: 4-27-16 16:30 Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Cooler Temperature(s) °C and Other Remarks:** Rel. by: Van Bauld 4/25/16 17:00  
 Custody Seal Intact:  Yes  No  No  
 Rel. by: \_\_\_\_\_ 4-26-16 10:00  
 Rel. by: \_\_\_\_\_ 4/27/16 9:50

## Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 440-145577-1

**Login Number: 145577**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Skinner, Alma**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-145582-1

Client Project/Site: CVX 9-7127

For:

Stantec Consulting Corp.

3017 Kilgore Road

Suite 100

Rancho Cordova, California 95670

Attn: Brian Westhoff



Authorized for release by:

5/4/2016 4:20:50 PM

Lena Davidkova, Project Manager II

(949)261-1022

[lena.davidkova@testamericainc.com](mailto:lena.davidkova@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

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

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Sample Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-145582-5	PZ-3-S-25-160420	Solid	04/20/16 08:28	04/27/16 09:50

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

# Case Narrative

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

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**Job ID: 440-145582-1**

---

**Laboratory: TestAmerica Irvine**

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**Narrative**

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**Job Narrative  
440-145582-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 4/27/2016 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

**GC/MS VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**VOA Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Client Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

**Client Sample ID: PZ-3-S-25-160420**

**Lab Sample ID: 440-145582-5**

Date Collected: 04/20/16 08:28

Matrix: Solid

Date Received: 04/27/16 09:50

**Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	18		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
Ethylbenzene	35		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
m,p-Xylene	130		4.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
Methyl-t-Butyl Ether (MTBE)	ND		5.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
o-Xylene	46		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
Toluene	150		2.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000
Xylenes, Total	180		4.0	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		65 - 140	04/28/16 15:05	04/29/16 12:24	2000
Dibromofluoromethane (Surr)	94		55 - 140	04/28/16 15:05	04/29/16 12:24	2000
Toluene-d8 (Surr)	102		60 - 140	04/28/16 15:05	04/29/16 12:24	2000

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	5200		200	mg/Kg		04/28/16 15:05	04/29/16 12:24	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	94		55 - 140	04/28/16 15:05	04/29/16 12:24	2000
4-Bromofluorobenzene (Surr)	95		65 - 140	04/28/16 15:05	04/29/16 12:24	2000
Toluene-d8 (Surr)	102		60 - 140	04/28/16 15:05	04/29/16 12:24	2000

# Method Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

Method	Method Description	Protocol	Laboratory
8260B/5030B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	Volatile Organic Compounds by GC/MS	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# Lab Chronicle

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

**Client Sample ID: PZ-3-S-25-160420**

**Lab Sample ID: 440-145582-5**

**Date Collected: 04/20/16 08:28**

**Matrix: Solid**

**Date Received: 04/27/16 09:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			9.99 g	10 mL	327169	04/28/16 15:05	AL	TAL IRV
Total/NA	Analysis	8260B/5030B		2000	9.99 g	10 mL	327284	04/29/16 12:24	AL	TAL IRV
Total/NA	Prep	5030B			9.99 g	10 mL	327169	04/28/16 15:05	AL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		2000	9.99 g	10 mL	327285	04/29/16 12:24	AL	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

## Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-327284/4**

**Matrix: Solid**

**Analysis Batch: 327284**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10	mg/Kg			04/29/16 08:23	100
Ethylbenzene	ND		0.10	mg/Kg			04/29/16 08:23	100
m,p-Xylene	ND		0.20	mg/Kg			04/29/16 08:23	100
Methyl-t-Butyl Ether (MTBE)	ND		0.25	mg/Kg			04/29/16 08:23	100
o-Xylene	ND		0.10	mg/Kg			04/29/16 08:23	100
Toluene	ND		0.10	mg/Kg			04/29/16 08:23	100
Xylenes, Total	ND		0.20	mg/Kg			04/29/16 08:23	100

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		65 - 140		04/29/16 08:23	100
Dibromofluoromethane (Surr)	96		55 - 140		04/29/16 08:23	100
Toluene-d8 (Surr)	103		60 - 140		04/29/16 08:23	100

**Lab Sample ID: LCS 440-327284/5**

**Matrix: Solid**

**Analysis Batch: 327284**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	2.32		mg/Kg		93	65 - 120
Ethylbenzene	2.50	2.38		mg/Kg		95	80 - 120
m,p-Xylene	2.50	2.53		mg/Kg		101	70 - 125
Methyl-t-Butyl Ether (MTBE)	2.50	2.53		mg/Kg		101	55 - 145
o-Xylene	2.50	2.42		mg/Kg		97	70 - 125
Toluene	2.50	2.47		mg/Kg		99	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		65 - 140
Dibromofluoromethane (Surr)	95		55 - 140
Toluene-d8 (Surr)	102		60 - 140

**Lab Sample ID: LCSD 440-327284/6**

**Matrix: Solid**

**Analysis Batch: 327284**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	2.50	2.38		mg/Kg		95	65 - 120	2	20
Ethylbenzene	2.50	2.39		mg/Kg		95	80 - 120	0	20
m,p-Xylene	2.50	2.54		mg/Kg		101	70 - 125	0	20
Methyl-t-Butyl Ether (MTBE)	2.50	2.59		mg/Kg		103	55 - 145	2	25
o-Xylene	2.50	2.43		mg/Kg		97	70 - 125	0	20
Toluene	2.50	2.47		mg/Kg		99	80 - 120	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		65 - 140
Dibromofluoromethane (Surr)	94		55 - 140
Toluene-d8 (Surr)	102		60 - 140

TestAmerica Irvine

# QC Sample Results

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 440-327285/4**

**Matrix: Solid**

**Analysis Batch: 327285**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		10	mg/Kg			04/29/16 08:23	100

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		55 - 140		04/29/16 08:23	100
4-Bromofluorobenzene (Surr)	89		65 - 140		04/29/16 08:23	100
Toluene-d8 (Surr)	103		60 - 140		04/29/16 08:23	100

**Lab Sample ID: LCS 440-327285/7**

**Matrix: Solid**

**Analysis Batch: 327285**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	50.0	44.9		mg/Kg		90	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	94		55 - 140
4-Bromofluorobenzene (Surr)	90		65 - 140
Toluene-d8 (Surr)	103		60 - 140

**Lab Sample ID: LCSD 440-327285/8**

**Matrix: Solid**

**Analysis Batch: 327285**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	50.0	45.6		mg/Kg		91	60 - 130	2	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	92		55 - 140
4-Bromofluorobenzene (Surr)	92		65 - 140
Toluene-d8 (Surr)	103		60 - 140

# QC Association Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

## GC/MS VOA

### Prep Batch: 327169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145582-5	PZ-3-S-25-160420	Total/NA	Solid	5030B	

### Analysis Batch: 327284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145582-5	PZ-3-S-25-160420	Total/NA	Solid	8260B/5030B	327169
LCS 440-327284/5	Lab Control Sample	Total/NA	Solid	8260B/5030B	
LCSD 440-327284/6	Lab Control Sample Dup	Total/NA	Solid	8260B/5030B	
MB 440-327284/4	Method Blank	Total/NA	Solid	8260B/5030B	

### Analysis Batch: 327285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-145582-5	PZ-3-S-25-160420	Total/NA	Solid	8260B/CA_LUFT MS	327169
LCS 440-327285/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 440-327285/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-327285/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	



## Definitions/Glossary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Stantec Consulting Corp.  
Project/Site: CVX 9-7127

TestAmerica Job ID: 440-145582-1

## Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-16
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16
Nevada	State Program	9	CA015312016-2	07-31-16
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-16 *
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine

**TestAmerica West Sacramento**  
 880 Riverside Pkwy  
 West Sacramento, CA 95605  
 Phone: (916) 373-5600

**Chain of Custody Record**

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Lab P/M: Wagner, Heather		Carrier Tracking No(s): 4895 5404 9184		COC No:	
Client Contact: Brian Westhoff		Phone: 916-384-0710		E-Mail: heather.wagner@testamericainc.com		Page:	
Company: Stantec Consulting Corp.		Address: 3017 Kilgore Road Suite 100		City: Rancho Cordova		State, Zip: CA, 95670	
Phone: 916-384-0743		PO #: 5		Purchase Order Requested		W/O #: Chevron multiline	
Email: brian.westhoff@stantec.com		Project #: 185750447		SSOW#: 97127		Due Date Requested:	
Address: 3017 Kilgore Road Suite 100		City: Rancho Cordova		State, Zip: CA, 95670		TAT Requested (days):	
Phone: 916-384-0743		PO #: 5		Purchase Order Requested		W/O #: Chevron multiline	
Email: brian.westhoff@stantec.com		Project #: 185750447		SSOW#: 97127		Due Date Requested:	

Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	PRE-SERVE	Analysis Requested	Special Instructions/Note:
	DATE	TIME					
PZ-3-10	4/20/16	800	SOIL	1	NA	TPHg - EPA Method 8260 BTEX/MBE - EPA Method 8260 Naphthalene	MS 4/27/16 18:20
PZ-3-15	4/20/16	810	SOIL	1	NA		
PZ-3-20	4/20/16	815	SOIL	1	NA		
PZ-3-22	4/20/16	825	SOIL	1	NA		
PZ-3-25	4/20/16	828	SOIL	1	NA		#489554049184
PZ-3-30	4/20/16	835	SOIL	1	NA		
PZ-3-35	4/20/16	840	SOIL	1	NA		
PZ-3-37	4/20/16	845	SOIL	1	NA		
SP-1	4/20/16	1310	SOIL	1	NA		2.0/1.3 DF73

<b>Possible Hazard Identification</b>		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	
<b>Deliverable Requested:</b> I, II, III, IV, Other (specify) II		<b>Special Instructions/QC Requirements:</b>	
<b>Empty Kit Relinquished by:</b> Jake Prowse		<b>Method of Shipment:</b>	
<b>Relinquished by:</b> [Signature]		<b>Date:</b> 4-22-16 16:30	
<b>Relinquished by:</b> [Signature]		<b>Date:</b> 4-22-16 16:30	
<b>Relinquished by:</b> [Signature]		<b>Date:</b> 4-22-16 16:30	
<b>Custody Seal Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Custody Seal No.:</b> 489516 1700	
<b>Relinquished by:</b> [Signature]		<b>Date:</b> 4-27-16 9:50	

## Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 440-145582-1

**Login Number: 145582**

**List Number: 1**

**Creator: Skinner, Alma**

**List Source: TestAmerica Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Calscience



**WORK ORDER NUMBER: 16-08-1281**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Client Project Name: Chevron 97127  
Work Order Number: 16-08-1281

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	3.2 EPA TO-3 (M) GRO (Air). . . . .	7
4	Quality Control Sample Data. . . . .	8
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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/18/16. They were assigned to Work Order 16-08-1281.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

## Detections Summary

Client: Stantec  
 3875 Atherton Road  
 Rocklin, CA 95765-3716

Work Order: 16-08-1281  
 Project Name: Chevron 97127  
 Received: 08/18/16

Attn: Brian Westhoff

Page 1 of 1

**Client SampleID**

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
MW-1 (Day 1) (16-08-1281-1)						
Benzene	800		5.0	ppm (v/v)	EPA TO-15M	N/A
Toluene	890		50	ppm (v/v)	EPA TO-15M	N/A
Ethylbenzene	35		5.0	ppm (v/v)	EPA TO-15M	N/A
p/m-Xylene	130		20	ppm (v/v)	EPA TO-15M	N/A
o-Xylene	38		5.0	ppm (v/v)	EPA TO-15M	N/A
Xylenes (total)	170		5.0	ppm (v/v)	EPA TO-15M	N/A
Gasoline Range Organics (C6-C12)	55000		400	ppm (v/v)	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.

\* MDL is shown



## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M  
Units: ppm (v/v)

Project: Chevron 97127

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1 (Day 1)	16-08-1281-1-A	08/17/16 09:00	Air	GC/MS AA	N/A	08/19/16 10:00	160818L02

Parameter	Result	RL	DF	Qualifiers
Benzene	800	5.0	10000	
Toluene	890	50	10000	
Ethylbenzene	35	5.0	10000	
p/m-Xylene	130	20	10000	
o-Xylene	38	5.0	10000	
Xylenes (total)	170	5.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	20	10000	
Tert-Butyl Alcohol (TBA)	ND	50	10000	
Diisopropyl Ether (DIPE)	ND	20	10000	
Ethyl-t-Butyl Ether (ETBE)	ND	20	10000	
Tert-Amyl-Methyl Ether (TAME)	ND	20	10000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	118	57-129	
1,2-Dichloroethane-d4	147	47-137	2,7
Toluene-d8	107	78-156	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M  
Units: ppm (v/v)

Project: Chevron 97127

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-983-4593	N/A	Air	GC/MS AA	N/A	08/18/16 19:21	160818L02

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.00050	1.00	
Toluene	ND	0.0050	1.00	
Ethylbenzene	ND	0.00050	1.00	
p/m-Xylene	ND	0.0020	1.00	
o-Xylene	ND	0.00050	1.00	
Xylenes (total)	ND	0.00050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.0050	1.00	
Diisopropyl Ether (DIPE)	ND	0.0020	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	57-129	
1,2-Dichloroethane-d4	130	47-137	
Toluene-d8	98	78-156	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

# Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-3M  
Units: ppm (v/v)

Project: Chevron 97127

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 1)</b>	<b>16-08-1281-1-A</b>	<b>08/17/16 09:00</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 17:53</b>	<b>160818L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	55000	400	400	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-14-431-646</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 11:10</b>	<b>160818L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	1.0	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Quality Control - Sample Duplicate

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
<b>MW-1 (Day 1)</b>	<b>Sample</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 17:53</b>	<b>160818D02</b>
<b>MW-1 (Day 1)</b>	<b>Sample Duplicate</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 18:34</b>	<b>160818D02</b>

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	54910	58890	7	0-20	

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-4593	LCS	Air	GC/MS AA	N/A	08/18/16 14:55	160818L02
099-12-983-4593	LCSD	Air	GC/MS AA	N/A	08/18/16 15:43	160818L02

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.02500	0.02382	95	0.02384	95	60-156	0	0-40	
Toluene	0.02500	0.02300	92	0.02398	96	56-146	4	0-43	
Ethylbenzene	0.02500	0.02463	99	0.02564	103	52-154	4	0-38	
p/m-Xylene	0.05000	0.05016	100	0.05123	102	42-156	2	0-41	
o-Xylene	0.02500	0.02415	97	0.02475	99	52-148	2	0-38	
Methyl-t-Butyl Ether (MTBE)	0.02500	0.02222	89	0.02210	88	50-150	1	0-35	
Tert-Butyl Alcohol (TBA)	0.05000	0.05094	102	0.05116	102	60-140	0	0-35	
Diisopropyl Ether (DIPE)	0.02500	0.02544	102	0.02541	102	60-140	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	0.02500	0.02397	96	0.02399	96	60-140	0	0-35	
Tert-Amyl-Methyl Ether (TAME)	0.02500	0.01940	78	0.01969	79	60-140	2	0-35	

## Quality Control - LCS

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-646</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 10:21</b>	<b>160818L02</b>

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	100.0	105.4	105	80-120	

## Sample Analysis Summary Report

Work Order: 16-08-1281

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15M	N/A	953	GC/MS AA	2
EPA TO-3M	N/A	929	GC 38	2

  
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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.





ORIGIN ID: SCKA (530) 713-1247  
JAMES PATTON  
STANTEC CONSULTING  
3875 AHERTON RD

ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 17AUG16  
ACTWGT: 0.70 LB  
CAD: 6992431/SSF01704  
DIMS: 12x9x6 IN

BILL RECIPIENT

TO **SAMPLE RECEIVING**  
**EUROFINS CALSCIENCE INC**  
**7440 LINCOLN WAY**

**GARDEN GROVE CA 92841**

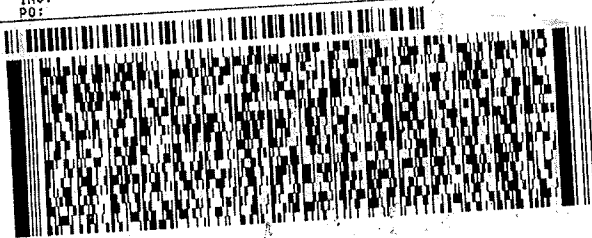
(714) 896-5494

REF:

DEPT:

THU:

PO:



**FedEx**  
Express



AN 103070910291

TRK# 7838 5451 0973  
0201

*D* THU - 18 AUG 10:30A  
PRIORITY OVERNIGHT

**92 APVA**

92841  
CA-US SNA

SHIP DATE: 17AUG16  
ACTWGT: 0.70 LB  
CAD: 6992431/SSF01704  
DIMS: 12x9x6 IN



Part # 158297V-435 RTZ EXP 07/17



Calscience

WORK ORDER NUMBER: 16-08-1281

SAMPLE RECEIPT CHECKLIST

BOX COOLER 1 OF 1
DATE: 08/18/2016

CLIENT: Stantec

TEMPERATURE: (Criteria: 0.0°C - 6.0°C, not frozen except sediment/tissue)
Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): °C (w/ CF): °C;
Sample(s) outside temperature criteria (PM/APM contacted by: )
Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
Sample(s) received at ambient temperature; placed on ice for transport by courier
Ambient Temperature: Air Filter
Checked by: 15

CUSTODY SEAL:
Cooler Present and Intact Present but Not Intact Not Present N/A
Sample(s) Present and Intact Present but Not Intact Not Present N/A
Checked by: 15
Checked by: 826

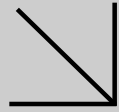
SAMPLE CONDITION:
Chain-of-Custody (COC) document(s) received with samples
COC document(s) received complete
Sampling date Sampling time Matrix Number of containers
No analysis requested Not relinquished No relinquished date No relinquished time
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and in good condition
Proper containers for analyses requested
Sufficient volume/mass for analyses requested
Samples received within holding time
Aqueous samples for certain analyses received within 15-minute holding time
pH Residual Chlorine Dissolved Sulfide Dissolved Oxygen
Proper preservation chemical(s) noted on COC and/or sample container
Unpreserved aqueous sample(s) received for certain analyses
Volatile Organics Total Metals Dissolved Metals
Container(s) for certain analysis free of headspace
Volatile Organics Dissolved Gases (RSK-175) Dissolved Oxygen (SM 4500)
Carbon Dioxide (SM 4500) Ferrous Iron (SM 3500) Hydrogen Sulfide (Hach)
Tedlar bag(s) free of condensation

CONTAINER TYPE: (Trip Blank Lot Number: )
Aqueous: VOA VOAh VOAna2 100PJ 100PJna2 125AGB 125AGBh 125AGBp 125PB
125PBzanna 250AGB 250CGB 250CGBs 250PB 250PBn 500AGB 500AGJ 500AGJs
500PB 1AGB 1AGBna2 1AGBs 1PB 1PBna
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve EnCores TerraCores
Air: Tedlar Canister Sorbent Tube PUF Other Matrix
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag
Preservative: b = buffered, f = filtered, h = HCl, n = HNO3, na = NaOH, na2 = Na2S2O3, p = H3PO4,
s = H2SO4, u = ultra-pure, zanna = Zn (CH3CO2)2 + NaOH
Labeled/Checked by: 826
Reviewed by: 778



Environmental  
Calscience

Supplemental Report 1



**WORK ORDER NUMBER: 16-08-1281**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 16-08-1281

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**Work Order Narrative**

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Work Order: 16-08-1281

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/18/16. They were assigned to Work Order 16-08-1281.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



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### Detections Summary

Client: Stantec  
 3875 Atherton Road  
 Rocklin, CA 95765-3716

Work Order: 16-08-1281  
 Project Name: Chevron 97127  
 Received: 08/18/16

Attn: Brian Westhoff

Page 1 of 1

**Client SampleID**

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
MW-1 (Day 1) (16-08-1281-1)						
Benzene	2500		16	mg/m3	EPA TO-15M	N/A
Toluene	3300		190	mg/m3	EPA TO-15M	N/A
Ethylbenzene	150		22	mg/m3	EPA TO-15M	N/A
p/m-Xylene	570		87	mg/m3	EPA TO-15M	N/A
o-Xylene	160		22	mg/m3	EPA TO-15M	N/A
Xylenes (total)	730		22	mg/m3	EPA TO-15M	N/A
Gasoline Range Organics (C6-C12)	210000		1500	mg/m3	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.

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\* MDL is shown



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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M  
Units: mg/m3

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1 (Day 1)	16-08-1281-1-A	08/17/16 09:00	Air	GC/MS AA	N/A	08/19/16 10:00	160818L02

Parameter	Result	RL	DF	Qualifiers
Benzene	2500	16	10000	
Toluene	3300	190	10000	
Ethylbenzene	150	22	10000	
p/m-Xylene	570	87	10000	
o-Xylene	160	22	10000	
Xylenes (total)	730	22	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	72	10000	
Tert-Butyl Alcohol (TBA)	ND	150	10000	
Diisopropyl Ether (DIPE)	ND	84	10000	
Ethyl-t-Butyl Ether (ETBE)	ND	84	10000	
Tert-Amyl-Methyl Ether (TAME)	ND	84	10000	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	118	57-129	
1,2-Dichloroethane-d4	147	47-137	2,7
Toluene-d8	107	78-156	


 Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M  
Units: mg/m3

Project: Chevron 97127

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-983-4593	N/A	Air	GC/MS AA	N/A	08/18/16 19:21	160818L02

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0016	1.00	
Toluene	ND	0.019	1.00	
Ethylbenzene	ND	0.0022	1.00	
p/m-Xylene	ND	0.0087	1.00	
o-Xylene	ND	0.0022	1.00	
Xylenes (total)	ND	0.0022	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0072	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.015	1.00	
Diisopropyl Ether (DIPE)	ND	0.0084	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.0084	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.0084	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	57-129	
1,2-Dichloroethane-d4	130	47-137	
Toluene-d8	98	78-156	


  
Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-3M  
Units: mg/m3

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 1)</b>	<b>16-08-1281-1-A</b>	<b>08/17/16 09:00</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 17:53</b>	<b>160818L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	210000	1500	400	

<b>Method Blank</b>	<b>099-14-431-646</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 11:10</b>	<b>160818L02</b>
---------------------	-----------------------	------------	------------	--------------	------------	---------------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Quality Control - Sample Duplicate

Stantec	Date Received:	08/18/16
3875 Atherton Road	Work Order:	16-08-1281
Rocklin, CA 95765-3716	Preparation:	N/A
	Method:	EPA TO-3M
Project: Chevron 97127		Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
<b>MW-1 (Day 1)</b>	<b>Sample</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 17:53</b>	<b>160818D02</b>
<b>MW-1 (Day 1)</b>	<b>Sample Duplicate</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 18:34</b>	<b>160818D02</b>
<u>Parameter</u>		<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		210000	225200	7	0-20	

  
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RPD: Relative Percent Difference. CL: Control Limits



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## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/18/16  
Work Order: 16-08-1281  
Preparation: N/A  
Method: EPA TO-15M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-12-983-4593	LCS	Air	GC/MS AA	N/A	08/18/16 14:55	160818L02			
099-12-983-4593	LCSD	Air	GC/MS AA	N/A	08/18/16 15:43	160818L02			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.07987	0.07609	95	0.07616	95	60-156	0	0-40	
Toluene	0.09421	0.08667	92	0.09038	96	56-146	4	0-43	
Ethylbenzene	0.1086	0.1070	99	0.1113	103	52-154	4	0-38	
p/m-Xylene	0.2171	0.2178	100	0.2225	102	42-156	2	0-41	
o-Xylene	0.1086	0.1049	97	0.1075	99	52-148	2	0-38	
Methyl-t-Butyl Ether (MTBE)	0.09013	0.08011	89	0.07966	88	50-150	1	0-35	
Tert-Butyl Alcohol (TBA)	0.1516	0.1544	102	0.1551	102	60-140	0	0-35	
Diisopropyl Ether (DIPE)	0.1045	0.1063	102	0.1062	102	60-140	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	0.1045	0.1002	96	0.1002	96	60-140	0	0-35	
Tert-Amyl-Methyl Ether (TAME)	0.1045	0.08105	78	0.08229	79	60-140	2	0-35	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



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## Quality Control - LCS

Stantec	Date Received:	08/18/16
3875 Atherton Road	Work Order:	16-08-1281
Rocklin, CA 95765-3716	Preparation:	N/A
	Method:	EPA TO-3M
Project: Chevron 97127		Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-646</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/18/16 10:21</b>	<b>160818L02</b>
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		382.4	403.2	105	80-120	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Sample Analysis Summary Report

Work Order: 16-08-1281

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15M	N/A	953	GC/MS AA	2
EPA TO-3M	N/A	929	GC 38	2

  
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Location 2: 7445 Lampson Avenue, Garden Grove, CA 92841

## Glossary of Terms and Qualifiers

Work Order: 16-08-1281

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.





