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RE: **Feasibility Study/Corrective Action Plan**
Former Chevron Service Station 97127
Grant Line Road and Interstate 580
Tracy, California
RWQCB # RO0000185

Dear Mr. Detterman:

ARCADIS U.S., Inc. (ARCADIS), at the request of Chevron Environmental Management Company (Chevron), has prepared the enclosed Feasibility Study/Corrective Action Plan for Former Chevron Service Station 97127, located at Grant Line Road and Interstate 580 in Tracy, California.

I declare to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct. The enclosed report is submitted pursuant to the requirements of California Water Code Section 13267 (b)(1).

Sincerely,

Carryl MacLeod
Project Manager

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Chevron Environmental Management Company

Feasibility Study / Corrective Action Plan

Chevron Site No. 97127
Grant Line Road and Interstate 580
Tracy, California
RWQCB # RO0000185

March 26, 2015

ARCADIS

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Feasibility Study / Corrective Action Plan
Grant Line Road and Interstate 580
Tracy, California

Prepared for:
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Our Ref.:
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Date:
March 26, 2015

ARCADIS

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Acronyms and Abbreviations

ACEHD	Alameda County Environmental Health Department
ACPD	Alameda County Planning Department
amsl	above mean sea level
ARCADIS	ARCADIS U.S., Inc.
AS	air sparging
AS/SVE	air sparge/soil vapor extraction
Basin Plan	the water control plan
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, total xylenes
BTS	Blaine Tech Services, Inc.
CA Luft Manual	California Leaking Underground Fuel Tank Guidance Manual
Cambria	Cambria Environmental Technology, Inc.
CAP	corrective action plan
Cascade	Cascade Drilling, LP
COC	constituents of concern
cm/s	centimeter per second
CRA	Conestoga Rovers Associates
CVRWQCB	Central Valley Regional Water Quality Control Board
Delta	Delta Environmental Consultants, Inc.

DO	dissolved oxygen
DPE	dual phase extraction
DTW	depth-to-water
DWR	Department of Water Resources
EA	EA Engineering, Science, and Technology, Inc.
ESLs	environmental screening levels
Fe^{3+}	ferrous iron
FS/CAP	feasibility study / corrective action plan
ft/ft	foot per foot
G-R	Gettler-Ryan, Inc.
IRAP	interim remedial action plan
ISCO	in-situ chemical oxidation
ITRC	Interstate Technology Regulatory Council
LNAPL	light non-aqueous phase liquid
MCL	maximum contaminant level
mg/kg	milligram per kilogram
MNA	monitored natural attenuation
MTBE	methyl tertiary butyl ether
NA	natural attenuation
NO_{3-}	nitrate

O&M	operation and maintenance
ORC	oxygen releasing compound
ORP	oxidation reduction potential
PEG	Pacific Environmental Group
PIANO	paraffinic, isoparaffinic, aromatic, naphthenic, olefinic and sulfur containing cyclic compounds
RAP/FS	remedial action plan and feasibility study
RBCA	risk-based corrective action
RWQCB	Regional Water Quality Control Board
site	former Service Station No. 97127 located at Grant Line Road and Interstate 580, California
SO_4^{2-}	sulfate
SVE	soil vapor extraction
SWRCB	State Water Resource Control Board
TPH-GRO	total petroleum hydrocarbons as gasoline range organics
µg/L	microgram per Liter
USEPA	United States Environmental Protection Agency
UST	underground storage tanks
VOC	volatile organic carbon
WA	Weiss Associates
WQO	water quality objectives

1. Introduction

On behalf of Chevron Environmental Management Company, ARCADIS U.S., Inc. (ARCADIS) prepared this Feasibility Study / Corrective Action Plan (FS/CAP) to identify and evaluate potential remedial alternatives for interim remedial action to address the petroleum-hydrocarbon-impacted soil and groundwater at Grant Line Road and Interstate 580, California (site). Figure 1 illustrates the general area of the site and Figure 2 presents a site plan of the property.

This FS/CAP was prepared as requested by Alameda County Environmental Health Department (ACEHD) in their letter dated July 10, 2014 (Appendix A). This FS/CAP presents relevant background information, provides a detailed comparative analysis of potential remedial alternatives, and recommends further actions to address petroleum hydrocarbon concentrations in soil and groundwater.

1.1 Purpose/Remedial Action Objectives

The purpose of this FS is to identify and evaluate remedial action alternatives that are:

- Appropriate for site-specific conditions
- Protective of present and potential future public health, safety, and welfare of the environment
- Consistent with applicable laws, regulations and guidance documents

This FS recommends further action to address residual light non-aqueous phase liquid (LNAPL) recovery, based on evaluating the remedy selection factors.

1.2 Report Organization

A description of site background information is provided in Section 2. A summary of the site conceptual model is provided in Section 3. A discussion of the remedial alternatives objective is presented in Section 4. The analysis and evaluation of each remedial alternative is summarized in Section 5.

1.3 Site Closure

Currently the site doesn't qualify for closure as a low-threat fuel site, as described in the State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank

Case Closure Policy (Low-Threat Closure Policy) adopted by the SWRCB on May 1, 2012 and effective August 17, 2012 (SWRCB 2012a). The following action items need to be addressed prior to moving toward site closure.

- Address historical observation of LNAPL in monitoring wells MW-1, MW-3, and MW-11
- Address benzene groundwater concentrations in MW-1
- Demonstrate secondary-source removal to the extent practicable

2. Site Background

This section describes the site's physical setting, regulatory history, and previous environmental investigations conducted at the site.

2.1 Site Description

The site is a vacant lot located on the east side of Grant Line Road, just south of Interstate-580 in a rural area of Tracy, California (Figure 1). Former service station facilities at the site included fuel underground storage tanks (UST) (two 10,000-gallon capacity and one 1,000-gallon capacity), one steel used oil UST (1,000-gallon capacity), one heating oil UST (750-gallon capacity), product line piping and pump islands, and station building (Figure 2). The USTs and associated piping were removed in April 1991. The station building and pump islands were subsequently razed, and the site is currently a vacant lot.

The site elevation is approximately 320 feet above mean sea level (amsl) and the topography is generally hilly. The site is situated in the San Joaquin Basin of California (California Department of Water Resources [DWR] 2006).

2.2 Site Water and Land Use

2.2.1 Beneficial Water Use Determination(s)

According to the Central Valley Regional Water Quality Control Board (CVRWQCB) *The Water Control Plan* (Basin Plan), potential beneficial uses for San Joaquin River Basin groundwater include municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply. Exceptions to potential beneficial use designations include water quality considerations such as total dissolved solids exceedances and contamination, aquifer productivity, and use for geothermal energy (CVRWQCB 2011).

2.2.2 Water Supply Well Survey

ARCADIS requested well log completion files from the Zone 7 Water Agency and the California Department of Water Resources in November 2013. The search was conducted for wells located within a quarter-mile radius distance surrounding the site. This survey concluded that no public water supply wells are located within 2,500 feet of the site. However, 4 domestic, private water supply wells are located within 2,000 feet of the site. Three of the four private domestic water supply wells are located at Jess Ranch which is approximately 1,000 feet west-southwest of the site. The other domestic well is located in the adjacent property to the south. However, well construction details for that well is unknown. There is also a water supply well located at the site. A video log was completed for this well to evaluate the condition and well construction details of the well (total depth of 80 feet and screen interval from 27 to 80 feet below ground surface [bgs]). The onsite water supply well was destroyed March 6, 2015.

2.2.3 Land Use Determination

The site is bordered by Grant Line Road to the west, Jess Ranch Road