ORIGIN ID: SCKA (530) 713-1247  
JAMES PATTON  
STANTEC CONSULTING  
3875 AHERTON RD

ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 17AUG16  
ACTWGT: 0.70 LB  
CAD: 6992431/SSF01704  
DIMS: 12x9x6 IN

BILL RECIPIENT

Part # 158297V-435 RTZ EXP 07/17

TO **SAMPLE RECEIVING**  
**EUROFINS CALSCIENCE INC**  
**7440 LINCOLN WAY**

**GARDEN GROVE CA 92841**

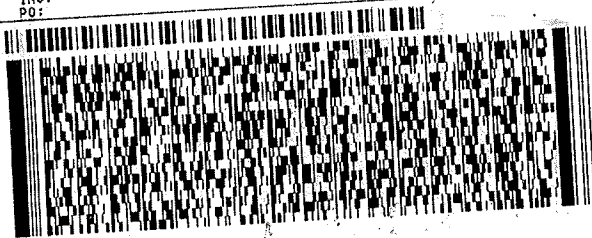
(714) 896-5494

REF:

DEPT:

THU:

PO:



**FedEx**  
Express



AT 10:30:00 0910291

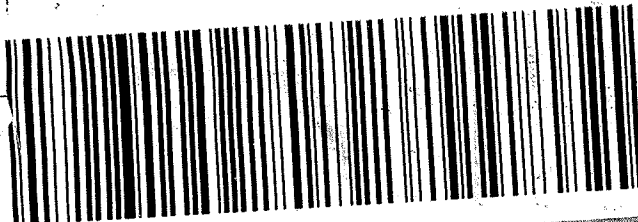
*D* THU - 18 AUG 10:30A  
PRIORITY OVERNIGHT

TRK# 7838 5451 0973  
0201

**92 APVA**

92841  
CA-US SNA

Part # 158297V-435 RTZ EXP 05/17



SAMPLE RECEIPT CHECKLIST

BOX  
COOLER 1 OF 1  
AP 8/18/16  
DATE: 08/18/2016

CLIENT: Stantec

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): \_\_\_\_\_ °C (w/ CF): \_\_\_\_\_ °C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: LS

CUSTODY SEAL:

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: LS

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: 826

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONTAINER TYPE:

(Trip Blank Lot Number: \_\_\_\_\_)

Aqueous:  VOA  VOAh  VOAna<sub>2</sub>  100PJ  100PJna<sub>2</sub>  125AGB  125AGBh  125AGBp  125PB

125PBz<sub>na</sub>  250AGB  250CGB  250CGBs  250PB  250PBn  500AGB  500AGJ  500AGJs

500PB  1AGB  1AGBna<sub>2</sub>  1AGBs  1PB  1PBna  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

Solid:  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores® (\_\_\_\_\_)  TerraCores® (\_\_\_\_\_)  \_\_\_\_\_

Air:  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ Other Matrix (\_\_\_\_):  \_\_\_\_\_  \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

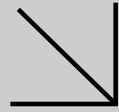
Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: 826

s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, z<sub>na</sub> = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH

Reviewed by: 778



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**WORK ORDER NUMBER: 16-08-1534**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



# Contents

Client Project Name: Chevron 97127  
Work Order Number: 16-08-1534

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/20/16. They were assigned to Work Order 16-08-1534.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

## Detections Summary

Client: Stantec  
 3875 Atherton Road  
 Rocklin, CA 95765-3716

Work Order: 16-08-1534  
 Project Name: Chevron 97127  
 Received: 08/20/16

Attn: Brian Westhoff

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### Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
MW-1 (Day 2) (16-08-1534-1)						
Benzene	320		2.0	ppm (v/v)	EPA TO-15	N/A
Toluene	230		1.2	ppm (v/v)	EPA TO-15	N/A
Ethylbenzene	6.8		1.2	ppm (v/v)	EPA TO-15	N/A
p/m-Xylene	24		5.0	ppm (v/v)	EPA TO-15	N/A
o-Xylene	6.4		1.2	ppm (v/v)	EPA TO-15	N/A
Xylenes (total)	30		1.2	ppm (v/v)	EPA TO-15	N/A
Gasoline Range Organics (C6-C12)	15000		100	ppm (v/v)	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.



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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/20/16 18:39</b>	<b>160820L05</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Toluene	230	1.2	2500	
Ethylbenzene	6.8	1.2	2500	
p/m-Xylene	24	5.0	2500	
o-Xylene	6.4	1.2	2500	
Xylenes (total)	30	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	2500	
Tert-Butyl Alcohol (TBA)	ND	5.0	2500	
Diisopropyl Ether (DIPE)	ND	5.0	2500	
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	2500	
Tert-Amyl-Methyl Ether (TAME)	ND	5.0	2500	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	95	57-129	
1,2-Dichloroethane-d4	98	47-137	
Toluene-d8	100	78-156	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/20/16 20:12</b>	<b>160820L05</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	320	2.0	4000	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	96	57-129	
1,2-Dichloroethane-d4	98	47-137	
Toluene-d8	101	78-156	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: Chevron 97127

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-769-34	N/A	Air	GC/MS II	N/A	08/20/16 15:04	160820L05

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.00050	1.00	
Toluene	ND	0.00050	1.00	
Ethylbenzene	ND	0.00050	1.00	
p/m-Xylene	ND	0.0020	1.00	
o-Xylene	ND	0.00050	1.00	
Xylenes (total)	ND	0.00050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.0020	1.00	
Diisopropyl Ether (DIPE)	ND	0.0020	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	57-129	
1,2-Dichloroethane-d4	100	47-137	
Toluene-d8	97	78-156	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M  
Units: ppm (v/v)

Project: Chevron 97127

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 16:33</b>	<b>160820L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	15000	100	100	

<b>Method Blank</b>	<b>099-14-431-649</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 11:12</b>	<b>160820L02</b>
---------------------	-----------------------	------------	------------	--------------	------------	---------------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Quality Control - Sample Duplicate

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
<b>MW-1 (Day 2)</b>	<b>Sample</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 16:33</b>	<b>160820D02</b>
<b>MW-1 (Day 2)</b>	<b>Sample Duplicate</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 17:13</b>	<b>160820D02</b>
<u>Parameter</u>		<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		14660	15010	2	0-20	

  
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RPD: Relative Percent Difference. CL: Control Limits



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## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-769-34	LCS	Air	GC/MS II	N/A	08/20/16 12:28	160820L05			
099-15-769-34	LCSD	Air	GC/MS II	N/A	08/20/16 13:20	160820L05			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.02500	0.02517	101	0.02543	102	60-156	1	0-40	
Toluene	0.02500	0.02461	98	0.02468	99	56-146	0	0-43	
Ethylbenzene	0.02500	0.02515	101	0.02510	100	52-154	0	0-38	
p/m-Xylene	0.05000	0.05054	101	0.05043	101	42-156	0	0-41	
o-Xylene	0.02500	0.02466	99	0.02467	99	52-148	0	0-38	
Methyl-t-Butyl Ether (MTBE)	0.02500	0.02546	102	0.02520	101	50-150	1	0-35	
Tert-Butyl Alcohol (TBA)	0.05000	0.05027	101	0.05243	105	50-150	4	0-35	
Diisopropyl Ether (DIPE)	0.02500	0.02335	93	0.02343	94	50-150	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	0.02500	0.02494	100	0.02497	100	50-150	0	0-35	
Tert-Amyl-Methyl Ether (TAME)	0.02500	0.02577	103	0.02593	104	50-150	1	0-35	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-649</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 10:14</b>	<b>160820L02</b>
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		100.0	102.6	103	80-120	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

### Summa Canister Vacuum Summary

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Work Order: 16-08-1534

Page 1 of 1

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Sample Name	Vacuum Out	Vacuum In	Equipment	Description
MW-1 (Day 2)	-29.50 in Hg	-5.20 in Hg	LC300	Summa Canister 1L

  
Return to Contents

## Sample Analysis Summary Report

Work Order: 16-08-1534

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15	N/A	866	GC/MS II	2
EPA TO-3M	N/A	1074	GC 38	2

## Glossary of Terms and Qualifiers

Work Order: 16-08-1534

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Chevron Project Name: Former Chevron Service Station No. 9-7127  
 Chevron Facility No: Chevron 97127  
 Lab Work Order Number: **16-08-1534**  
 Reg Due Date (mm/dd/yy):  
 Rush TAT: Yes  No

Lab Name: Eurofins Calscience, Inc.      Chevron Facility Address: 10 Grant Line Road  
 Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841-142      City, State, ZIP Code: Livermore, CA 94550  
 Lab PM: Vik Patel      Lead Regulatory Agency: Alameda County Environmental Health  
 Lab Phone: (714) 895-5494 Ext 211      Chevron Site Global ID No.: T0608700253  
 Lab Shipping Acct: 171530695 (FedEx Stantec Acct)      Charge Code:  
 Lab Bottle Order No:      Site Assessment: Remediation Implementation:  
 WBS Elements: Site Monitoring: Operation Maint. & Monitoring:  
 Other Info: Retail and Terminal Business Unit (RTBU) Job  Construction/Retail Job

Lab No.	Sample Description	Date	Time	Matrix			No. Containers / Preservative	Requested Analyses				Turnaround Time		Report Type & QC Level	Comments
				Soil / Solid	Water / Liquid	Air / Vapor		Total Number of Containers	Unpreserved	TEL & TML (NIOSH 2533M)	Fixed Gases (Methane, Oxygen, and CO2) (ASTM D-1946)	Sulfur Compounds ASTM D - 5504	VOCS as Hexane - EPA TO-3M		
1	MW-1 (Day 2)	08/18/16	13:25	X	X	X	1	X	X	X	X	X	X		Results in mg/m3 and ppmv
	MW-1 (Day 2)	08/19/16	08:05												

Invoice To: Chevron EMC      Contractor

Chevron Consultant/Contract: Stantec Consulting Services Inc.  
 Consultant/Contractor Project No: 185750447.718.1006  
 Address: 3875 Atherton Road, Rocklin, CA 95765  
 Consultant/Contractor PM: Brian Westhoff  
 Phone: 916-472-3900  
 Email EDD To: Laura.Viesselman@stantec.com  
 Email EDX To: brian.westhoff@stantec.com, adrian.perez@stantec.com, judith.salazar@stantec.com

Sampler's Name: James Patton  
 Sampler's Company: Stantec Consulting Corporation  
 Shipment Method: Fed Ex      Ship Date: 08/19/16  
 Shipment Tracking No: 7838 7162 0580

**Special Instructions:** EDF must be in Chevron format.      °F/C:      Cooler Temp on Receipt:      Trip Blank: Yes / No      MS/MSD Sample Submitted: Yes / No



1534

ORIGIN ID: SCKA (916) 472-3900  
JAMES PATTON  
3875 ATHERTON RD  
ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 19AUG16\*  
ACTWGT: 17.40 LB  
CAD: 6992431/SSF01704  
DIMS: 19x17x10 IN  
BILL THIRD PARTY

Part # 156297V-435 RTR EXP 07/17

TO **EUROFINS CALSCIENCE, INC**  
**SMAPLE RECEIVING**  
**7440 LINCOLN WAY**

**GARDEN GROVE CA 92841**

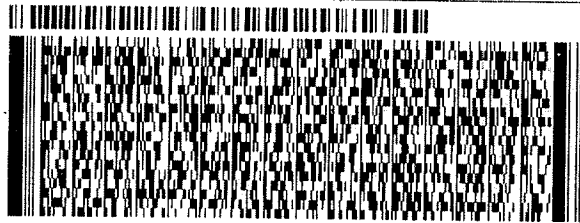
(714) 895-5494

REF:

INU:

PO:

DEPT:



**FedEx**  
Express



1050/20910291J

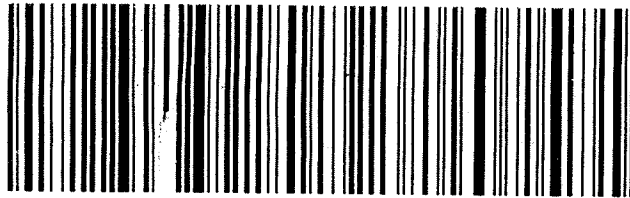
TRK# 7838 7162 0580  
0201

**SATURDAY 12:00P**  
**PRIORITY OVERNIGHT**

**WO APVA**

**DSR**  
**92841**

CA-US **SNA**



SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: Stantec

DATE: 08 / 20 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): \_\_\_\_\_ °C (w/ CF): \_\_\_\_\_ °C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: SR

CUSTODY SEAL:

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input checked="" type="checkbox"/> No relinquished date <input checked="" type="checkbox"/> No relinquished time			
Sampler's name indicated on COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

(Trip Blank Lot Number: \_\_\_\_\_)

Aqueous:  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  100PJ  100PJ<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  125PB

125PB<sub>z<sub>na</sub></sub>  250AGB  250CGB  250CGB<sub>s</sub>  250PB  250PB<sub>n</sub>  500AGB  500AGJ  500AGJ<sub>s</sub>

500PB  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>  1PB  1PB<sub>na</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

Solid:  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores® (\_\_\_\_\_)  TerraCores® (\_\_\_\_\_)  \_\_\_\_\_

Air:  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ Other Matrix (\_\_\_\_):  \_\_\_\_\_  \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: SR

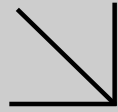
s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, z<sub>na</sub> = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH

Reviewed by: 770



Environmental  
Calscience

Supplemental Report 1



**WORK ORDER NUMBER: 16-08-1534**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



# Contents

Client Project Name: Chevron 97127  
Work Order Number: 16-08-1534

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/20/16. They were assigned to Work Order 16-08-1534.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

## Detections Summary

Client: Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Work Order: 16-08-1534  
Project Name: Chevron 97127  
Received: 08/20/16

Attn: Brian Westhoff

Page 1 of 1

### Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
MW-1 (Day 2) (16-08-1534-1)						
Benzene	1000		6.4	mg/m3	EPA TO-15	N/A
Toluene	870		4.7	mg/m3	EPA TO-15	N/A
Ethylbenzene	29		5.4	mg/m3	EPA TO-15	N/A
p/m-Xylene	100		22	mg/m3	EPA TO-15	N/A
o-Xylene	28		5.4	mg/m3	EPA TO-15	N/A
Xylenes (total)	130		5.4	mg/m3	EPA TO-15	N/A
Gasoline Range Organics (C6-C12)	56000		380	mg/m3	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.



Calscience

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-15  
Units: mg/m3

Project: Chevron 97127

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/20/16 18:39</b>	<b>160820L05</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Toluene	870	4.7	2500	
Ethylbenzene	29	5.4	2500	
p/m-Xylene	100	22	2500	
o-Xylene	28	5.4	2500	
Xylenes (total)	130	5.4	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	18	2500	
Tert-Butyl Alcohol (TBA)	ND	15	2500	
Diisopropyl Ether (DIPE)	ND	21	2500	
Ethyl-t-Butyl Ether (ETBE)	ND	21	2500	
Tert-Amyl-Methyl Ether (TAME)	ND	21	2500	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	95	57-129	
1,2-Dichloroethane-d4	98	47-137	
Toluene-d8	100	78-156	

<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/20/16 20:12</b>	<b>160820L05</b>
---------------------	-----------------------	---------------------------	------------	-----------------	------------	---------------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	1000	6.4	4000	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	96	57-129	
1,2-Dichloroethane-d4	98	47-137	
Toluene-d8	101	78-156	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Stantec	Date Received:	08/20/16
3875 Atherton Road	Work Order:	16-08-1534
Rocklin, CA 95765-3716	Preparation:	N/A
	Method:	EPA TO-15
	Units:	mg/m3

Project: Chevron 97127

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-769-34	N/A	Air	GC/MS II	N/A	08/20/16 15:04	160820L05

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0016	1.00	
Toluene	ND	0.0019	1.00	
Ethylbenzene	ND	0.0022	1.00	
p/m-Xylene	ND	0.0087	1.00	
o-Xylene	ND	0.0022	1.00	
Xylenes (total)	ND	0.0022	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0072	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.0061	1.00	
Diisopropyl Ether (DIPE)	ND	0.0084	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.0084	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.0084	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
1,4-Bromofluorobenzene	94	57-129		
1,2-Dichloroethane-d4	100	47-137		
Toluene-d8	97	78-156		

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





Calscience

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M  
Units: mg/m3

Project: Chevron 97127

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 2)</b>	<b>16-08-1534-1-A</b>	<b>08/18/16 13:25</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 16:33</b>	<b>160820L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	56000	380	100	

<b>Method Blank</b>	<b>099-14-431-649</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 11:12</b>	<b>160820L02</b>
---------------------	-----------------------	------------	------------	--------------	------------	---------------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	3.8	1.00	

  
Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Quality Control - Sample Duplicate

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
<b>MW-1 (Day 2)</b>	<b>Sample</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 16:33</b>	<b>160820D02</b>
<b>MW-1 (Day 2)</b>	<b>Sample Duplicate</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 17:13</b>	<b>160820D02</b>
<u>Parameter</u>		<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		56060	57390	2	0-20	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-769-34	LCS	Air	GC/MS II	N/A	08/20/16 12:28	160820L05			
099-15-769-34	LCSD	Air	GC/MS II	N/A	08/20/16 13:20	160820L05			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.07987	0.08042	101	0.08125	102	60-156	1	0-40	
Toluene	0.09421	0.09275	98	0.09301	99	56-146	0	0-43	
Ethylbenzene	0.1086	0.1092	101	0.1090	100	52-154	0	0-38	
p/m-Xylene	0.2171	0.2195	101	0.2190	101	42-156	0	0-41	
o-Xylene	0.1086	0.1071	99	0.1071	99	52-148	0	0-38	
Methyl-t-Butyl Ether (MTBE)	0.09013	0.09180	102	0.09086	101	50-150	1	0-35	
Tert-Butyl Alcohol (TBA)	0.1516	0.1524	101	0.1589	105	50-150	4	0-35	
Diisopropyl Ether (DIPE)	0.1045	0.09758	93	0.09791	94	50-150	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	0.1045	0.1042	100	0.1043	100	50-150	0	0-35	
Tert-Amyl-Methyl Ether (TAME)	0.1045	0.1077	103	0.1083	104	50-150	1	0-35	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1534  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-649</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 10:14</b>	<b>160820L02</b>
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		382.4	392.4	103	80-120	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

### Summa Canister Vacuum Summary

---

Work Order: 16-08-1534

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---

Sample Name	Vacuum Out	Vacuum In	Equipment	Description
MW-1 (Day 2)	-29.50 in Hg	-5.20 in Hg	LC300	Summa Canister 1L

  
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## Sample Analysis Summary Report

Work Order: 16-08-1534

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15	N/A	866	GC/MS II	2
EPA TO-3M	N/A	1074	GC 38	2

## Glossary of Terms and Qualifiers

Work Order: 16-08-1534

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Chevron Project Name: Former Chevron Service Station No. 9-7127  
 Chevron Facility No: Chevron 97127  
 Lab Work Order Number: **16-08-1534**  
 Reg Due Date (mm/dd/yy): \_\_\_\_\_  
 Rush TAT: Yes \_\_\_ No X

Lab Name: Eurofins Calscience, Inc.  
 Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841-142  
 Lab PM: Vik Patel  
 Lab Phone: (714) 895-5494 Ext 211  
 Lab Shipping Acct: 171530695 (FedEx Stantec Acct)  
 Lab Bottle Order No:  
 Other Info:  
 Chevron PM: Carryl MacLeod  
 PM Phone:  
 PM Email:

Lab No.	Sample Description	Date	Time	Matrix				No. Containers / Preservative				Requested Analyses				Turnaround Time		Report Type & QC Level	Comments
				Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	TEL & TML (NIOSH 2533M)	Fixed Gases (Methane, Oxygen, and CO2) (ASTM D-1946)	Sulfur Compounds ASTM D - 5504	VOCS as Hexane - EPA TO-3M	TPHg - EPA TO-3M	BTEX - EPA TO-15	Fuel Oxygenates - EPA TO-15	24-hours	Standard		
1	MW-1 (Day 2)	08/18/16	13:25	X	X	X	1	X	X	X	X	X	X	X	X	Standard <u>X</u>	Full Data Package _____	Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description. Results in mg/m3 and ppmv	
	MW-1 (Day 2)	08/19/16	08:05																

Relinquished By / Affiliation: *[Signature]*  
 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Accepted By / Affiliation: *[Signature]*  
 Date: 8/20/16  
 Time: 1100  
 Sampler's Name: James Raylen  
 Sampler's Company: Stantec Consulting Corporation  
 Shipment Method: Fed Ex Ship Date: 08/19/16  
 Shipment Tracking No: 7838 7162 0580  
 Special Instructions: EDF must be in Chevron format. Email EDF to brian.westhoff@stantec.com, adrian.perez@stantec.com, judith.salazar@stantec.com  
 Trip Blank: Yes / No \_\_\_\_\_  
 Cooler Temp on Receipt: \_\_\_\_\_ °F/C \_\_\_\_\_  
 MS/MSD Sample Submitted: Yes / No \_\_\_\_\_



1534

ORIGIN ID:SCKA (916) 472-3900  
JAMES PATTON  
3875 ATHERTON RD  
ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 19AUG16\*  
ACTWGT: 17.40 LB  
CAD: 6992431/SSF01704  
DIMS: 19x17x10 IN  
BILL THIRD PARTY

Part # 156297V-435 RTR EXP 07/17

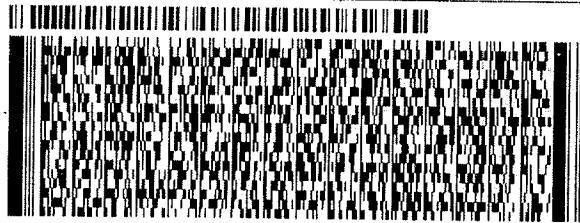
TO **EUROFINS CALSCIENCE, INC**  
**SMAPLE RECEIVING**  
**7440 LINCOLN WAY**

**GARDEN GROVE CA 92841**

(714) 895-5494  
INU:  
PO:

REF:

DEPT:



**FedEx**  
Express



1050/20910291J

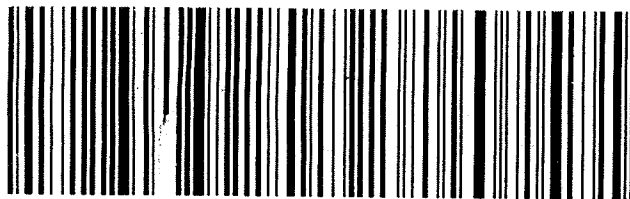
TRK# 7838 7162 0580  
0201

**SATURDAY 12:00P**  
**PRIORITY OVERNIGHT**

**WO APVA**

**DSR**  
**92841**

CA-US **SNA**



SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: Stantec

DATE: 08 / 20 / 2016

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): \_\_\_\_\_ °C (w/ CF): \_\_\_\_\_ °C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: SR

CUSTODY SEAL:

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input checked="" type="checkbox"/> No relinquished date <input checked="" type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

with  
08-2016

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CONTAINER TYPE:

(Trip Blank Lot Number: \_\_\_\_\_)

**Aqueous:**  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  100PJ  100PJ<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  125PB

125PB<sub>z<sub>na</sub></sub>  250AGB  250CGB  250CGB<sub>s</sub>  250PB  250PB<sub>n</sub>  500AGB  500AGJ  500AGJ<sub>s</sub>

500PB  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>  1PB  1PB<sub>na</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores® (\_\_\_\_\_)  TerraCores® (\_\_\_\_\_)  \_\_\_\_\_

**Air:**  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ **Other Matrix** (\_\_\_\_\_)  \_\_\_\_\_  \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

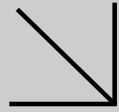
Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: SR

s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, z<sub>na</sub> = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH

Reviewed by: 770



Calscience



**WORK ORDER NUMBER: 16-08-1535**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



# Contents

Client Project Name: Chevron 97127  
Work Order Number: 16-08-1535

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/20/16. They were assigned to Work Order 16-08-1535.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

## Detections Summary

Client: Stantec  
 3875 Atherton Road  
 Rocklin, CA 95765-3716

Work Order: 16-08-1535  
 Project Name: Chevron 97127  
 Received: 08/20/16

Attn: Brian Westhoff

Page 1 of 1

### Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
MW-1 (Day 3) (16-08-1535-1)						
Benzene	310		2.0	ppm (v/v)	EPA TO-15	N/A
Ethylbenzene	3.8		1.2	ppm (v/v)	EPA TO-15	N/A
Toluene	220		1.2	ppm (v/v)	EPA TO-15	N/A
o-Xylene	3.0		1.2	ppm (v/v)	EPA TO-15	N/A
p/m-Xylene	12		5.0	ppm (v/v)	EPA TO-15	N/A
Xylenes (total)	15		1.2	ppm (v/v)	EPA TO-15	N/A
Gasoline Range Organics (C6-C12)	19000		100	ppm (v/v)	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.



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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1 (Day 3)	16-08-1535-1-A	08/19/16 08:05	Air	GC/MS II	N/A	08/20/16 19:26	160820L02

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5.0	2500	
Benzyl Chloride	ND	3.8	2500	
Bromodichloromethane	ND	1.2	2500	
Bromoform	ND	1.2	2500	
Bromomethane	ND	1.2	2500	
2-Butanone	ND	3.8	2500	
n-Butylbenzene	ND	1.2	2500	
sec-Butylbenzene	ND	1.2	2500	
tert-Butylbenzene	ND	1.2	2500	
Carbon Disulfide	ND	5.0	2500	
Carbon Tetrachloride	ND	1.2	2500	
Chlorobenzene	ND	1.2	2500	
Chloroethane	ND	1.2	2500	
Chloroform	ND	1.2	2500	
Chloromethane	ND	1.2	2500	
Dibromochloromethane	ND	1.2	2500	
1,2-Dibromoethane	ND	1.2	2500	
1,2-Dichlorobenzene	ND	1.2	2500	
1,3-Dichlorobenzene	ND	1.2	2500	
1,4-Dichlorobenzene	ND	1.2	2500	
Dichlorodifluoromethane	ND	1.2	2500	
1,1-Dichloroethane	ND	1.2	2500	
1,2-Dichloroethane	ND	1.2	2500	
1,1-Dichloroethene	ND	1.2	2500	
c-1,2-Dichloroethene	ND	1.2	2500	
t-1,2-Dichloroethene	ND	1.2	2500	
1,2-Dichloropropane	ND	1.2	2500	
c-1,3-Dichloropropene	ND	1.2	2500	
t-1,3-Dichloropropene	ND	2.5	2500	
Dichlorotetrafluoroethane	ND	5.0	2500	
1,1-Difluoroethane	ND	5.0	2500	
Ethylbenzene	3.8	1.2	2500	
4-Ethyltoluene	ND	1.2	2500	
Hexachloro-1,3-Butadiene	ND	3.8	2500	
2-Hexanone	ND	3.8	2500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: Chevron 97127

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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Isopropanol	ND	12	2500	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	2500	
Methylene Chloride	ND	12	2500	
4-Methyl-2-Pentanone	ND	3.8	2500	
Styrene	ND	3.8	2500	
1,1,2,2-Tetrachloroethane	ND	2.5	2500	
Tetrachloroethene	ND	1.2	2500	
Toluene	220	1.2	2500	
1,1,1-Trichloroethane	ND	1.2	2500	
1,1,2-Trichloroethane	ND	1.2	2500	
Trichloroethene	ND	1.2	2500	
Trichlorofluoromethane	ND	2.5	2500	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	3.8	2500	
1,2,4-Trimethylbenzene	ND	3.8	2500	
1,3,5-Trimethylbenzene	ND	1.2	2500	
Vinyl Acetate	ND	5.0	2500	
Vinyl Chloride	ND	1.2	2500	
o-Xylene	3.0	1.2	2500	
p/m-Xylene	12	5.0	2500	
Xylenes (total)	15	1.2	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	97	68-134	
1,2-Dichloroethane-d4	98	67-133	
Toluene-d8	100	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 3)</b>	<b>16-08-1535-1-A</b>	<b>08/19/16 08:05</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/22/16 22:24</b>	<b>160822L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	310	2.0	4000	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	106	68-134	
1,2-Dichloroethane-d4	114	67-133	
Toluene-d8	103	70-130	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





Calscience

## Analytical Report

Stantec	Date Received:	08/20/16
3875 Atherton Road	Work Order:	16-08-1535
Rocklin, CA 95765-3716	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ppm (v/v)
Project: Chevron 97127		Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	095-01-021-17358	N/A	Air	GC/MS II	N/A	08/20/16 15:04	160820L02

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	0.0020	1.00	
Benzyl Chloride	ND	0.0015	1.00	
Bromodichloromethane	ND	0.00050	1.00	
Bromoform	ND	0.00050	1.00	
Bromomethane	ND	0.00050	1.00	
2-Butanone	ND	0.0015	1.00	
n-Butylbenzene	ND	0.00050	1.00	
sec-Butylbenzene	ND	0.00050	1.00	
tert-Butylbenzene	ND	0.00050	1.00	
Carbon Disulfide	ND	0.0020	1.00	
Carbon Tetrachloride	ND	0.00050	1.00	
Chlorobenzene	ND	0.00050	1.00	
Chloroethane	ND	0.00050	1.00	
Chloroform	ND	0.00050	1.00	
Chloromethane	ND	0.00050	1.00	
Dibromochloromethane	ND	0.00050	1.00	
1,2-Dibromoethane	ND	0.00050	1.00	
1,2-Dichlorobenzene	ND	0.00050	1.00	
1,3-Dichlorobenzene	ND	0.00050	1.00	
1,4-Dichlorobenzene	ND	0.00050	1.00	
Dichlorodifluoromethane	ND	0.00050	1.00	
1,1-Dichloroethane	ND	0.00050	1.00	
1,2-Dichloroethane	ND	0.00050	1.00	
1,1-Dichloroethene	ND	0.00050	1.00	
c-1,2-Dichloroethene	ND	0.00050	1.00	
t-1,2-Dichloroethene	ND	0.00050	1.00	
1,2-Dichloropropane	ND	0.00050	1.00	
c-1,3-Dichloropropene	ND	0.00050	1.00	
t-1,3-Dichloropropene	ND	0.0010	1.00	
Dichlorotetrafluoroethane	ND	0.0020	1.00	
1,1-Difluoroethane	ND	0.0020	1.00	
Ethylbenzene	ND	0.00050	1.00	
4-Ethyltoluene	ND	0.00050	1.00	
Hexachloro-1,3-Butadiene	ND	0.0015	1.00	
2-Hexanone	ND	0.0015	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: ppm (v/v)

Project: Chevron 97127

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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Isopropanol	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0020	1.00	
Methylene Chloride	ND	0.0050	1.00	
4-Methyl-2-Pentanone	ND	0.0015	1.00	
Styrene	ND	0.0015	1.00	
1,1,2,2-Tetrachloroethane	ND	0.0010	1.00	
Tetrachloroethene	ND	0.00050	1.00	
Toluene	ND	0.00050	1.00	
1,1,1-Trichloroethane	ND	0.00050	1.00	
1,1,2-Trichloroethane	ND	0.00050	1.00	
Trichloroethene	ND	0.00050	1.00	
Trichlorofluoromethane	ND	0.0010	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.0015	1.00	
1,2,4-Trimethylbenzene	ND	0.0015	1.00	
1,3,5-Trimethylbenzene	ND	0.00050	1.00	
Vinyl Acetate	ND	0.0020	1.00	
Vinyl Chloride	ND	0.00050	1.00	
o-Xylene	ND	0.00050	1.00	
p/m-Xylene	ND	0.0020	1.00	
Xylenes (total)	ND	0.00050	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	94	68-134		
1,2-Dichloroethane-d4	100	67-133		
Toluene-d8	97	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>095-01-021-17359</b>	<b>N/A</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/22/16 19:56</b>	<b>160822L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	ND	0.00050	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	99	68-134		
1,2-Dichloroethane-d4	115	67-133		
Toluene-d8	104	70-130		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M  
Units: ppm (v/v)

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 3)</b>	<b>16-08-1535-1-A</b>	<b>08/19/16 08:05</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 17:53</b>	<b>160820L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	19000	100	100	

<b>Method Blank</b>	<b>099-14-431-649</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 11:12</b>	<b>160820L02</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	1.0	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Quality Control - Sample Duplicate

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
16-08-1534-1	Sample	Air	GC 38	N/A	08/20/16 16:33	160820D02
16-08-1534-1	Sample Duplicate	Air	GC 38	N/A	08/20/16 17:13	160820D02

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	14660	15010	2	0-20	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-17358	LCS	Air	GC/MS II	N/A	08/20/16 12:28	160820L02
095-01-021-17358	LCSD	Air	GC/MS II	N/A	08/20/16 13:20	160820L02

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acetone	0.02500	0.02611	104	0.02611	104	67-133	56-144	0	0-30	
Benzene	0.02500	0.02517	101	0.02543	102	70-130	60-140	1	0-30	
Benzyl Chloride	0.02500	0.02864	115	0.02927	117	38-158	18-178	2	0-30	
Bromodichloromethane	0.02500	0.02714	109	0.02702	108	70-130	60-140	0	0-30	
Bromoform	0.02500	0.02878	115	0.02876	115	63-147	49-161	0	0-30	
Bromomethane	0.02500	0.02843	114	0.02787	111	70-139	58-150	2	0-30	
2-Butanone	0.02500	0.02487	99	0.02435	97	66-132	55-143	2	0-30	
n-Butylbenzene	0.02500	0.02794	112	0.02787	111	50-150	33-167	0	0-30	
sec-Butylbenzene	0.02500	0.02715	109	0.02707	108	50-150	33-167	0	0-30	
tert-Butylbenzene	0.02500	0.02733	109	0.02718	109	50-150	33-167	1	0-30	
Carbon Disulfide	0.02500	0.02549	102	0.02534	101	68-146	55-159	1	0-30	
Carbon Tetrachloride	0.02500	0.02816	113	0.02791	112	70-136	59-147	1	0-30	
Chlorobenzene	0.02500	0.02552	102	0.02545	102	70-130	60-140	0	0-30	
Chloroethane	0.02500	0.02681	107	0.02670	107	65-149	51-163	0	0-30	
Chloroform	0.02500	0.02623	105	0.02608	104	70-130	60-140	1	0-30	
Chloromethane	0.02500	0.02586	103	0.02654	106	69-141	57-153	3	0-30	
Dibromochloromethane	0.02500	0.02727	109	0.02711	108	70-138	59-149	1	0-30	
1,2-Dibromoethane	0.02500	0.02664	107	0.02660	106	70-133	60-144	0	0-30	
1,2-Dichlorobenzene	0.02500	0.02796	112	0.02817	113	48-138	33-153	1	0-30	
1,3-Dichlorobenzene	0.02500	0.02829	113	0.02841	114	56-134	43-147	0	0-30	
1,4-Dichlorobenzene	0.02500	0.02776	111	0.02794	112	52-136	38-150	1	0-30	
Dichlorodifluoromethane	0.02500	0.02649	106	0.02615	105	67-139	55-151	1	0-30	
1,1-Dichloroethane	0.02500	0.02474	99	0.02483	99	70-130	60-140	0	0-30	
1,2-Dichloroethane	0.02500	0.02678	107	0.02655	106	70-132	60-142	1	0-30	
1,1-Dichloroethene	0.02500	0.02409	96	0.02574	103	70-135	59-146	7	0-30	
c-1,2-Dichloroethene	0.02500	0.02598	104	0.02615	105	70-130	60-140	1	0-30	
t-1,2-Dichloroethene	0.02500	0.02599	104	0.02592	104	70-130	60-140	0	0-30	
1,2-Dichloropropane	0.02500	0.02508	100	0.02515	101	70-130	60-140	0	0-30	
c-1,3-Dichloropropene	0.02500	0.02716	109	0.02714	109	70-130	60-140	0	0-30	
t-1,3-Dichloropropene	0.02500	0.02840	114	0.02850	114	70-147	57-160	0	0-30	
Dichlorotetrafluoroethane	0.02500	0.02890	116	0.02882	115	51-135	37-149	0	0-30	
1,1-Difluoroethane	0.02500	0.02572	103	0.02566	103	70-131	60-141	0	0-30	
Ethylbenzene	0.02500	0.02515	101	0.02510	100	70-130	60-140	0	0-30	
4-Ethyltoluene	0.02500	0.02638	106	0.02636	105	68-130	58-140	0	0-30	
Hexachloro-1,3-Butadiene	0.02500	0.02851	114	0.02797	112	44-146	27-163	2	0-30	
2-Hexanone	0.02500	0.02541	102	0.02562	102	70-136	59-147	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Isopropanol	0.02500	0.02421	97	0.02437	97	57-135	44-148	1	0-30	
Methyl-t-Butyl Ether (MTBE)	0.02500	0.02546	102	0.02520	101	68-130	58-140	1	0-30	
Methylene Chloride	0.02500	0.02524	101	0.02498	100	69-130	59-140	1	0-30	
4-Methyl-2-Pentanone	0.02500	0.02590	104	0.02600	104	70-130	60-140	0	0-30	
Styrene	0.02500	0.02597	104	0.02590	104	65-131	54-142	0	0-30	
1,1,2,2-Tetrachloroethane	0.02500	0.02461	98	0.02466	99	63-130	52-141	0	0-30	
Tetrachloroethene	0.02500	0.02667	107	0.02643	106	70-130	60-140	1	0-30	
Toluene	0.02500	0.02461	98	0.02468	99	70-130	60-140	0	0-30	
1,1,1-Trichloroethane	0.02500	0.02699	108	0.02694	108	70-130	60-140	0	0-30	
1,1,2-Trichloroethane	0.02500	0.02612	104	0.02613	105	70-130	60-140	0	0-30	
Trichloroethene	0.02500	0.02711	108	0.02712	108	70-130	60-140	0	0-30	
Trichlorofluoromethane	0.02500	0.02943	118	0.02599	104	63-141	50-154	12	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.02500	0.02722	109	0.02698	108	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	0.02500	0.02691	108	0.02686	107	60-132	48-144	0	0-30	
1,3,5-Trimethylbenzene	0.02500	0.02581	103	0.02562	102	62-130	51-141	1	0-30	
Vinyl Acetate	0.02500	0.02408	96	0.02417	97	58-130	46-142	0	0-30	
Vinyl Chloride	0.02500	0.02613	105	0.02627	105	70-134	59-145	1	0-30	
o-Xylene	0.02500	0.02466	99	0.02467	99	69-130	59-140	0	0-30	
p/m-Xylene	0.05000	0.05054	101	0.05043	101	70-132	60-142	0	0-30	

Total number of LCS compounds: 55

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number				
095-01-021-17359	LCS	Air	GC/MS II	N/A	08/22/16 17:22	160822L02				
095-01-021-17359	LCSD	Air	GC/MS II	N/A	08/22/16 18:12	160822L02				
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acetone	0.02500	0.02994	120	0.02986	119	67-133	56-144	0	0-30	
Benzene	0.02500	0.02728	109	0.02758	110	70-130	60-140	1	0-30	
Benzyl Chloride	0.02500	0.03060	122	0.03054	122	38-158	18-178	0	0-30	
Bromodichloromethane	0.02500	0.02807	112	0.02809	112	70-130	60-140	0	0-30	
Bromoform	0.02500	0.02580	103	0.02531	101	63-147	49-161	2	0-30	
Bromomethane	0.02500	0.02925	117	0.02902	116	70-139	58-150	1	0-30	
2-Butanone	0.02500	0.02941	118	0.02937	117	66-132	55-143	0	0-30	
n-Butylbenzene	0.02500	0.02904	116	0.02844	114	50-150	33-167	2	0-30	
sec-Butylbenzene	0.02500	0.02740	110	0.02684	107	50-150	33-167	2	0-30	
tert-Butylbenzene	0.02500	0.02674	107	0.02614	105	50-150	33-167	2	0-30	
Carbon Disulfide	0.02500	0.02835	113	0.02840	114	68-146	55-159	0	0-30	
Carbon Tetrachloride	0.02500	0.02702	108	0.02697	108	70-136	59-147	0	0-30	
Chlorobenzene	0.02500	0.02478	99	0.02445	98	70-130	60-140	1	0-30	
Chloroethane	0.02500	0.03024	121	0.02990	120	65-149	51-163	1	0-30	
Chloroform	0.02500	0.02803	112	0.02812	112	70-130	60-140	0	0-30	
Chloromethane	0.02500	0.03067	123	0.03077	123	69-141	57-153	0	0-30	
Dibromochloromethane	0.02500	0.02571	103	0.02525	101	70-138	59-149	2	0-30	
1,2-Dibromoethane	0.02500	0.02658	106	0.02632	105	70-133	60-144	1	0-30	
1,2-Dichlorobenzene	0.02500	0.02583	103	0.02535	101	48-138	33-153	2	0-30	
1,3-Dichlorobenzene	0.02500	0.02586	103	0.02549	102	56-134	43-147	1	0-30	
1,4-Dichlorobenzene	0.02500	0.02571	103	0.02535	101	52-136	38-150	1	0-30	
Dichlorodifluoromethane	0.02500	0.02783	111	0.02799	112	67-139	55-151	1	0-30	
1,1-Dichloroethane	0.02500	0.02732	109	0.02738	110	70-130	60-140	0	0-30	
1,2-Dichloroethane	0.02500	0.02930	117	0.02919	117	70-132	60-142	0	0-30	
1,1-Dichloroethene	0.02500	0.02853	114	0.02839	114	70-135	59-146	1	0-30	
c-1,2-Dichloroethene	0.02500	0.02742	110	0.02739	110	70-130	60-140	0	0-30	
t-1,2-Dichloroethene	0.02500	0.02743	110	0.02748	110	70-130	60-140	0	0-30	
1,2-Dichloropropane	0.02500	0.02681	107	0.02719	109	70-130	60-140	1	0-30	
c-1,3-Dichloropropene	0.02500	0.02917	117	0.02932	117	70-130	60-140	0	0-30	
t-1,3-Dichloropropene	0.02500	0.03014	121	0.03056	122	70-147	57-160	1	0-30	
Dichlorotetrafluoroethane	0.02500	0.03069	123	0.03043	122	51-135	37-149	1	0-30	
1,1-Difluoroethane	0.02500	0.02936	117	0.02954	118	70-131	60-141	1	0-30	
Ethylbenzene	0.02500	0.02600	104	0.02574	103	70-130	60-140	1	0-30	
4-Ethyltoluene	0.02500	0.02664	107	0.02638	106	68-130	58-140	1	0-30	
Hexachloro-1,3-Butadiene	0.02500	0.02409	96	0.02366	95	44-146	27-163	2	0-30	
2-Hexanone	0.02500	0.02850	114	0.02819	113	70-136	59-147	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Isopropanol	0.02500	0.02828	113	0.02861	114	57-135	44-148	1	0-30	
Methyl-t-Butyl Ether (MTBE)	0.02500	0.02834	113	0.02848	114	68-130	58-140	0	0-30	
Methylene Chloride	0.02500	0.02728	109	0.02709	108	69-130	59-140	1	0-30	
4-Methyl-2-Pentanone	0.02500	0.02832	113	0.02868	115	70-130	60-140	1	0-30	
Styrene	0.02500	0.02608	104	0.02591	104	65-131	54-142	1	0-30	
1,1,2,2-Tetrachloroethane	0.02500	0.02631	105	0.02598	104	63-130	52-141	1	0-30	
Tetrachloroethene	0.02500	0.02354	94	0.02324	93	70-130	60-140	1	0-30	
Toluene	0.02500	0.02562	102	0.02531	101	70-130	60-140	1	0-30	
1,1,1-Trichloroethane	0.02500	0.02812	112	0.02810	112	70-130	60-140	0	0-30	
1,1,2-Trichloroethane	0.02500	0.02744	110	0.02763	111	70-130	60-140	1	0-30	
Trichloroethene	0.02500	0.02786	111	0.02806	112	70-130	60-140	1	0-30	
Trichlorofluoromethane	0.02500	0.02772	111	0.02700	108	63-141	50-154	3	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.02500	0.02774	111	0.02758	110	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	0.02500	0.02720	109	0.02676	107	60-132	48-144	2	0-30	
1,3,5-Trimethylbenzene	0.02500	0.02594	104	0.02561	102	62-130	51-141	1	0-30	
Vinyl Acetate	0.02500	0.02841	114	0.02834	113	58-130	46-142	0	0-30	
Vinyl Chloride	0.02500	0.03013	121	0.02999	120	70-134	59-145	0	0-30	
o-Xylene	0.02500	0.02564	103	0.02528	101	69-130	59-140	1	0-30	
p/m-Xylene	0.05000	0.05233	105	0.05137	103	70-132	60-142	2	0-30	

Total number of LCS compounds: 55

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits





Calscience

## Quality Control - LCS

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-649</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 10:14</b>	<b>160820L02</b>
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		100.0	102.6	103	80-120	


  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

### Summa Canister Vacuum Summary

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Work Order: 16-08-1535

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Sample Name	Vacuum Out	Vacuum In	Equipment	Description
MW-1 (Day 3)	-29.50 in Hg	-4.20 in Hg	LC755	Summa Canister 1L

  
Return to Contents

## Sample Analysis Summary Report

Work Order: 16-08-1535

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15	N/A	866	GC/MS II	2
EPA TO-3M	N/A	1074	GC 38	2

## Glossary of Terms and Qualifiers

Work Order: 16-08-1535

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Chevron Project Name: Former Chevron Service Station No. 9-7127  
Chevron Facility No.: Chevron 97127  
Req Due Date (mm/dd/yy):  
Lab Work Order Number: **16-08-1535**

Lab Name: Eurofins Calscience, Inc.	Chevron Facility Address: 10 Grant Line Road	Chevron Consultant/Contract Stantec Consulting Services Inc.								
Lab Address: 7440 Lincoln Way, Garden Grove, CA 92841-142	City, State, ZIP Code: Livermore, CA 94550	Consultant/Contractor Project No: 185750447.718.1006								
Lab PM: Vik Patel	Lead Regulatory Agency: Alameda County Environmental Health	Address: 3875 Atherton Road, Rocklin, CA 95765								
Lab Phone: (714) 895-5494 Ext 211	Chevron Site Global ID No.: T0608700253	Consultant/Contractor PM: Brian Westhoff								
Lab Shipping Acct: 171530695 (FedEx Stantec Acct)	Charge Code:	Phone: 916-472-3900								
Lab Bottle Order No:	Site Assessment: Remediation Implementation: Operation Maint. & Monitoring:	Email EDD To: <a href="mailto:Laura.Viesselman@stantec.com">Laura.Viesselman@stantec.com</a>								
Other Info:	WBS Elements: Site Monitoring: <input checked="" type="checkbox"/> Retail and Terminal Business Unit (RTBU) Job Construction/Retail Job <input checked="" type="checkbox"/>	Invoice To: Chevron EMC Contractor <input checked="" type="checkbox"/>								
Chevron PM: Caryl MacLeod	Matrix	Turnaround Time								
PM Phone:	Number Containers/Preservative	Report Type & QC Level								
PM Email:	Total Number of Containers	Standard <input checked="" type="checkbox"/> Full Data Package <input type="checkbox"/>								
Lab No.	Sample Description	Date	Time	Requested Analyses	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
1	MW-1 (Day 3)	08/19/16	08:05	<input checked="" type="checkbox"/> Full List VOCs Including Chlorinated Solvents EPA TO-15 <input checked="" type="checkbox"/> Sulfur Compounds ASTM D - 5504 <input checked="" type="checkbox"/> Fixed Gases (Methane, Oxygen, and CO2) (ASTM D-1946) <input checked="" type="checkbox"/> TEL & TML (NIOSH 253M) <input checked="" type="checkbox"/> Air / Vapor <input checked="" type="checkbox"/> Water / Liquid <input checked="" type="checkbox"/> Soil / Solid <input checked="" type="checkbox"/> Unpreserved	James Patton	08/19/16	12:40	Fed Ex	8/29/16	11:00
<p>Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.</p> <p>Results in mg/m3 and ppmv</p>										

Sampler's Name: James Patton  
 Sampler's Company: Stantec Consulting Corporation  
 Shipment Method: Fed Ex Ship Date 08/19/16  
 Shipment Tracking No: 783871620580  
 Special Instructions: EDF must be in Chevron format. Email EDF to brian.westhoff@stantec.com, adrian.perez@stantec.com, judith.salazar@stantec.com

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No Trip Blank: Yes / No Cooler Temp on Receipt: °F/C MS/MSD Sample Submitted: Yes / No



1535

ORIGIN ID: SCKA (916) 472-3900  
JAMES PATTON  
3875 ATHERTON RD  
ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 19AUG16\*  
ACTWGT: 17.40 LB  
CAD: 6992431/SSFO1704  
DIMS: 19x17x10 IN  
BILL THIRD PARTY

Part # 156297V483 RTZ EXP 07/17

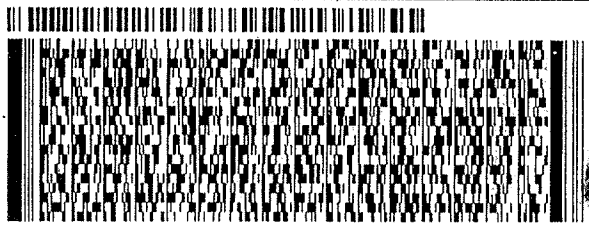
TO EUROFINS CALSCIENCE, INC  
SMAPLE RECEIVING  
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895-5494

REF:

DEPT:



FedEx  
Express



AN 1015070910291F

SATURDAY 12:00P

PRIORITY OVERNIGHT

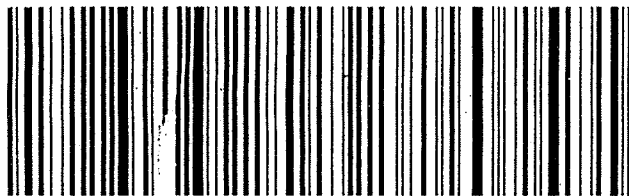
DSR

92841

CA-US SNA

TRK# 7838 7162 0580  
0201

WO APVA



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**SAMPLE RECEIPT CHECKLIST**

COOLER 0 OF 0

CLIENT: Stantec

DATE: 08 / 20 / 2016

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): \_\_\_\_\_ °C (w/ CF): \_\_\_\_\_ °C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: SR

**CUSTODY SEAL:**

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTAINER TYPE:** (Trip Blank Lot Number: \_\_\_\_\_)

**Aqueous:**  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  100PJ  100PJ<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  125PB  
 125PB<sub>z<sub>na</sub></sub>  250AGB  250CGB  250CGB<sub>s</sub>  250PB  250PB<sub>n</sub>  500AGB  500AGJ  500AGJ<sub>s</sub>  
 500PB  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>  1PB  1PB<sub>na</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores® (\_\_\_\_\_)  TerraCores® (\_\_\_\_\_)  \_\_\_\_\_

**Air:**  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ **Other Matrix** (\_\_\_\_\_)  \_\_\_\_\_  \_\_\_\_\_

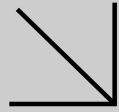
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag  
 Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: SR  
 s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, z<sub>na</sub> = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH Reviewed by: SR





Environmental  
Calscience

Supplemental Report 1



**WORK ORDER NUMBER: 16-08-1535**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Stantec

**Client Project Name:** Chevron 97127

**Attention:** Brian Westhoff  
3875 Atherton Road  
Rocklin, CA 95765-3716

*Vikas Patel*

Approved for release on 09/01/2016 by:  
Vikas Patel  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.





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Client Project Name: Chevron 97127  
Work Order Number: 16-08-1535

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/20/16. They were assigned to Work Order 16-08-1535.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Calscience

## Detections Summary

Client: Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Work Order: 16-08-1535  
Project Name: Chevron 97127  
Received: 08/20/16

Attn: Brian Westhoff

Page 1 of 1

### Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
MW-1 (Day 3) (16-08-1535-1)						
Benzene	990		6.4	mg/m3	EPA TO-15	N/A
Ethylbenzene	16		5.4	mg/m3	EPA TO-15	N/A
Toluene	820		4.7	mg/m3	EPA TO-15	N/A
o-Xylene	13		5.4	mg/m3	EPA TO-15	N/A
p/m-Xylene	53		22	mg/m3	EPA TO-15	N/A
Xylenes (total)	66		5.4	mg/m3	EPA TO-15	N/A
Gasoline Range Organics (C6-C12)	72000		380	mg/m3	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.

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\* MDL is shown

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: mg/m3

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1 (Day 3)	16-08-1535-1-A	08/19/16 08:05	Air	GC/MS II	N/A	08/20/16 19:26	160820L02

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	12	2500	
Benzyl Chloride	ND	19	2500	
Bromodichloromethane	ND	8.4	2500	
Bromoform	ND	13	2500	
Bromomethane	ND	4.9	2500	
2-Butanone	ND	11	2500	
n-Butylbenzene	ND	6.9	2500	
sec-Butylbenzene	ND	6.9	2500	
tert-Butylbenzene	ND	6.9	2500	
Carbon Disulfide	ND	16	2500	
Carbon Tetrachloride	ND	7.9	2500	
Chlorobenzene	ND	5.8	2500	
Chloroethane	ND	3.3	2500	
Chloroform	ND	6.1	2500	
Chloromethane	ND	2.6	2500	
Dibromochloromethane	ND	11	2500	
1,2-Dibromoethane	ND	9.6	2500	
1,2-Dichlorobenzene	ND	7.5	2500	
1,3-Dichlorobenzene	ND	7.5	2500	
1,4-Dichlorobenzene	ND	7.5	2500	
Dichlorodifluoromethane	ND	6.2	2500	
1,1-Dichloroethane	ND	5.1	2500	
1,2-Dichloroethane	ND	5.1	2500	
1,1-Dichloroethene	ND	5.0	2500	
c-1,2-Dichloroethene	ND	5.0	2500	
t-1,2-Dichloroethene	ND	5.0	2500	
1,2-Dichloropropane	ND	5.8	2500	
c-1,3-Dichloropropene	ND	5.7	2500	
t-1,3-Dichloropropene	ND	11	2500	
Dichlorotetrafluoroethane	ND	35	2500	
1,1-Difluoroethane	ND	14	2500	
Ethylbenzene	16	5.4	2500	
4-Ethyltoluene	ND	6.1	2500	
Hexachloro-1,3-Butadiene	ND	40	2500	
2-Hexanone	ND	15	2500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: mg/m3

Project: Chevron 97127

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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Isopropanol	ND	31	2500	
Methyl-t-Butyl Ether (MTBE)	ND	18	2500	
Methylene Chloride	ND	43	2500	
4-Methyl-2-Pentanone	ND	15	2500	
Styrene	ND	16	2500	
1,1,2,2-Tetrachloroethane	ND	17	2500	
Tetrachloroethene	ND	8.5	2500	
Toluene	820	4.7	2500	
1,1,1-Trichloroethane	ND	6.8	2500	
1,1,2-Trichloroethane	ND	6.8	2500	
Trichloroethene	ND	6.7	2500	
Trichlorofluoromethane	ND	14	2500	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	29	2500	
1,2,4-Trimethylbenzene	ND	18	2500	
1,3,5-Trimethylbenzene	ND	6.1	2500	
Vinyl Acetate	ND	18	2500	
Vinyl Chloride	ND	3.2	2500	
o-Xylene	13	5.4	2500	
p/m-Xylene	53	22	2500	
Xylenes (total)	66	5.4	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	97	68-134		
1,2-Dichloroethane-d4	98	67-133		
Toluene-d8	100	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 3)</b>	<b>16-08-1535-1-A</b>	<b>08/19/16 08:05</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/22/16 22:24</b>	<b>160822L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	990	6.4	4000	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	106	68-134		
1,2-Dichloroethane-d4	114	67-133		
Toluene-d8	103	70-130		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: mg/m3

Project: Chevron 97127

Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	095-01-021-17358	N/A	Air	GC/MS II	N/A	08/20/16 15:04	160820L02

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	0.0048	1.00	
Benzyl Chloride	ND	0.0078	1.00	
Bromodichloromethane	ND	0.0034	1.00	
Bromoform	ND	0.0052	1.00	
Bromomethane	ND	0.0019	1.00	
2-Butanone	ND	0.0044	1.00	
n-Butylbenzene	ND	0.0027	1.00	
sec-Butylbenzene	ND	0.0027	1.00	
tert-Butylbenzene	ND	0.0027	1.00	
Carbon Disulfide	ND	0.0062	1.00	
Carbon Tetrachloride	ND	0.0031	1.00	
Chlorobenzene	ND	0.0023	1.00	
Chloroethane	ND	0.0013	1.00	
Chloroform	ND	0.0024	1.00	
Chloromethane	ND	0.0010	1.00	
Dibromochloromethane	ND	0.0043	1.00	
1,2-Dibromoethane	ND	0.0038	1.00	
1,2-Dichlorobenzene	ND	0.0030	1.00	
1,3-Dichlorobenzene	ND	0.0030	1.00	
1,4-Dichlorobenzene	ND	0.0030	1.00	
Dichlorodifluoromethane	ND	0.0025	1.00	
1,1-Dichloroethane	ND	0.0020	1.00	
1,2-Dichloroethane	ND	0.0020	1.00	
1,1-Dichloroethene	ND	0.0020	1.00	
c-1,2-Dichloroethene	ND	0.0020	1.00	
t-1,2-Dichloroethene	ND	0.0020	1.00	
1,2-Dichloropropane	ND	0.0023	1.00	
c-1,3-Dichloropropene	ND	0.0023	1.00	
t-1,3-Dichloropropene	ND	0.0045	1.00	
Dichlorotetrafluoroethane	ND	0.014	1.00	
1,1-Difluoroethane	ND	0.0054	1.00	
Ethylbenzene	ND	0.0022	1.00	
4-Ethyltoluene	ND	0.0025	1.00	
Hexachloro-1,3-Butadiene	ND	0.016	1.00	
2-Hexanone	ND	0.0061	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15  
Units: mg/m3

Project: Chevron 97127

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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Isopropanol	ND	0.012	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0072	1.00	
Methylene Chloride	ND	0.017	1.00	
4-Methyl-2-Pentanone	ND	0.0061	1.00	
Styrene	ND	0.0064	1.00	
1,1,2,2-Tetrachloroethane	ND	0.0069	1.00	
Tetrachloroethene	ND	0.0034	1.00	
Toluene	ND	0.0019	1.00	
1,1,1-Trichloroethane	ND	0.0027	1.00	
1,1,2-Trichloroethane	ND	0.0027	1.00	
Trichloroethene	ND	0.0027	1.00	
Trichlorofluoromethane	ND	0.0056	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.011	1.00	
1,2,4-Trimethylbenzene	ND	0.0074	1.00	
1,3,5-Trimethylbenzene	ND	0.0025	1.00	
Vinyl Acetate	ND	0.0070	1.00	
Vinyl Chloride	ND	0.0013	1.00	
o-Xylene	ND	0.0022	1.00	
p/m-Xylene	ND	0.0087	1.00	
Xylenes (total)	ND	0.0022	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	94	68-134		
1,2-Dichloroethane-d4	100	67-133		
Toluene-d8	97	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>095-01-021-17359</b>	<b>N/A</b>	<b>Air</b>	<b>GC/MS II</b>	<b>N/A</b>	<b>08/22/16 19:56</b>	<b>160822L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	ND	0.0016	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	99	68-134		
1,2-Dichloroethane-d4	115	67-133		
Toluene-d8	104	70-130		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Analytical Report

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M  
Units: mg/m3

Project: Chevron 97127

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-1 (Day 3)</b>	<b>16-08-1535-1-A</b>	<b>08/19/16 08:05</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 17:53</b>	<b>160820L02</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	72000	380	100	

<b>Method Blank</b>	<b>099-14-431-649</b>	<b>N/A</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 11:12</b>	<b>160820L02</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	ND	3.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





Calscience

## Quality Control - Sample Duplicate

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
16-08-1534-1	Sample	Air	GC 38	N/A	08/20/16 16:33	160820D02
16-08-1534-1	Sample Duplicate	Air	GC 38	N/A	08/20/16 17:13	160820D02

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)	56060	57390	2	0-20	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number				
095-01-021-17358	LCS	Air	GC/MS II	N/A	08/20/16 12:28	160820L02				
095-01-021-17358	LCSD	Air	GC/MS II	N/A	08/20/16 13:20	160820L02				
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acetone	0.05939	0.06203	104	0.06203	104	67-133	56-144	0	0-30	
Benzene	0.07987	0.08042	101	0.08125	102	70-130	60-140	1	0-30	
Benzyl Chloride	0.1294	0.1483	115	0.1515	117	38-158	18-178	2	0-30	
Bromodichloromethane	0.1675	0.1818	109	0.1811	108	70-130	60-140	0	0-30	
Bromoform	0.2584	0.2975	115	0.2973	115	63-147	49-161	0	0-30	
Bromomethane	0.09708	0.1104	114	0.1082	111	70-139	58-150	2	0-30	
2-Butanone	0.07373	0.07336	99	0.07181	97	66-132	55-143	2	0-30	
n-Butylbenzene	0.1372	0.1534	112	0.1530	111	50-150	33-167	0	0-30	
sec-Butylbenzene	0.1372	0.1490	109	0.1486	108	50-150	33-167	0	0-30	
tert-Butylbenzene	0.1372	0.1500	109	0.1492	109	50-150	33-167	1	0-30	
Carbon Disulfide	0.07785	0.07939	102	0.07891	101	68-146	55-159	1	0-30	
Carbon Tetrachloride	0.1573	0.1772	113	0.1756	112	70-136	59-147	1	0-30	
Chlorobenzene	0.1151	0.1175	102	0.1172	102	70-130	60-140	0	0-30	
Chloroethane	0.06596	0.07074	107	0.07045	107	65-149	51-163	0	0-30	
Chloroform	0.1221	0.1281	105	0.1273	104	70-130	60-140	1	0-30	
Chloromethane	0.05163	0.05341	103	0.05481	106	69-141	57-153	3	0-30	
Dibromochloromethane	0.2130	0.2323	109	0.2309	108	70-138	59-149	1	0-30	
1,2-Dibromoethane	0.1921	0.2047	107	0.2044	106	70-133	60-144	0	0-30	
1,2-Dichlorobenzene	0.1503	0.1681	112	0.1694	113	48-138	33-153	1	0-30	
1,3-Dichlorobenzene	0.1503	0.1701	113	0.1708	114	56-134	43-147	0	0-30	
1,4-Dichlorobenzene	0.1503	0.1669	111	0.1680	112	52-136	38-150	1	0-30	
Dichlorodifluoromethane	0.1236	0.1310	106	0.1293	105	67-139	55-151	1	0-30	
1,1-Dichloroethane	0.1012	0.1001	99	0.1005	99	70-130	60-140	0	0-30	
1,2-Dichloroethane	0.1012	0.1084	107	0.1075	106	70-132	60-142	1	0-30	
1,1-Dichloroethene	0.09912	0.09552	96	0.1021	103	70-135	59-146	7	0-30	
c-1,2-Dichloroethene	0.09912	0.1030	104	0.1037	105	70-130	60-140	1	0-30	
t-1,2-Dichloroethene	0.09912	0.1031	104	0.1028	104	70-130	60-140	0	0-30	
1,2-Dichloropropane	0.1155	0.1159	100	0.1162	101	70-130	60-140	0	0-30	
c-1,3-Dichloropropene	0.1135	0.1233	109	0.1232	109	70-130	60-140	0	0-30	
t-1,3-Dichloropropene	0.1135	0.1289	114	0.1293	114	70-147	57-160	0	0-30	
Dichlorotetrafluoroethane	0.1748	0.2020	116	0.2014	115	51-135	37-149	0	0-30	
1,1-Difluoroethane	0.06754	0.06948	103	0.06932	103	70-131	60-141	0	0-30	
Ethylbenzene	0.1086	0.1092	101	0.1090	100	70-130	60-140	0	0-30	
4-Ethyltoluene	0.1229	0.1297	106	0.1296	105	68-130	58-140	0	0-30	
Hexachloro-1,3-Butadiene	0.2666	0.3040	114	0.2983	112	44-146	27-163	2	0-30	
2-Hexanone	0.1024	0.1041	102	0.1049	102	70-136	59-147	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Isopropanol	0.06145	0.05952	97	0.05990	97	57-135	44-148	1	0-30	
Methyl-t-Butyl Ether (MTBE)	0.09013	0.09180	102	0.09086	101	68-130	58-140	1	0-30	
Methylene Chloride	0.08684	0.08768	101	0.08677	100	69-130	59-140	1	0-30	
4-Methyl-2-Pentanone	0.1024	0.1061	104	0.1065	104	70-130	60-140	0	0-30	
Styrene	0.1065	0.1106	104	0.1103	104	65-131	54-142	0	0-30	
1,1,2,2-Tetrachloroethane	0.1716	0.1689	98	0.1693	99	63-130	52-141	0	0-30	
Tetrachloroethene	0.1696	0.1809	107	0.1792	106	70-130	60-140	1	0-30	
Toluene	0.09421	0.09275	98	0.09301	99	70-130	60-140	0	0-30	
1,1,1-Trichloroethane	0.1364	0.1472	108	0.1470	108	70-130	60-140	0	0-30	
1,1,2-Trichloroethane	0.1364	0.1425	104	0.1426	105	70-130	60-140	0	0-30	
Trichloroethene	0.1343	0.1457	108	0.1458	108	70-130	60-140	0	0-30	
Trichlorofluoromethane	0.1405	0.1653	118	0.1460	104	63-141	50-154	12	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.1916	0.2086	109	0.2068	108	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	0.1229	0.1323	108	0.1320	107	60-132	48-144	0	0-30	
1,3,5-Trimethylbenzene	0.1229	0.1269	103	0.1260	102	62-130	51-141	1	0-30	
Vinyl Acetate	0.08803	0.08477	96	0.08512	97	58-130	46-142	0	0-30	
Vinyl Chloride	0.06391	0.06679	105	0.06716	105	70-134	59-145	1	0-30	
o-Xylene	0.1086	0.1071	99	0.1071	99	69-130	59-140	0	0-30	
p/m-Xylene	0.2171	0.2195	101	0.2190	101	70-132	60-142	0	0-30	

Total number of LCS compounds: 55

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number				
095-01-021-17359	LCS	Air	GC/MS II	N/A	08/22/16 17:22	160822L02				
095-01-021-17359	LCSD	Air	GC/MS II	N/A	08/22/16 18:12	160822L02				
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acetone	0.05939	0.07113	120	0.07094	119	67-133	56-144	0	0-30	
Benzene	0.07987	0.08717	109	0.08811	110	70-130	60-140	1	0-30	
Benzyl Chloride	0.1294	0.1584	122	0.1581	122	38-158	18-178	0	0-30	
Bromodichloromethane	0.1675	0.1881	112	0.1882	112	70-130	60-140	0	0-30	
Bromoform	0.2584	0.2667	103	0.2616	101	63-147	49-161	2	0-30	
Bromomethane	0.09708	0.1136	117	0.1127	116	70-139	58-150	1	0-30	
2-Butanone	0.07373	0.08672	118	0.08661	117	66-132	55-143	0	0-30	
n-Butylbenzene	0.1372	0.1594	116	0.1561	114	50-150	33-167	2	0-30	
sec-Butylbenzene	0.1372	0.1504	110	0.1473	107	50-150	33-167	2	0-30	
tert-Butylbenzene	0.1372	0.1468	107	0.1435	105	50-150	33-167	2	0-30	
Carbon Disulfide	0.07785	0.08828	113	0.08845	114	68-146	55-159	0	0-30	
Carbon Tetrachloride	0.1573	0.1700	108	0.1697	108	70-136	59-147	0	0-30	
Chlorobenzene	0.1151	0.1141	99	0.1125	98	70-130	60-140	1	0-30	
Chloroethane	0.06596	0.07979	121	0.07890	120	65-149	51-163	1	0-30	
Chloroform	0.1221	0.1369	112	0.1373	112	70-130	60-140	0	0-30	
Chloromethane	0.05163	0.06334	123	0.06354	123	69-141	57-153	0	0-30	
Dibromochloromethane	0.2130	0.2190	103	0.2151	101	70-138	59-149	2	0-30	
1,2-Dibromoethane	0.1921	0.2042	106	0.2022	105	70-133	60-144	1	0-30	
1,2-Dichlorobenzene	0.1503	0.1553	103	0.1524	101	48-138	33-153	2	0-30	
1,3-Dichlorobenzene	0.1503	0.1555	103	0.1533	102	56-134	43-147	1	0-30	
1,4-Dichlorobenzene	0.1503	0.1546	103	0.1524	101	52-136	38-150	1	0-30	
Dichlorodifluoromethane	0.1236	0.1376	111	0.1384	112	67-139	55-151	1	0-30	
1,1-Dichloroethane	0.1012	0.1106	109	0.1108	110	70-130	60-140	0	0-30	
1,2-Dichloroethane	0.1012	0.1186	117	0.1181	117	70-132	60-142	0	0-30	
1,1-Dichloroethene	0.09912	0.1131	114	0.1125	114	70-135	59-146	1	0-30	
c-1,2-Dichloroethene	0.09912	0.1087	110	0.1086	110	70-130	60-140	0	0-30	
t-1,2-Dichloroethene	0.09912	0.1088	110	0.1090	110	70-130	60-140	0	0-30	
1,2-Dichloropropane	0.1155	0.1239	107	0.1257	109	70-130	60-140	1	0-30	
c-1,3-Dichloropropene	0.1135	0.1324	117	0.1331	117	70-130	60-140	0	0-30	
t-1,3-Dichloropropene	0.1135	0.1368	121	0.1387	122	70-147	57-160	1	0-30	
Dichlorotetrafluoroethane	0.1748	0.2145	123	0.2127	122	51-135	37-149	1	0-30	
1,1-Difluoroethane	0.06754	0.07931	117	0.07980	118	70-131	60-141	1	0-30	
Ethylbenzene	0.1086	0.1129	104	0.1118	103	70-130	60-140	1	0-30	
4-Ethyltoluene	0.1229	0.1310	107	0.1297	106	68-130	58-140	1	0-30	
Hexachloro-1,3-Butadiene	0.2666	0.2569	96	0.2523	95	44-146	27-163	2	0-30	
2-Hexanone	0.1024	0.1168	114	0.1155	113	70-136	59-147	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-15

Project: Chevron 97127

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Isopropanol	0.06145	0.06952	113	0.07032	114	57-135	44-148	1	0-30	
Methyl-t-Butyl Ether (MTBE)	0.09013	0.1022	113	0.1027	114	68-130	58-140	0	0-30	
Methylene Chloride	0.08684	0.09476	109	0.09408	108	69-130	59-140	1	0-30	
4-Methyl-2-Pentanone	0.1024	0.1160	113	0.1175	115	70-130	60-140	1	0-30	
Styrene	0.1065	0.1111	104	0.1104	104	65-131	54-142	1	0-30	
1,1,2,2-Tetrachloroethane	0.1716	0.1806	105	0.1783	104	63-130	52-141	1	0-30	
Tetrachloroethene	0.1696	0.1597	94	0.1576	93	70-130	60-140	1	0-30	
Toluene	0.09421	0.09654	102	0.09537	101	70-130	60-140	1	0-30	
1,1,1-Trichloroethane	0.1364	0.1534	112	0.1533	112	70-130	60-140	0	0-30	
1,1,2-Trichloroethane	0.1364	0.1497	110	0.1508	111	70-130	60-140	1	0-30	
Trichloroethene	0.1343	0.1497	111	0.1508	112	70-130	60-140	1	0-30	
Trichlorofluoromethane	0.1405	0.1557	111	0.1517	108	63-141	50-154	3	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.1916	0.2126	111	0.2113	110	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	0.1229	0.1337	109	0.1315	107	60-132	48-144	2	0-30	
1,3,5-Trimethylbenzene	0.1229	0.1275	104	0.1259	102	62-130	51-141	1	0-30	
Vinyl Acetate	0.08803	0.1000	114	0.09977	113	58-130	46-142	0	0-30	
Vinyl Chloride	0.06391	0.07703	121	0.07666	120	70-134	59-145	0	0-30	
o-Xylene	0.1086	0.1113	103	0.1098	101	69-130	59-140	1	0-30	
p/m-Xylene	0.2171	0.2273	105	0.2231	103	70-132	60-142	2	0-30	

Total number of LCS compounds: 55

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS

Stantec  
3875 Atherton Road  
Rocklin, CA 95765-3716

Date Received: 08/20/16  
Work Order: 16-08-1535  
Preparation: N/A  
Method: EPA TO-3M

Project: Chevron 97127

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
<b>099-14-431-649</b>	<b>LCS</b>	<b>Air</b>	<b>GC 38</b>	<b>N/A</b>	<b>08/20/16 10:14</b>	<b>160820L02</b>
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Gasoline Range Organics (C6-C12)		382.4	392.4	103	80-120	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

### Summa Canister Vacuum Summary

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Work Order: 16-08-1535

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Sample Name	Vacuum Out	Vacuum In	Equipment	Description
MW-1 (Day 3)	-29.50 in Hg	-4.20 in Hg	LC755	Summa Canister 1L

  
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## Sample Analysis Summary Report

Work Order: 16-08-1535

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA TO-15	N/A	866	GC/MS II	2
EPA TO-3M	N/A	1074	GC 38	2



## Glossary of Terms and Qualifiers

Work Order: 16-08-1535

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDS or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.



1535

ORIGIN ID: SCKA (916) 472-3900  
JAMES PATTON  
3875 ATHERTON RD  
ROCKLIN, CA 95765  
UNITED STATES US

SHIP DATE: 19AUG16\*  
ACTWGT: 17.40 LB  
CAD: 6992431/SSFO1704  
DIMS: 19x17x10 IN  
BILL THIRD PARTY

Part # 156297V483 RTZ EXP 07/17

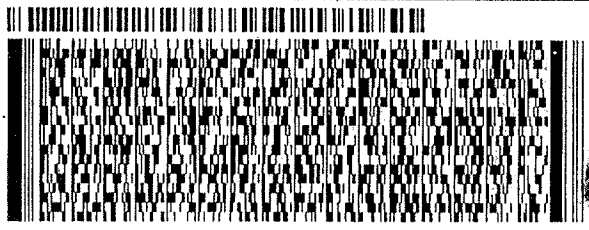
TO EUROFINS CALSCIENCE, INC  
SMAPLE RECEIVING  
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895-5494

REF:

DEPT:



FedEx  
Express



AN 1015070910291F

SATURDAY 12:00P

PRIORITY OVERNIGHT

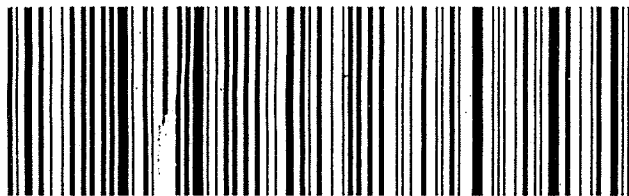
DSR

92841

CA-US SNA

TRK# 7838 7162 0580  
0201

WO APVA



Return to Contents

**SAMPLE RECEIPT CHECKLIST**

COOLER 0 OF 0

CLIENT: Stantec

DATE: 08 / 20 / 2016

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): \_\_\_\_\_ °C (w/ CF): \_\_\_\_\_ °C;  Blank  Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature:  Air  Filter

Checked by: SR

**CUSTODY SEAL:**

Cooler  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

Sample(s)  Present and Intact  Present but Not Intact  Not Present  N/A

Checked by: SR

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTAINER TYPE:** (Trip Blank Lot Number: \_\_\_\_\_)

**Aqueous:**  VOA  VOA<sub>h</sub>  VOA<sub>na2</sub>  100PJ  100PJ<sub>na2</sub>  125AGB  125AGB<sub>h</sub>  125AGB<sub>p</sub>  125PB  
 125PB<sub>z</sub>  250AGB  250CGB  250CGB<sub>s</sub>  250PB  250PB<sub>n</sub>  500AGB  500AGJ  500AGJ<sub>s</sub>  
 500PB  1AGB  1AGB<sub>na2</sub>  1AGB<sub>s</sub>  1PB  1PB<sub>na</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_)  EnCores® (\_\_\_\_)  TerraCores® (\_\_\_\_)  \_\_\_\_\_

**Air:**  Tedlar™  Canister  Sorbent Tube  PUF  \_\_\_\_\_ **Other Matrix** (\_\_\_\_):  \_\_\_\_\_  \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag  
 Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: SR  
 s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, z<sub>na</sub> = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH Reviewed by: SR





# ANALYTICAL REPORT

Report Date: August 25, 2016

Brian Westhoff  
Stantec Consulting  
3017 Kilgore Rd, Ste 100  
Rancho Cordova, CA 95670

Phone: 91968610400

E-mail: brian.westhoff@stantec.com

Workorder: **34-1623522**

Client Project ID: Chevron 97127 082016  
Purchase Order: Chevron 97127  
Project Manager: Paul Pope

## Analytical Results

Sample ID: <b>6005300759 AINF</b>	Collected: 08/19/2016			
Lab ID: 1623522001	Received: 08/20/2016			
Method: NIOSH 2533 Mod.	Media: SKC 226-30-06, XAD-2 Tube 200/400mg			
	Analyzed: 08/25/2016			
Sampling Parameter: Air Volume 30 L				
Analyte	Result (ug/sample)	Result (mg/m <sup>3</sup> )	Result (ppm)	RL (ug/sample)
Tetraethyl Lead	<0.10	<0.0033	<0.00025	0.10
Tetramethyl Lead	1.4	0.047	0.0043	0.10

## Comments

**Quality Control: NIOSH 2533 Mod. - (HBN: 175426)**

The referenced method has been modified as described in the laboratory SOP.

## Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
NIOSH 2533 Mod.	/S/ Steven Yourstone 08/25/2016 10:40	/S/ Thomas J. Masoian 08/25/2016 11:10

## Laboratory Contact Information

ALS Environmental  
960 W LeVoy Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
Email: als.lt.lab@ALSGlobal.com  
Web: www.alssl.com

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 USA | PHONE +1 801 266 7700 | FAX +1 801 268 9992

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Environmental

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

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# ANALYTICAL REPORT

Workorder: **34-1623522**

Client Project ID: Chevron 97127 082016

Purchase Order: Chevron 97127

Project Manager: Paul Pope

## General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
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All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	<a href="http://www.anab.org/accredited-organizations/">http://www.anab.org/accredited-organizations/</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwl/labservice.htm">http://ndep.nv.gov/bsdwl/labservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
	Washington	C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
Industrial Hygiene	Kansas	E-10416	<a href="http://www.kdheks.gov/lipo/index.html">http://www.kdheks.gov/lipo/index.html</a>
	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Washington	Washington	C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
	Lead Testing:		
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	<a href="http://www.anab.org/accredited-organizations/">http://www.anab.org/accredited-organizations/</a>
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>

## Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

NA = Not Applicable.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

() This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



# ANALYTICAL REPORT

Report Date: August 29, 2016

Brian Westhoff  
Stantec Consulting  
3017 Kilgore Rd, Ste 100  
Rancho Cordova, CA 95670

Phone: 91968610400

E-mail: brian.westhoff@stantec.com

Workorder: **34-1624209**

Client Project ID: Chevron 97127 082016  
Purchase Order: Chevron 97127  
Project Manager: Paul Pope

## Analytical Results

Sample ID: <b>MW-1</b>	Collected: 08/19/2016	
Lab ID: 1624209001	Received: 08/20/2016	
Method: <b>ASTM D5504</b>	Media: SKC 232-01, Tedlar Bag 1L	
	Sampling Parameter: Air Volume 1 L	
	Analyzed: 08/29/2016	
	Sampling Location: Chevron 97127	
Analyte	Result (ppm)	RL (ppm)
Hydrogen sulfide	<0.0070	0.0070
Carbonyl sulfide	<b>0.019</b>	0.0070
Methyl mercaptan	<0.0070	0.0070
Ethyl mercaptan	<0.0070	0.0070
Dimethyl sulfide	<b>0.0077</b>	0.0070
Carbon disulfide	<b>0.021</b>	0.0035
Isopropyl mercaptan	<0.0070	0.0070
t-Butyl mercaptan	<0.0070	0.0070
n-Propyl mercaptan	<0.0070	0.0070
Thiophene	<b>0.21</b>	0.0070
Diethyl sulfide	<b>0.010</b>	0.0070
n-Butyl mercaptan	<0.0070	0.0070
Dimethyl disulfide	<0.0035	0.0035
Tetrahydrothiophene	<b>0.0093</b>	0.0070

## Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
ASTM D5504	/S/ Steven J. Sagers 08/29/2016 15:20	/S/ Mila V. Potekhin 08/29/2016 15:49

## Laboratory Contact Information

ALS Environmental  
960 W LeVoy Drive  
Salt Lake City, Utah 84123

Phone: (801) 266-7700  
Email: alsst.lab@ALSGlobal.com  
Web: www.alssl.com

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 USA | PHONE +1 801 266 7700 | FAX +1 801 268 9992

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# ANALYTICAL REPORT

Workorder: **34-1624209**

Client Project ID: Chevron 97127 082016

Purchase Order: Chevron 97127

Project Manager: Paul Pope

## General Lab Comments

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	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
	Washington	C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
Industrial Hygiene	Kansas	E-10416	<a href="http://www.kdheks.gov/lipo/index.html">http://www.kdheks.gov/lipo/index.html</a>
	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Washington		C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
	Lead Testing:		
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	<a href="http://www.anab.org/accredited-organizations/">http://www.anab.org/accredited-organizations/</a>
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>

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NA = Not Applicable.

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( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



**APPENDIX H**  
**Pilot Test Field Data**

HIGH VACUUM

SVE or  DPE

FIELD DATA SHEET

CalClean Inc.

Project Location: 10 GRANT LINE

City: MOUNTAIN HOUSE

Site #: CHEVRON #9-7127

Date: 8/16/2016

Page 1 of 4

Client: ARCADIS

Operator (s): KEVIN

EXTRACTION WELLS

Well I.D.		EXTRACTION WELLS																		Water Meter Readings	Cumul. Water Extracted	
Screen Interval: From-To (ft)																						
Initial Depth To Water DTW (ft)																						
Time	Inlet Vacuum ("Hg.)	Air Flowrate (cfm)	TOX Temp. (degF)	Vapor Inlet Conc. (ppmv)	Off/On (ppmv)	DTW VAC (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	units	gals	
8/16/16																						
0930					ON		1'															
1000	15	84	1595	12830		2.5																
1030	15	85	1611	10860		2.5																
1100	15	85	1565	9680		2.5																
1130	15	85	1528	8870		2.5																
1200	15	85	1516	8760		2.5																
1215	15					5.0																
1230	15	89	1748	15100		5.0																
1300	15	89	1740	14890		5.0																
1330	15	89	1725	14670		5.0																
1335	15					8.0																
1400	15	90	1721	15350		8.0																
1430	15	90	1697	14370		8.0																
1500	15	90	1693	14270		9.0																
1505	15					10																
1530	15	91	1726	14870		10																
1600	15	91	1705	14690		10																
1602	15	91	1789	16760		12.5																
1630	15	91	1774	15790		12.5																
1700	15	91	1768	15270		12.5																
1720																						

Comments: 1000, DILUTION OPEN TO 110 SCFM STOP WORK FUEL DELIV. @ 1005 TO 1020 RESTART @ 1022, VAPOR SAMPLE MW-1 @ 1030 (10800 ppmv) STACK SAMPLE 1040 (1 ppmv)

HIGH VACUUM

SVE or  DPE

FIELD DATA SHEET

CalClean Inc.

Project Location: 10 GRANT LINE

City: MOUNTAIN HOUSE

Site #: CHEVRON #9-7127

Date: 8/17/2016

Page 2 of 4

Client: ARCADIS STANTEC

Operator (s): KEVIN

EXTRACTION WELLS

EXTRACTION WELLS																				Water Meter Readings	Cumul. Water Extracted	
Well I.D. MW-1																						
Screen Interval: From-To (ft)																				units	gals	
Initial Depth To Water DTW (ft)																						
Time	Unit Vacuum ("Hg.)	Air Flowrate (cfm)	TOX Temp. (degF)	Vapor Inlet Conc. (ppmv)	Off/On (ppmv)	DTW VAC Meter (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	units	gals	
8:17					ON	10.0	1															
0800	15	87	1584	14310		10.0																
0830	15	87	1606	12680		10.0																
0900	15	87	1633	12750		10.0																
0930	15	87	1609	13890		10.0																
1000	15	87	1570	11780		10.0																
1030	15	87	1708	12370		10.0																
1100	15	87	1597	11580		10.0																
1130	15	87	1605	11890		10.0																
1200	15	87	1593	12040		10.0																
1230	15	87	1616	11800		10.0																
1300	15	87	1603	11790		10.0																
1330	15	87	1623	11650		10.0																
1400	15	87	1618	11520		10.0																
1430	15	87	1612	11680		10.0																
1500	15	87	1589	11490		10.0																
1530	15	87	1571	11370		10.0																
1600	15	87	1572	11110		10.0																
1700	15	87	1539	10860		10.0																
2200	15	87	1493	10600		10.0																

Comments: 8-17 @ 1000 PULUTION OPEN TO 110 SCEN

HIGH VACUUM

SVE or

DPE

FIELD DATA SHEET

CalClean Inc.

Project Location: 10 GRANT LINE

City: MOUNTAIN HOUSE

Site #: CHEVRON #9-7127

Date 08/18/2016

Page 3 of 4

Client: ARCADIS

Operator (s): KEVIN/CARLOS

EXTRACTION WELLS

Well I.D.				EXTRACTION WELLS															Water Meter Readings	Cumul. Water Extracted		
Screen Interval: From-To (ft)																						
Initial Depth To Water DTW (ft)																						
Time	Unit Vacuum ("Hg.)	Air Flowrate (cfm)	TOX Temp. (degF)	Vapor Inlet Conc. (ppmv)	Off/On (ppmv)	DTW VAC HEAD (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On MAP PSI (ppmv)	DTW SCFM FLOW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	units	gals	
08/18					ON	10.0	1"															
0100	15	87	1515	11090		10.0																
0400	15	87	1538	9750		10.0																
0700	15	87	1517	9970		10.0																
0800	15	87	1511	9680		10.0																
0845																						
0900	15	83	1422	3940		10.0					12	15.5	10									
0930	15	84	1468	4710		10.0					12	18.0	9.5									
1000	15	84	1573	5800		10.0					12	19.5	8.5									
1030	15	84	1820	7580		10.0					15	22.0	10									
1100	15	84	1694	6810		10.0					14.5	23.0	10									
1130	15	84	1697	7110		10.0					14.5	23.0	10									
1200	15	84	1749	7980		10.0					14.5	23.0	9.5									
1230	15	84	1768	8310		10.0					14.5	23.0	9.5									
1300	15	84	1814	9680		10.0					14.0	23.0	9.0									
1330	15	84	1639	9310		10.0					14.0	23.0	9.0									
1400	15	84	1649	9140		10.0					14.0	23.0	9.0									
1430	15	84	1666	9920		10.0					14.0	23.0	9.0									
1500	15	84	1670	10170		10.0					14.0	23.0	9.0									
1530	15	84	1682	10100		10.0					14.0	23.0	9.0									
1600	15	84	1674	10070		10.0					14.0	23.0	9.0									

Comments: 8/18 AIR SPARGES ON @ 0845 12 PSI MAX;

HIGH VACUUM

SVE or  DPE

DPE

FIELD DATA SHEET

CalClean Inc.

Project Location: 10 GRANT LINE

City: MOUNTAIN HOUSE

Site #: CHEVRON #9-7127

Date: 8/18/2016

Page 4 of 4

Client: ARCADIS

Operator (s): KEVIN CARRIAS

EXTRACTION WELLS

Well I.D.				EXTRACTION WELLS															Water Meter Readings	Cumul. Water Extracted		
Screen Interval: From-To (ft)				AIR SPARGES																		
Initial Depth To Water DTW (ft)																						
Time	Vacuum ("Hg.)	Air Flowrate (cfm)	TOX Temp. (degF)	Vapor Inlet Conc. (ppmv)	Off/On (ppmv)	DTW VAC HEAD (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On MAX PSF (ppmv)	DTW SCFM (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	Off/On (ppmv)	DTW (ft)	Stinger Depth (feet)	units	gals	
8/18/16					ON	10.0	1"						Well PSF									
1800	15	84	1673	10040		10.0					14.0	23.0	9.0									
2000	15	82	1661	10270		10.0					14.0	23.0	9.0									
2200	15	78	1655	10080		10.0					14.0	23.0	9.0									
9/19																						
0001	15	78	1661	9910		10.0					14.0	23.0	9.0									
0200	15	77	1607	9360		10.0					14.0	23.0	9.0									
0400	14	78	1594	9110		10.0					14.0	23.0	9.0									
0600	14	88	1501	8710		10.0					14.0	23.0	9.0									
0800	14	88	1471	8380		10.0					14.0	23.0	8.5									
0845	14	88	1481	8570		10.0					14.0	23.0	8.5									

Comments:

MEASUREMENTS FROM MW-1

PZ-3 16'-6"

PZ-2 11'-7"

AS-1 24'-7"

MW-10 35'-4"

PZ-1 7'-7"

MW-11 62'-2"

MW-15 55'-1"

MW-9 53'-4"

11

11

11

11

AS-1

MW-10 11'-0"

PZ-3 8'-3"

PZ-2 18'-0"

MW-1 24'-7"

MW-21 75'-4"

PZ-1 31'-1"

MW-9 53'-0"

MW-15 79'-0"

Tracey SVE Step Test

08-16-16

Time Flow VAC DEL CO<sub>2</sub> O<sub>2</sub> FID % with Temp

Very High Concentrations at Beginning of Step Test  
to determine Vmax temp  $\uparrow$  1950°F needing to

09:35 purge out AWS with fresh air before starting test  
@ 3/8 to 1/2" of free product in AWS

08:45 Talked to Adrian Perez about free product in AWS  
and VAC steps for step test.

10:05 propane truck gas delivery

10:20 Truck left site

Step test well readings 2.5" Hg  
SVE

Time	Well	9	15	11	PZ-1	PZ-2	PZ-3	mw-1	AS-1	mw-10
VAC	0	0.5"wc	0.9"	6.1	2.6	2.0	2 Hg	0.2	0.5	
FID %	14	32	94 (flameout)	11	0	0	flameout	25	33	
FID with	1	19	NM	1	0	0		0	0	
Total	13									
LEL %	0	0	25	0	0	0	100	1	13	
O <sub>2</sub>	20.9	20.9	20.9	21.2	20.2	20.2	9.4	20.9	20.9	
CO <sub>2</sub>	0.0	0.0	0.3	0.0	0.0	0.0	4.8	0.0	0.0	

11:40 call to Equipo about FID not lighting moisture in unit probably.

called Pine ordered new FID cancelled FID order  
checking if someone can pick up FID at Equipo

13:05 increased VAC to 5" Hg Tracy Pilot test

well	9	15	11	P2-1	P2-2	P2-3	AS-1	mw-10
VAC	0.1 inc	1.0 inc	1.5	9.8	4.2	2.9	0.0	1.1
FID%	0	0	89	0	0	0	22	0
FID"	0	0	18	0	0	0	0	0
total	0	0	0	0	0	0	22	0
LEL	0	0	3	0	0	0	1	0
O <sub>2</sub>	20.9	21.6	21.4	20.9	20.9	20.9	20.5	20.9
CO <sub>2</sub>	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0

flushed 13:25

13:35 increased to 4" Hg VAC at manifold

well	9	15	11	P2-1	P2-2	P2-3	AS-1	mw-10
VAC	0.5 inc	1.1	1.6	10.8	4.8	3.3	0.0	1.3
FID%	0	0	0	0	0	0	21	0
FID"	0	0	0	0	0	0	0	0
total	0	0	0	0	0	0	21	0
LEL	0	0	0	0	0	0	0	0
O <sub>2</sub>	20.9	20.9	20.9	20.9	20.9	20.9	20.8	20.9
CO <sub>2</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

15:00 increased vac to 10" Hg

well	9	15	11	P2-1	P2-2	P2-3	AS-1	mw-10
VAC	0.3	1.1	1.4	10.8	4.8	3.5	0.0	0.9
FID%	0	0	0	0	0	0	17	0
FID"	0	0	0	0	0	0	0	0
total	0	0	0	0	0	0	19	0
LEL	0	0	0	0	0	0	0	0.9
O <sub>2</sub>	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
CO <sub>2</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Aster short circuit test around mw-1 mw-1 vac stayed the same

VAC	0.4	1.1	1.5	10.8	4.7	3.5	0.0	0.9
-----	-----	-----	-----	------	-----	-----	-----	-----



08-16-16

15:50 Increased manifold VAC to 12.5" Hg

well	05	9	15	11	PZ-1	PZ-2	PZ-3	AS-1	MW-10
VAC	<del>0.05</del>	<del>0.10</del>	<del>0.15</del>	<del>0.16</del>	10.8	4.8	3.5	0.0	0.8
FID%	0	0	0	0	0	0	0	17	0
FID <sup>u</sup>	0	0	0	0	0	0	0	0	0
total	0	0	0	0	0	0	0	17	0
LEL	0	0	0	0	0	0	0	0	0
O <sub>2</sub>	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
CO <sub>2</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

THU 08-18-16

Pre Air sparge test DTW measurements

well	DTD	DTW
9	<del>0</del>	31.64
15	<del>0</del>	32.06
11	30.70	32.11
PZ-1	29.94	30.76
PZ-2	<del>0</del>	30.91
PZ-3	<del>0</del>	30.56
MW-1	29.49	29.53
AS-1	<del>0</del>	30.84
MW-10	30.62	31.83

Pre Air sparge well FID Conc

well	9	15	11	PZ-1	PZ-2	PZ-3	MW-10
FID%							
FID <sup>u</sup>							

08-18-16 THU

Chronon 9-7127 Pilot Test

Time 08:30 well FID readings during AS Test

well	9	15	11	PZ-1	PZ-2	PZ-3	MW-10
FID%	0	0	323	0	0	0	0
w	0	0	0	0	0	0	0
Total	0	0	323	0	0	0	0

Flamed on MW-1

10:06 shut off air sparge as instructed by Adrian to restart AS and check for breakthrough pressure.

10:25 restarted AS test at 2psi  $Q_w =$   
 4psi 8.5 scfm  
 6psi 14  
 8.5 18  
 10psi

MAX pressure is 15psi gives 10psi on well and 20+ scfm flow

10:35 called Adrian informed him of AS limitations he said to let it run at maximum output

well	9	15	11	PZ-1	PZ-2	PZ-3	MW-10
FID%	0	0	330	2000 ↑	conc ↑	19	20
FID w	0	0	37 ↑	flamed	flamed	0	0
total	0	0					

11:40 w/o	0	0	280 ↑	flamed	flamed	13	14
	0	0					
	0	0					
	0	0					

12:45	0	0	287	flamed	4000	0	11
	0	0		flamed		0	
	0	0				0	

08-18-16

5L per min max

100-200 mL/min

Flow - is All flow

minimum of 30 liters per tube

2-1 Liter Tedlar

12:00 ph call with Paul

12:20 talk w/ Adrian collect Tedlar & tube samples at  
08-19-16 FRI when system is off no vacuum on well

13:25 Collected 1L summa cone sample from MW-1  
CAN # LC300 Flow controller SG-M 369  
Start 30" Hg End 5" Hg

14:05 FID readings

Well	9	15	11	PZ-1	PZ-2	PZ-3	MW-10
FID%	0	0	290	Flameout	Flameout	9	10
FID "	0	0	491			0	0
Total	0	0				9	10

14:50	0	130	320	Flameout	Flameout	0	0
	0	60	78			0	0
	0	70	242			0	0

15:50	0	Flameout	390	Flameout	Flameout	0	0
	0		130			0	0
	0		260			0	0

08-19-16 FRI

SVE/AS Pilot Test

07:15 am

well	4	15	11	PZ-1	PZ-2	PZ-3	MW-10
VAC Pressure	1.6"wc	1.3	2.0	2.0	12.4	32	26.3
FID %	flameout	flameout	flameout	flameout	flameout	0 ppm	12 ppm
FID ✓	↓	↓	↓	↓	↓	0	12
total						0	0
LEL %	100%	100%	100	100	100	0	0
O <sub>2</sub> %	14.2	1.8	16.9	0.7	19.2	20.9	20.9
CO <sub>2</sub> %	1.1	11.2	2.2	14.2	0.3	0.0	0.0

Air Sparge 720 scfm (23) 8.5 psi well 13.5 compressor output max

MW-1 Day 3 sample summa can # LC755  
SGM # 333 start VAC 30" Hg  
sample time 08:05 End VAC = 5" Hg

08:20 collected 2.1 liter tedlar bag  
air samples

08:50 Ended SVE/AS Test

08:52 started tube sample collection at 150 ml/min  
flowrate Adjusted flow to 200 ml/min  
sample collection should end at 11:22 am

11:22 Finished collecting tube sample

Packed up after checking MW-1 Parameters

12:30 left site

Air Trac TRK # 7838 7162 0580  
ALS TRK # 7838 7176 0211 Tedlars & tubes  
ALS TRK # pump & equip  
*Return the Rain*

JOB NAME:	CH 97127	JOB NUMBER:	185750447
SITE ADDRESS:	10 Grant Line Road	START DATE:	8/15/2016
	Tracy, CA	DATE PREPARED:	8/9/2016
PREPARED FOR:	Bo Patton	PREPARED BY:	Adrian Perez

0740

08/16-16

**GROUNDWATER GAUGING FORM**

MEASURED TO TOC

WELL ID	CONST. Depth	WELL DIAM.	ESTIMATED VOL. (GAL)	DTB (ft-bgs)	DTW (ft-bgs)	DTP/PT (ft-bgs)	D.O. (mg/L)	COMMENTS
AS-1					30.69	1		locking cap or box repair
MW-1					32.33	30.61	1	
MW-10					32.02	30.51	1	
MW-11					32.25	30.75	1	
MW-15					32.04	1		
PZ-1					31.53	29.74	1	
PZ-2					30.94	1		
PZ-3					30.60	1		

MW-9

31.66

**SITE VISITATION REPORT**

Name(s) \_\_\_\_\_ Date: \_\_\_\_\_ Did you call in? Yes No

Arrival Time: \_\_\_\_\_ "Departure Time: \_\_\_\_\_ Who did you call? \_\_\_\_\_

Weather Notations: SUN CLOUDY RAIN SNOW Temperature: \_\_\_\_\_ F

**DRUM INVENTORY**

_____ WATER	_____ CARBON	TOTAL OPEN TOP	_____
_____ SOIL	_____ EMPTY	TOTAL BUNG TOP	_____

**HEALTH AND SAFETY ASSESSMENT**

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Over →

08-16-16 ppm pre step test

Well	FID %	w/ final	LEL	O <sub>2</sub>	CO <sub>2</sub>	
9	10	1	9	0	19.3	0.0
15	155	97		7	20.2	0.4
11	4000 Steam			7100%	17.6	1.7
PZ-1	2600	3401↑		7100%	16.6↓	1.6
PZ-2	45↑	10		0	20.9	0.0
PZ-3	66↑	23		3	20.9	0.0
MN-1	20	0	20	0	20.9	0.0
AS-1	31	1	30	0	20.9	0.0
MN-10	710,000	38↑		100	20.9	0.0

Baseline Monitoring  
 CH 97127  
 10 Grant Line Road  
 Tracy, CA

AS-1 (2")	MW-1 (4")	MW-9 (2")	MW-10 (2")	MW-11 (2")	MW-15 (2")	PZ-1 (1")	PZ-2 (1")	PZ-3 (1")
Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*	Distance (ft)*
/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)	DTB (ft bgs)
40.00	39.70	40.44	40.13	37.77	38.97	38.20	36.95	33.54
DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)
30.65	32.33	31.62	32.00	32.18	31.99	31.50	30.91	30.55
DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)
0	30.55	0	30.47	30.74	0	29.74	0	0
Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)
130 <small>Without carbon</small>	155 <small>Without carbon</small>	76 <small>Without carbon</small>	300 <small>Without carbon</small>	Error <small>Without carbon</small>	432 <small>Without carbon</small>	Flameout <small>Without carbon</small>	Flameout <small>Without carbon</small>	Flameout <small>Without carbon</small>
7 <small>With carbon</small>	37 <small>With carbon</small>	32 <small>With carbon</small>	167 <small>With carbon</small>	Flameout <small>With carbon</small>	235 <small>With carbon</small>			
123 <small>Final</small>								
LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)
1	7	0	90	66	2	100	74	68
PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)
CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)
CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)
0.0	0.0	0.0	0.0	4.2	0.0	3.2	5.2	7.7
O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)
20.9	20.9	19.4	20.9	10.4	20.9	2.2	8.2	5.8
Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:
								18:10

\*Distance from MW-1 / AS-1

Date: 08-15-16

Time: \_\_\_\_\_

Name: JP

Post Test Parameters							
AS-1	MW-1	MW-10	MW-11	MW-15	PZ-1	PZ-2	PZ-3
DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)
DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)
Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)	Pressure (in H <sub>2</sub> O)
<del>0.0</del> 0.0	0.0	1.1	0.5	0.0	0.5	0.8	0.4
FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)
Without carbon	Without carbon	Without carbon	Without carbon	Without carbon	Without carbon	Without carbon	Without carbon
With carbon	With carbon	With carbon	With carbon	With carbon	With carbon	With carbon	With carbon
Final	Final	Final	Final	Final	Final	Final	Final
LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)
PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)
---	---	---	---	---	---	---	---
CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)
---	---	---	---	---	---	---	---
CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)
O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)
Time:	Time:	Time:	Time:	Time:	Time:	Time:	Time:

MW-9

09:50 09/15

0.0

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Date: 08-19-16

Name: P



Post-Test Readings  
 CH 97127  
 10 Grant Line Road  
 Tracy, CA

Post Test Parameters

AS-1	MW-1	MW-9	MW-10	MW-11	MW-15	PZ-1	PZ-2	PZ-3
DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)	DTW (ft bgs)
31.64	30.54	31.78	31.78	32.45	32.12	32.72	31.65	31.44
DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)	DTP (ft bgs)
0	30.52	0	0	30.93	0	29.95	0	0
Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)	Pressure (in H <sup>2</sup> O)
0.0	0.0	0.0	1.1	0.5	0.0	0.5	0.8	0.4
FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)	FID (ppmv)
0 Without carbon	250 Without carbon	Flameout Without carbon	6200 Without carbon	Flameout Without carbon	Flameout Without carbon	Flameout Without carbon	Flameout Without carbon	950 Without carbon
0 With carbon	28 With carbon	↓ With carbon	660+ With carbon	↓ With carbon	↓ With carbon	↓ With carbon	↓ With carbon	77+ With carbon
0 Final	Final	↓ Final	Final	↓ Final	↓ Final	↓ Final	↓ Final	Final
LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)	LEL (%)
0	29	100	100	100	100	100	100	69
PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)	PID (ppmv)
—	—	—	—	—	—	—	—	—
CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)	CO (ppmv)
—	—	—	—	—	—	—	—	—
CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)	CO <sub>2</sub> (ppmv)
0.0	0.0	1.3	0.0	3.5	11.6	5.9	0.4 0.0	0.0
O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)
20.9	20.9	16.8	20.6	15.9	2.5	7.1	18.5 20.3	20.3
Time: 09:50/09:57	Time: LEL, O <sub>2</sub>	Time: CO <sub>2</sub>	Time: FID 10:30 to 10:45	Time:	Time:	Time:	Time:	Time:

for pressure Date: 08-19-16 Name: P

DTW Times: 10:44 10:54 11:00 10:57 11:03

SVE System-System Measurements  
 CH 97127  
 10 Grant Line Road  
 Tracy, CA

Line	Date	Time	Extraction Well ID: MW-1 Measurement Pipe Ø		Tube Length: Tube Ø		Dilution Pipe Pipe Ø		Influent Measurement Pipe Ø		Total System Measurement Pipe Ø		Post blower combined flow (Dilution plus well field)														Effluent Final FID (ppmv)	System Temp (°F)	Note #																																				
			System Hour Meter (hours)	Barometric Pressure ( )	Atmospheric Temperature ( )	System Totalizer Reading (gallons)	Velocity Hot wire (scfm)	Velocity Pitot (ΔP in H <sub>2</sub> O)	Temp (°F)	Casing Vacuum (in Hg)	Well Head FID & Eagle Ray Multigas Meter						Temp (°F)	Vacuum (in Hg)	Flow (scfm)	Temp (°F)	Vacuum (in Hg)	Velocity Orifice (ΔP in H <sub>2</sub> O)	Velocity Hot wire (scfm)	Temp (°F)	Pressure (in. H <sub>2</sub> O)	FID & Eagle Ray Multigas Meter																																							
											No GAC (ppmv)	W/GAC (ppmv)	Final (ppmv)	LEL (%)	CO (ppmv)	CO <sub>2</sub> (ppmv)										O <sub>2</sub> (ppmv)				PID (ppmv)	No GAC (ppmv)	W/GAC (ppmv)	Final (ppmv)	LEL (%)	CO (ppmv)	CO <sub>2</sub> (ppmv)	O <sub>2</sub> (ppmv)	PID (ppmv)																											
15	08/16	08:55	1160.9		70	NA	60	NA	79	9.0	Flameout			100	X	1.0	17.7	X	79	15	110	175	18	2.80	X	120	3.51	1200	1077	4.4	X	0.6	19.4	X	0 ppm	1448																													
16		09:40	1161.7		73	NA	61	NA	79	9.1	Flameout			100	X	1.0	16.4	X	79	15	110	176	18	2.80	X	120	3.51	2240	2007	4.6	X	0.5	20.2	X	0 ppm	1515																													
17		11:20	1163.4		79	NA	65	NA	82	9.4				100	X	0.7	19.5	X	82	15	110	180	18	2.87	X	126	3.60	3000	2007	100	X	0.4	20.8	X	0 ppm	1648																													
18		12:30	1164.6		84	NA	67	NA	82	8.9	7000			100	X	0.8	20.3	X	82	15	110	182	18	2.91	X	132	3.71	5600	1207	100	X	0.2	20.9	X	0 ppm	1726																													
19		15:35	1165.6		86	NA	66	NA	84	9.2	Flameout			100	X	0.2	20.9	X	84	15	110	184	18.5	2.97	X	132	3.75	5000	1307	100	X	0.2	20.9	X	0 ppm	1677																													
20		14:30	1166.5		91	NA	65	NA	85	9.0	7000			100	X	0.2	20.9	X	85	14.5	110	186	18	2.96	X	134	3.80	2000	3707	100	X	0.1	20.9	X	0 ppm	1577																													
21		15:30	1167.5		91	NA	61	NA	82	9.2	Flameout			100	X	0.1	20.6	X	82	14.5	110	184	18	2.96	X	134	3.77	5000	440	100	X	0.1	20.8	X	0 ppm	1642																													
22	~~~~~~																																																																
23	08/16	07:00	1183.0		61	NA	66	NA	62	9.8	4000 ppm			84	X	0.0	20.9	X	62	14.5	110	172	18	3.05	X	110	3.77	4400	4400	2007	100	X	0.0	20.9	X	0 ppm	1466																												
24																																																																	
25																																																																	

**Explanations:**  
 scfm = standard cubic feet per minute  
 in. H<sub>2</sub>O = Inches of Water  
 in. Hg = inches of mercury  
 °F = degrees Fahrenheit  
 Flow readings collected with a hot wire anemometer

SVE-1/AS Test

Date	Time	MW-9		MW-10		MW-11		MW-15		PZ-1		PZ-2		PZ-3		AS-1			MW-1	Barometric	Comments			
		Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Pressure (in H <sup>2</sup> O)	DTW/P (ft bgs)	Well Head	Hourmeter	System		Vacuum (in Hg)		Pressure Hpa		
																Pressure (in H <sup>2</sup> O)	(hrs)	Flow (scfm)	Pressure (in H <sup>2</sup> O)					
08/18/16	09:25	0.0		+63		0.0		+0.8		+2.6		+12.5		+80		9 psi		18.5		-9.4				
	11:05	0.0		+59		+0.8		+1.1		+3.7		+13.4		+77		9.75 psi		720 scfm		-9.4				
	11:50	0.0		54		+1.6		+1.6		+5.1		14.7		75		9.5		720		-9.3				
	12:55	0.0		47		2.6		1.8		5.1		14.0		70		9.0		720		8.6				
	13:50	0.0		44		2.6		1.8		4.8		13.6		65		9.0		720 (23)		9.2				
	14:42	0.0		41		2.9		1.8		4.4		13.3		60		9.0		720 (23)		9.3				
	15:45	0.0		38		2.7		2.0		4.1		13.0		57		8.75		720 (23)		9.0				

Name: during SVE + AIR SPARGE

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Induced Vacuum & DTW

Date	Time	MW-9		MW-10		MW-11		MW-15		PZ-1		PZ-2		PZ-3		AS-1		MW-1	Barometric	Comments	
		DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	DTW/P (ft bgs)	Vacuum (in H <sup>2</sup> O)	Vacuum (in Hg)	Pressure Hpa		
08/16	08:35		0.3		0.7		1.1		0.8		9.2		4.0		2.9		0.0	8.8			
	09:25		0.4		0.9		1.5		1.1		9.5		4.2		3.2		0.0	8.7			
	10:09		0.5		0.9		1.8		1.3		9.8		4.5		3.5		0.0	8.5			
	11:00		0.5		1.0		1.8		1.3		9.6		4.4		3.4		0.0	9.0			
	12:00		0.5		0.7		1.6		1.2		9.6		4.4		3.4		0.0	9.0			
	13:00		0.5		0.5		1.8		1.1		9.5		4.2		3.3		0.0	8.9			
	13:52		0.5		0.6		1.6		1.3		9.6		4.4		3.4		0.0	9.0			
	14:42		0.5		0.2		1.6		1.1		9.2		4.1		3.1		0.0	9.0			
	15:30		0.5		0.2		1.6		1.1		9.1		4.1		3.1		0.0	9.1			

Date: \_\_\_\_\_

Name: \_\_\_\_\_



JOB NAME: <u>Chevron 9-7127</u>	JOB NUMBER: <u>185750550</u>
SITE ADDRESS: <u>Tracy CA</u>	START DATE: <u>09-14-16</u>
PREPARED FOR: _____	DATE PREPARED: _____
PREPARED BY: _____	PREPARED BY: _____

### SITE VISITATION REPORT

Name(s) James Patton Date: 09-14-16 Did you call in?  Yes  No

Arrival Time: 10:45 "Departure Time: 12:00 Who did you call? Adrian

Weather Notation:  SUN  CLOUDY  RAIN  SNOW Temperature: \_\_\_\_\_ F

### DRUM INVENTORY

_____ WATER	_____ CARBON	TOTAL OPEN TOP	_____
_____ SOIL	_____ EMPTY	TOTAL BUNG TOP	_____

### HEALTH AND SAFETY ASSESSMENT

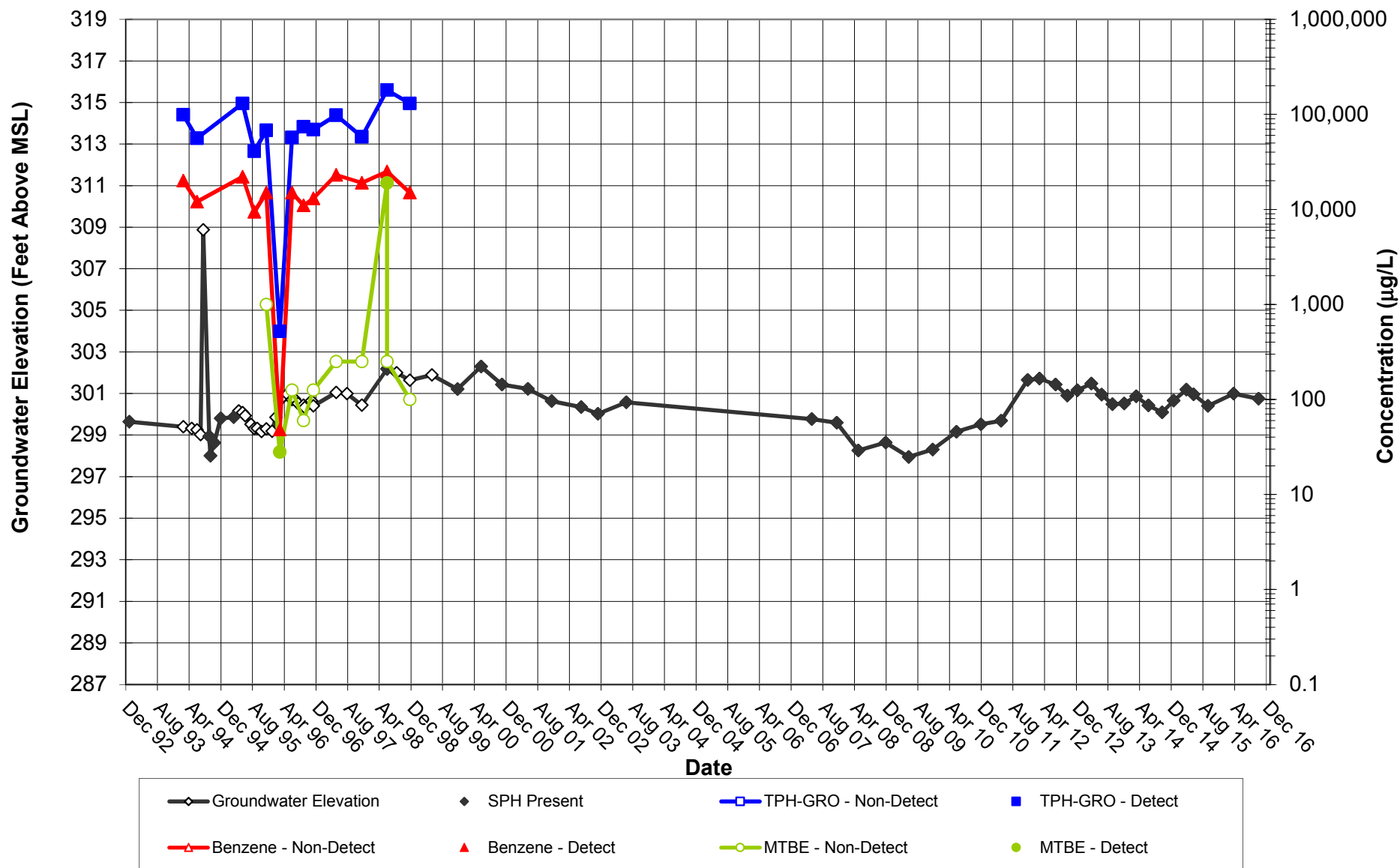
Time	Well	DTW	DTP	Thickness
11:32	MW-1	31.86	30.73	1.13
11:38	MW-10	31.41	30.84	0.57
11:24	MW-11	32.40	30.82	1.58
11:29	PZ-1	31.61	29.87	1.74
11:34	PZ-2	32.23	30.68	1.55
11:36	PZ-3	30.71	⊖	⊖
11:19	MW-9	31.75	⊖	⊖
11:21	MW-15	32.11	⊖	⊖

# **APPENDIX I**

## **Hydrographs**



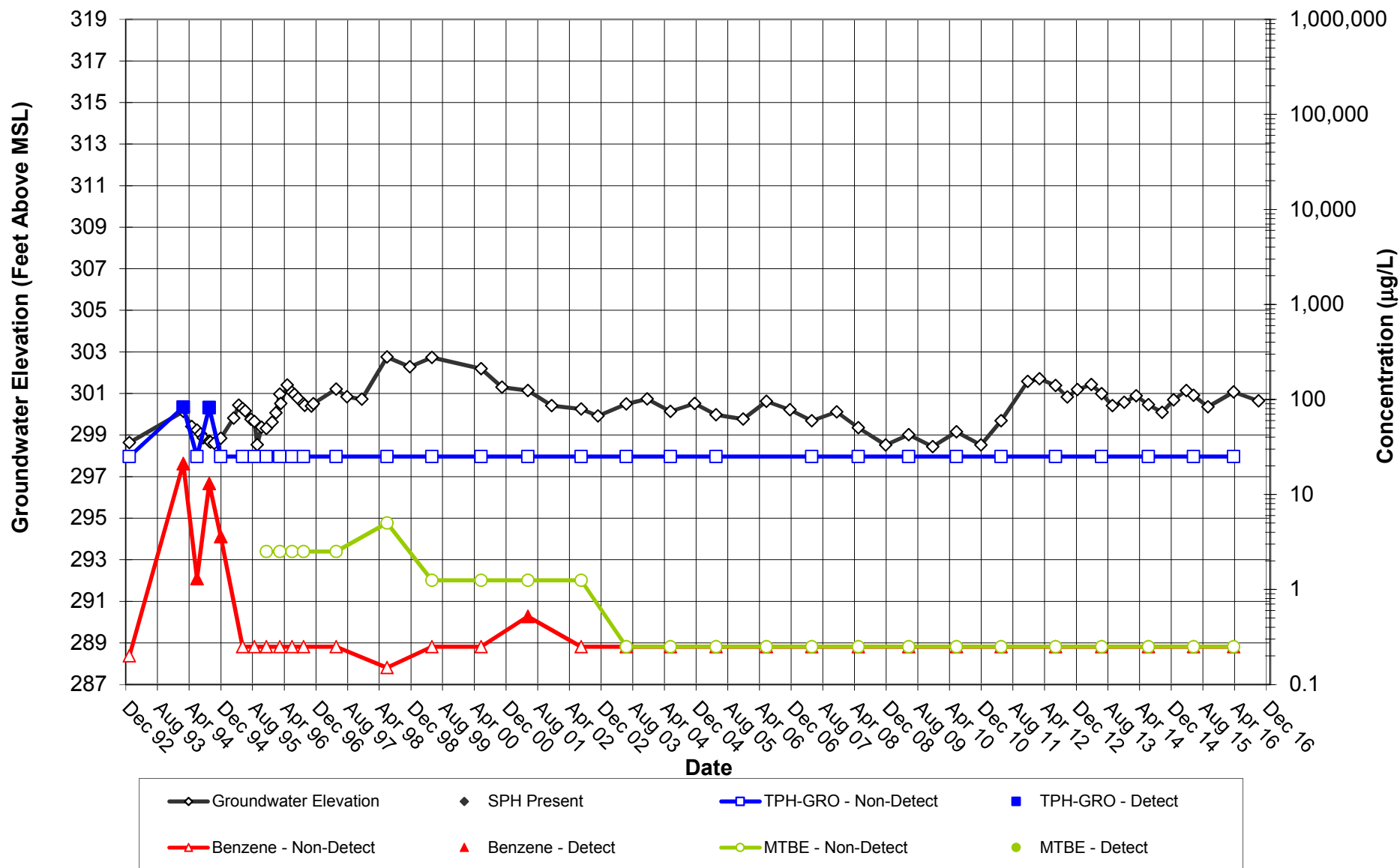
## Former Chevron Service Station No. 97127 MW-1 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

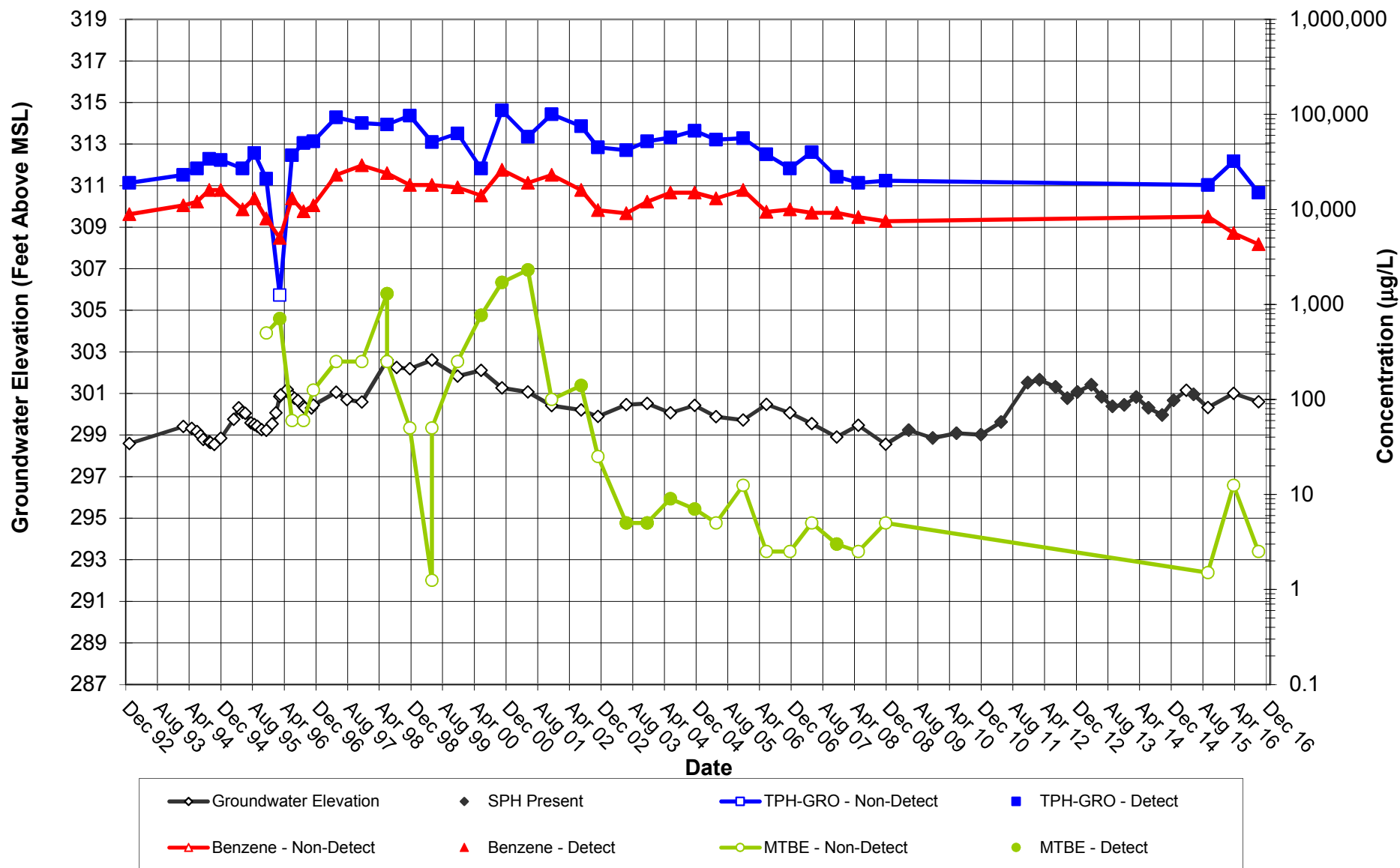
## Former Chevron Service Station No. 97127 MW-2 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

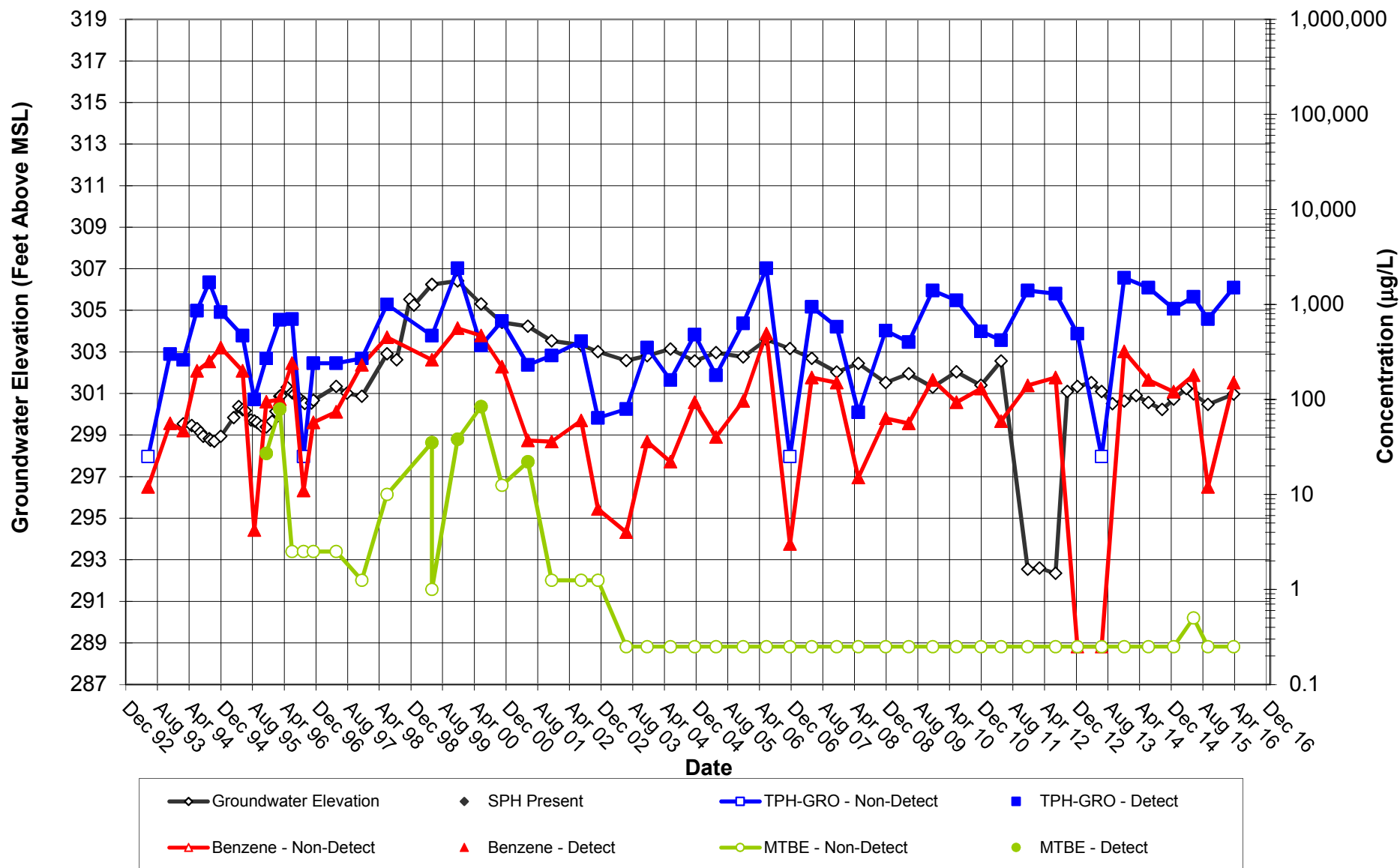
### Former Chevron Service Station No. 97127 MW-3 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

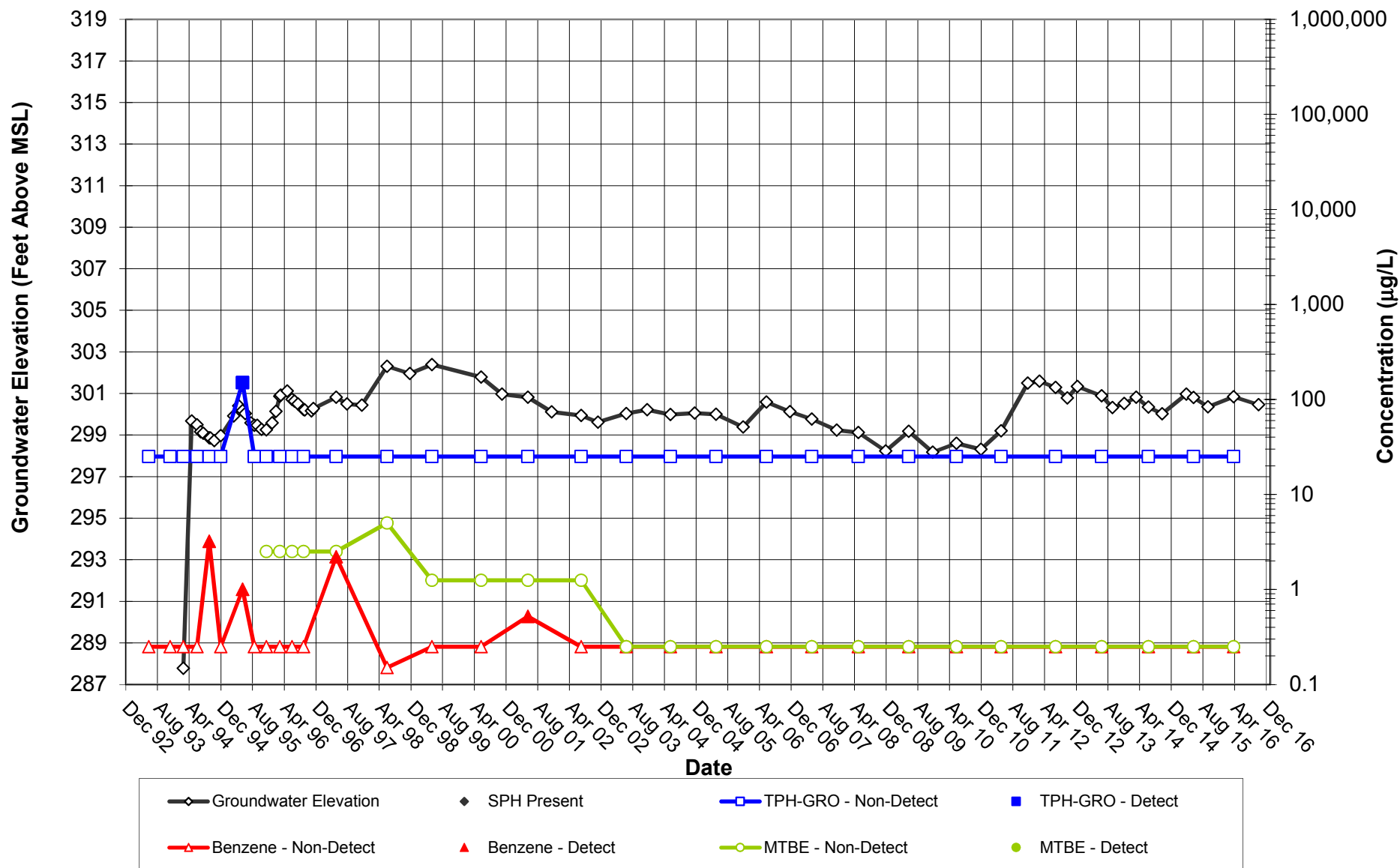
## Former Chevron Service Station No. 97127 MW-4 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

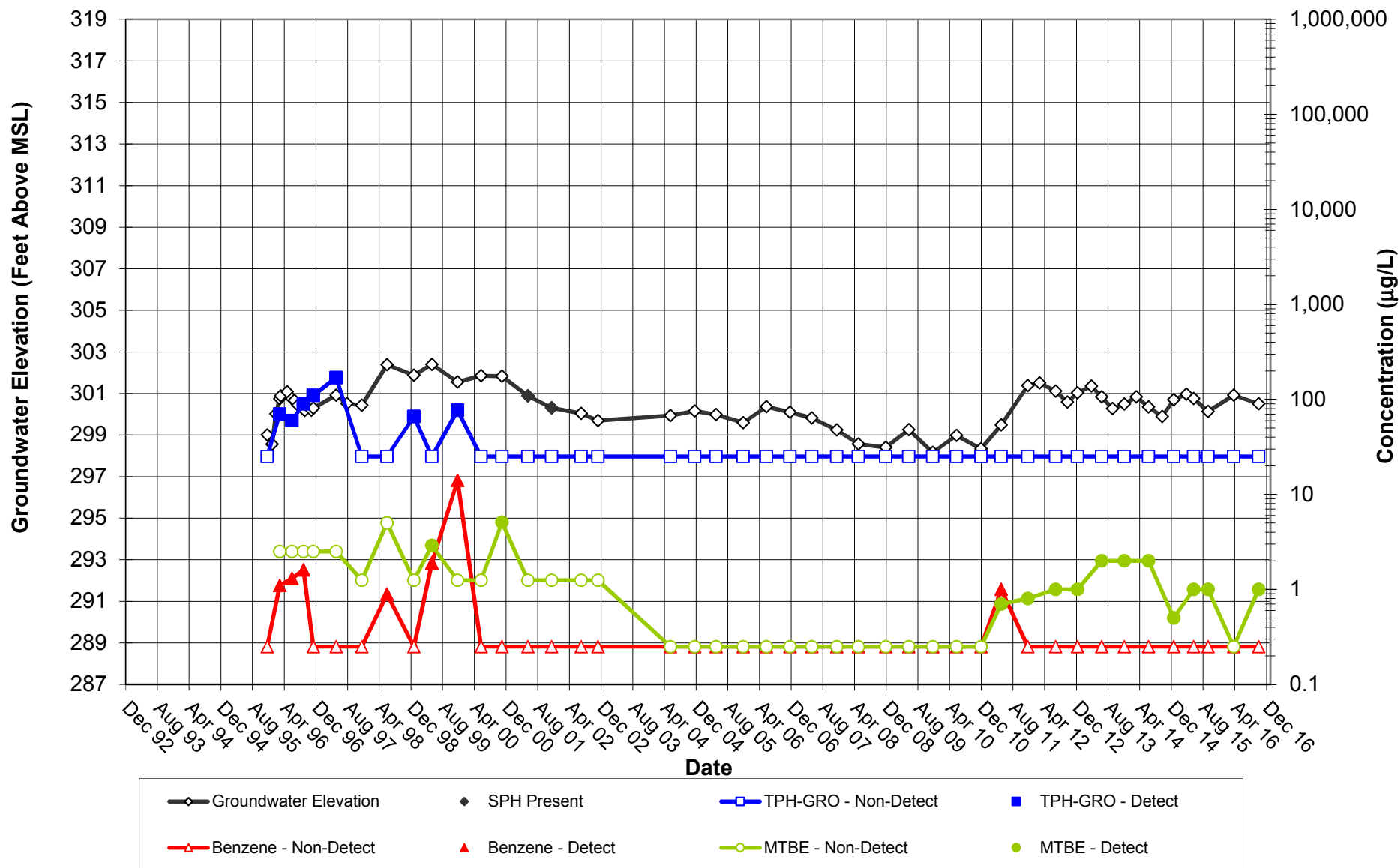
### Former Chevron Service Station No. 97127 MW-5 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

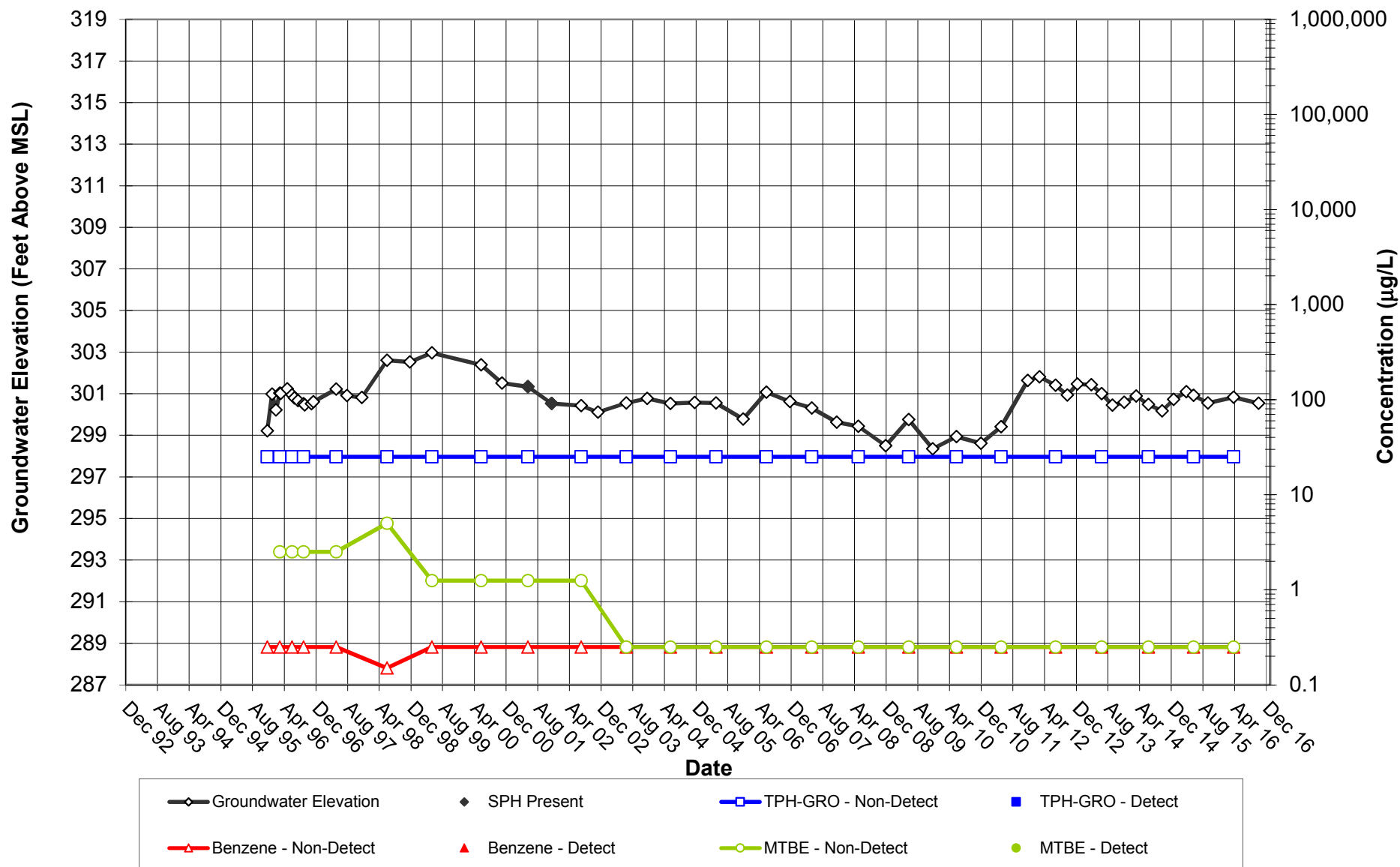
## Former Chevron Service Station No. 97127 MW-6 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

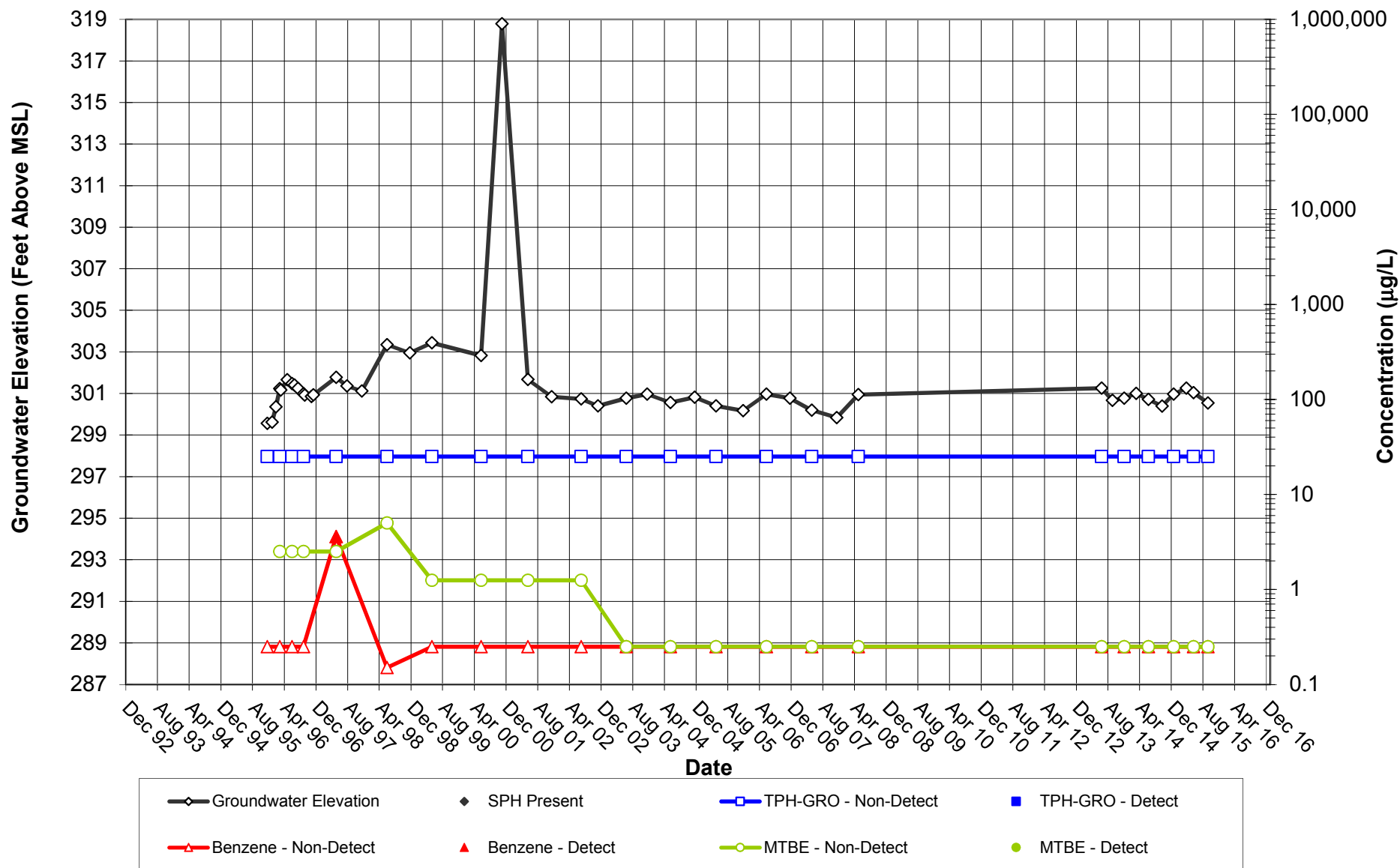
### Former Chevron Service Station No. 97127 MW-7 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

### Former Chevron Service Station No. 97127 MW-8 Hydrograph

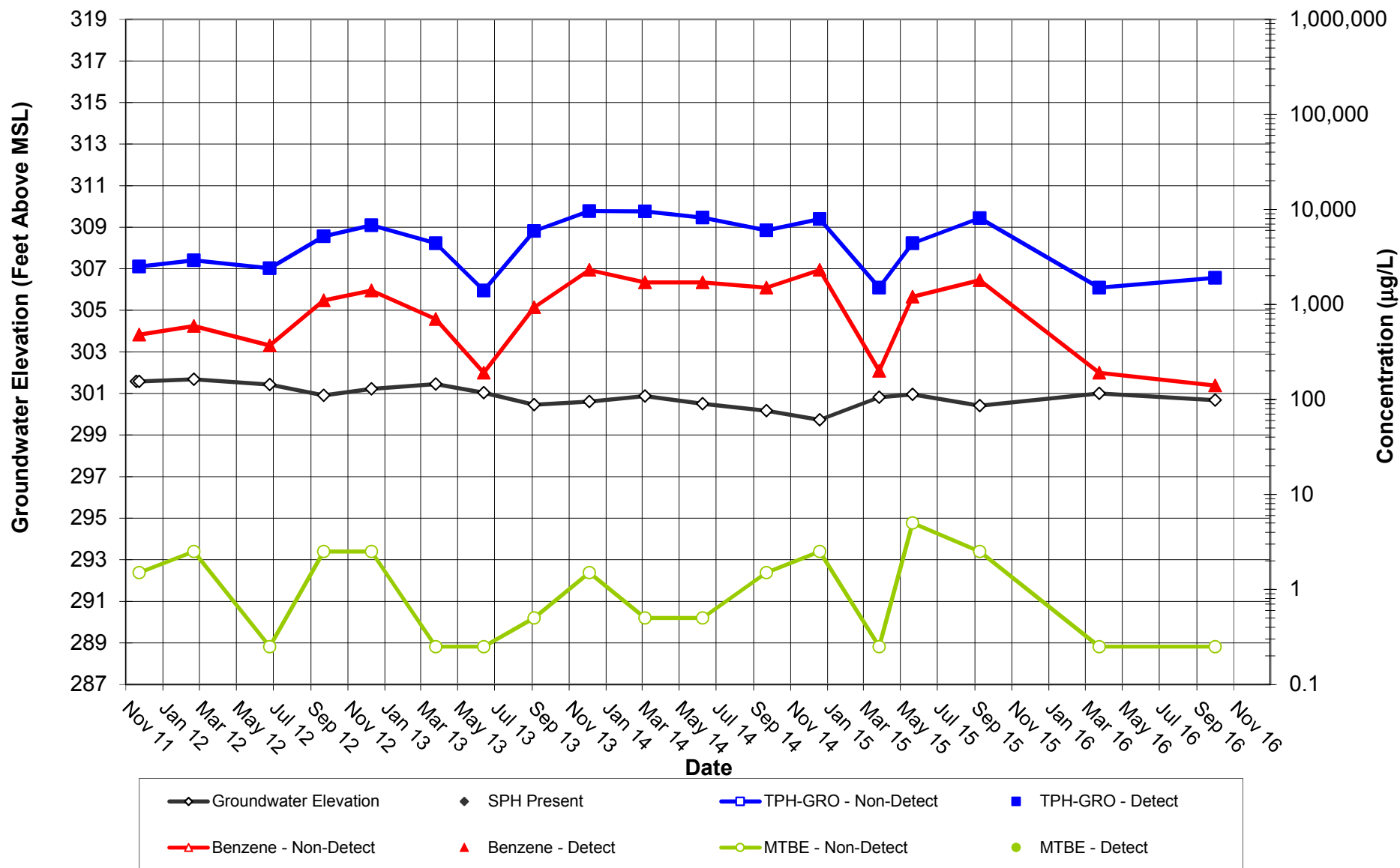


**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.



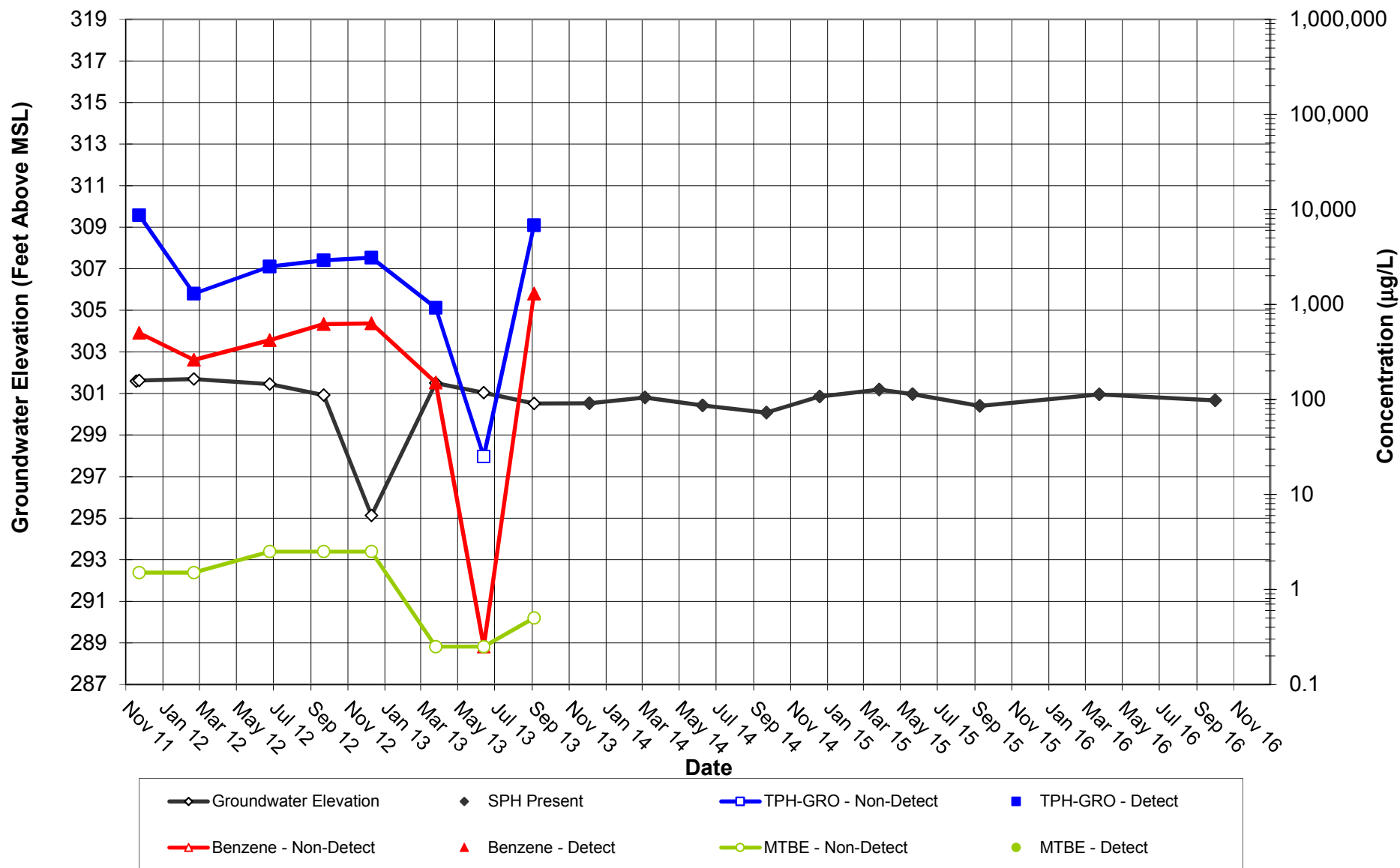
### Former Chevron Service Station No. 97127 MW-9 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

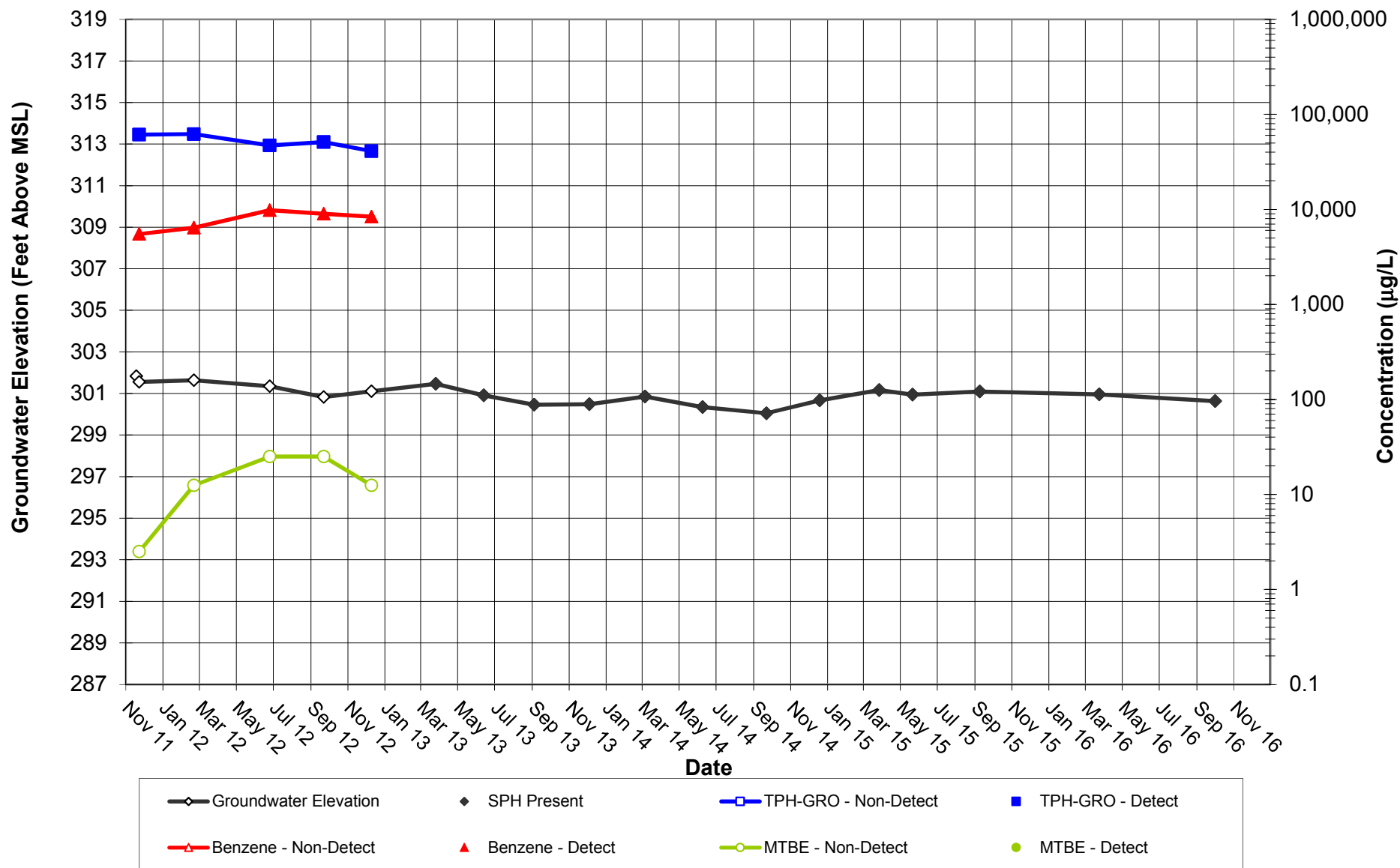
### Former Chevron Service Station No. 97127 MW-10 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

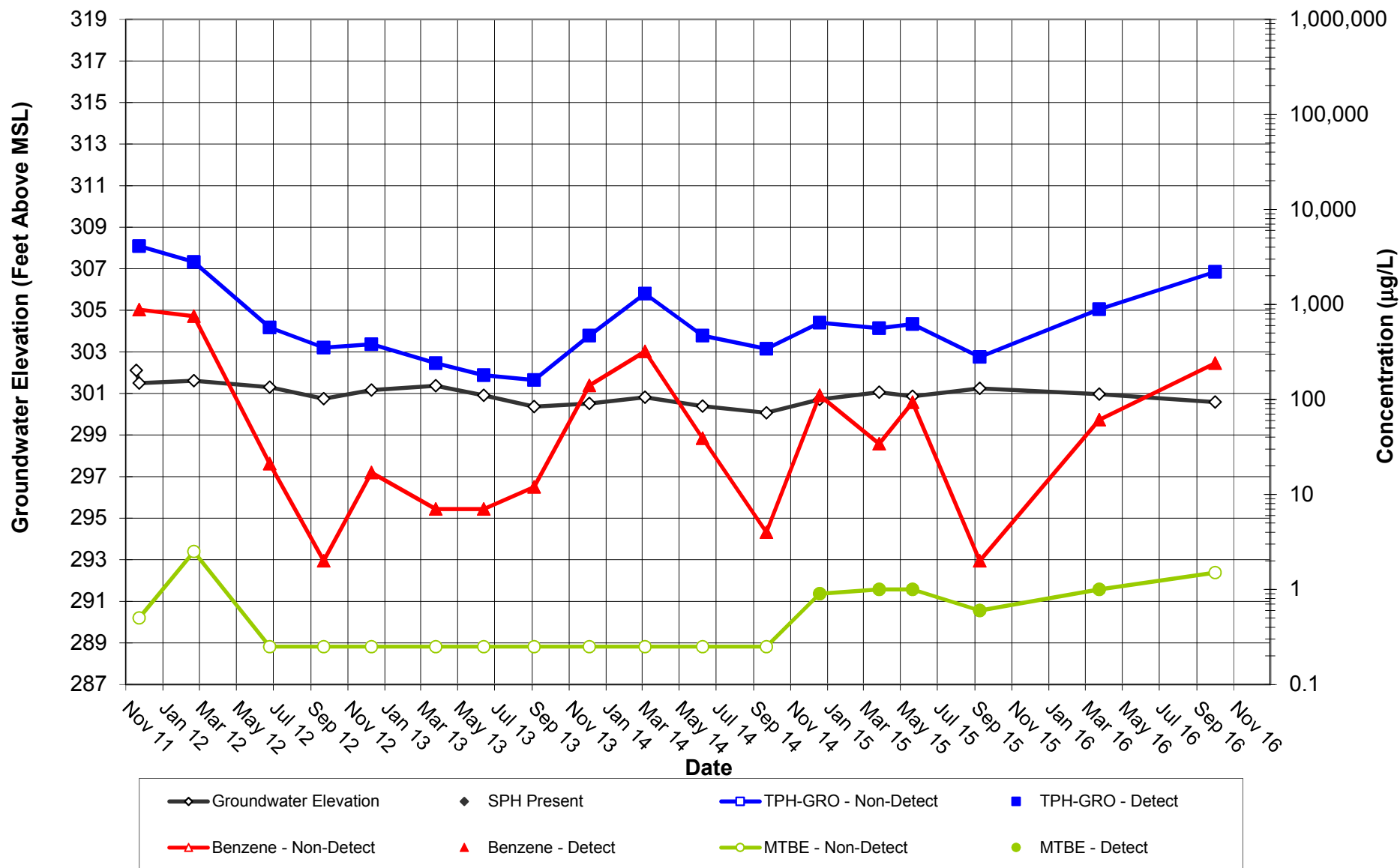
### Former Chevron Service Station No. 97127 MW-11 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

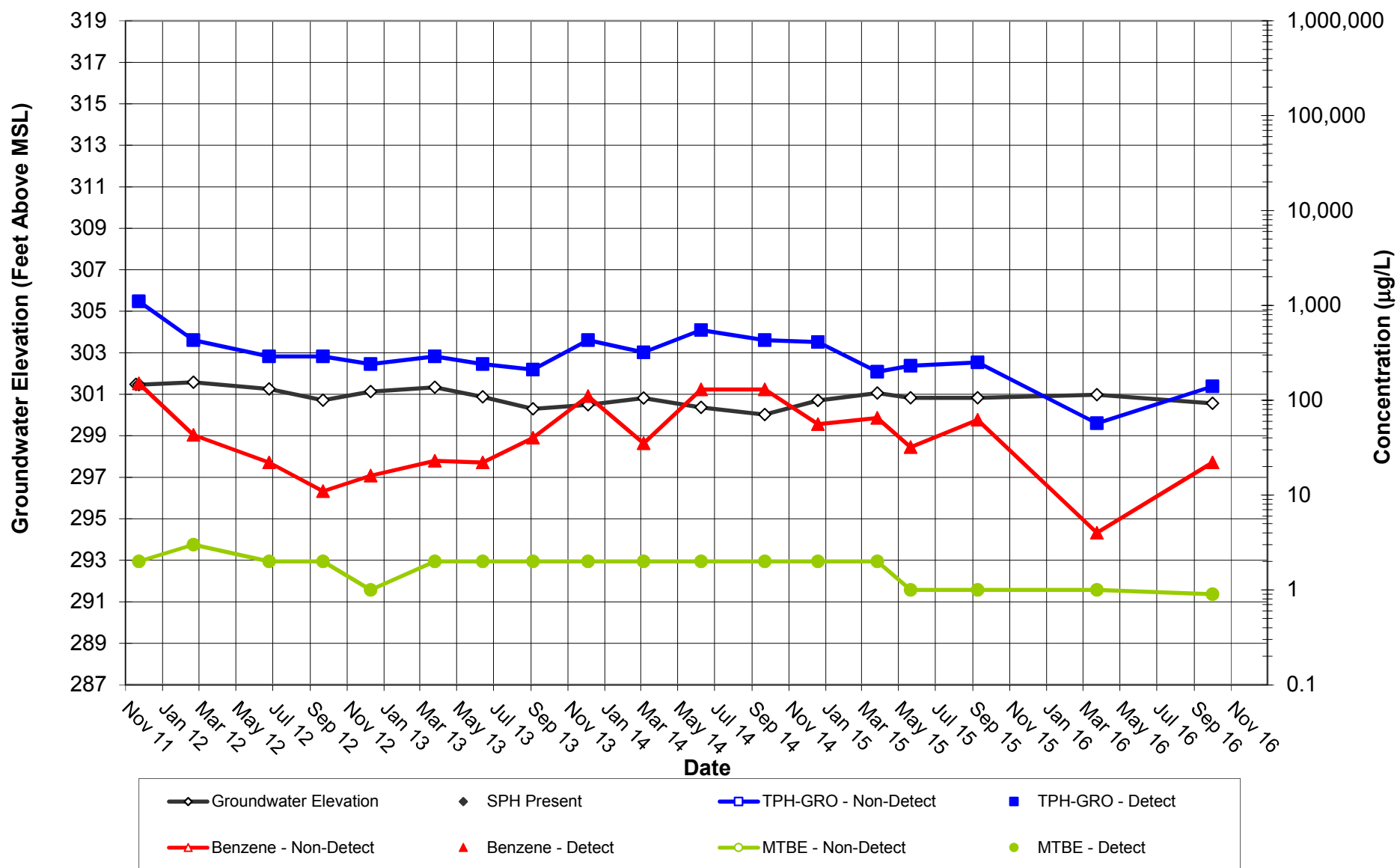
### Former Chevron Service Station No. 97127 MW-12 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

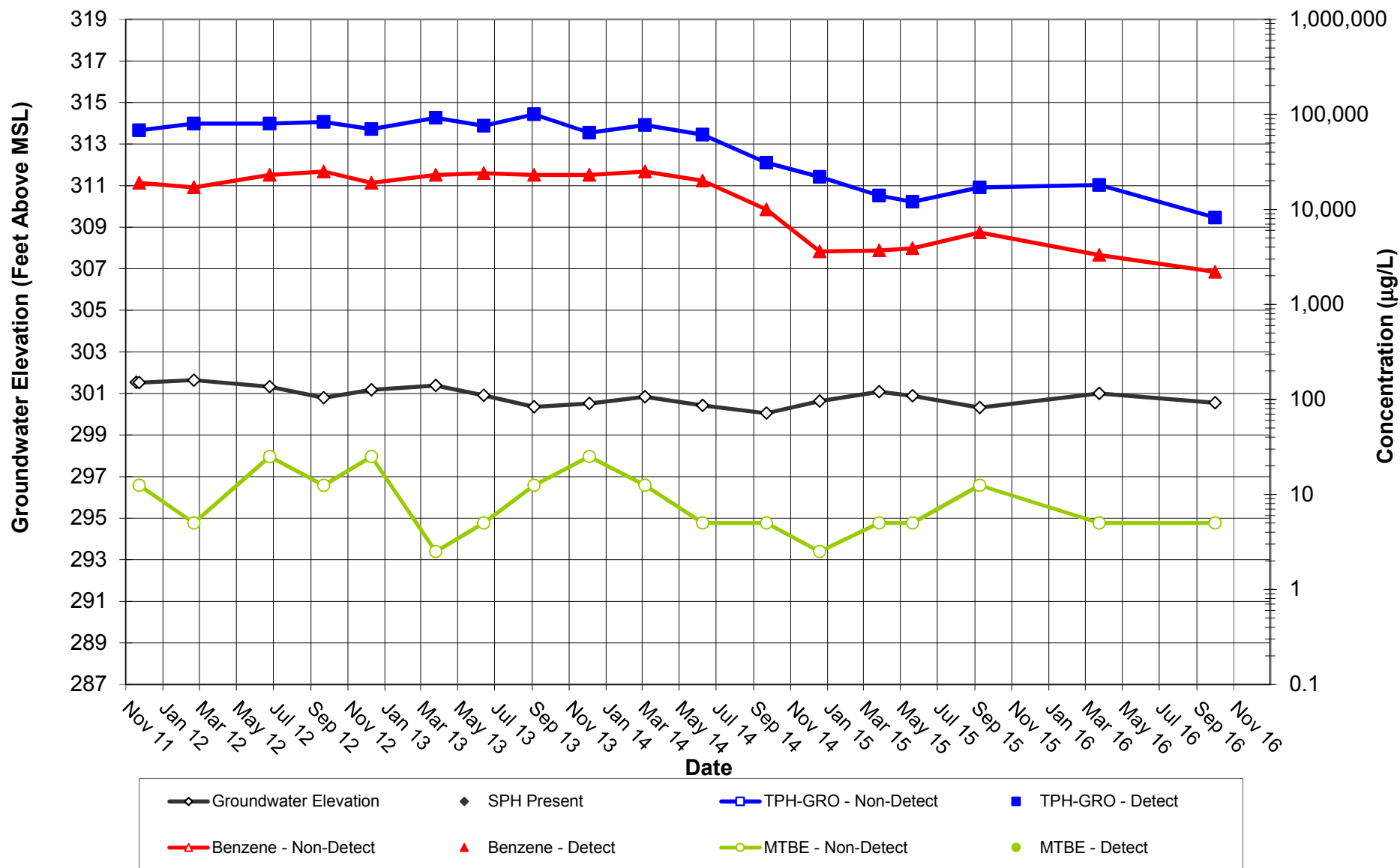
### Former Chevron Service Station No. 97127 MW-13 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

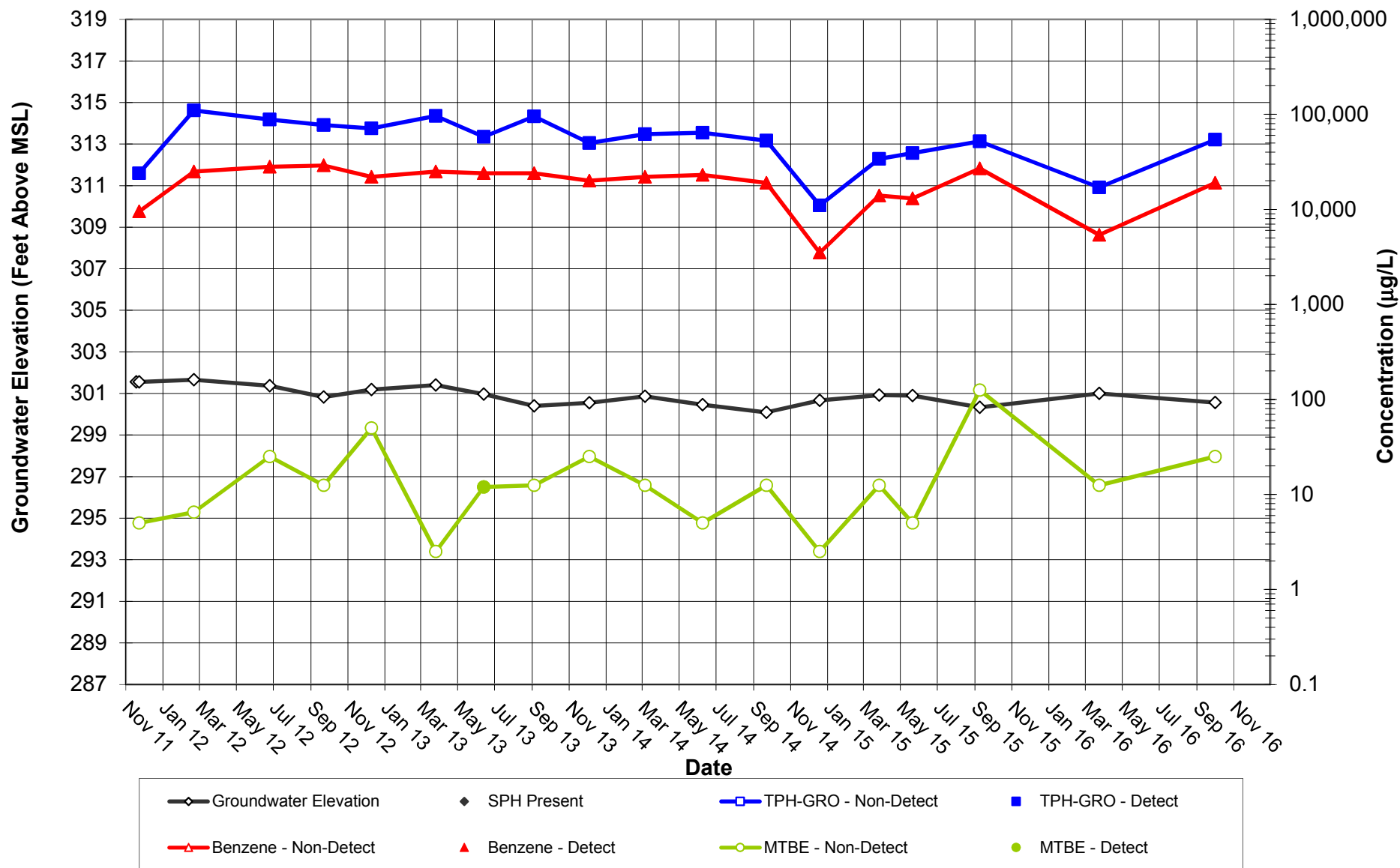
### Former Chevron Service Station No. 97127 MW-14 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

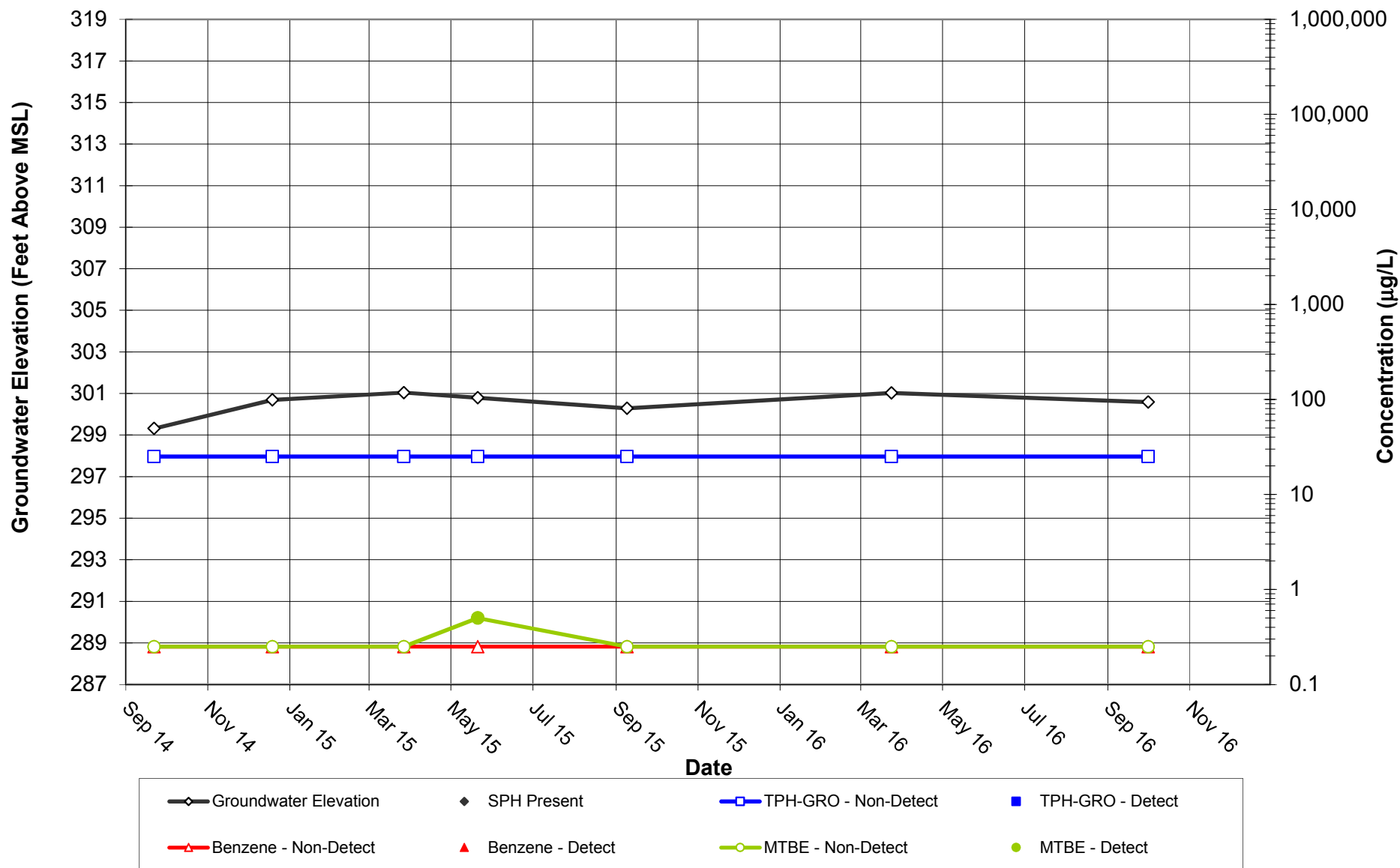
### Former Chevron Service Station No. 97127 MW-15 Hydrograph



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

**Former Chevron Service Station No. 97127  
MW-16 Hydrograph**



**Notes**

1. No analytical samples were collected if SPH (separate phase hydrocarbons) was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.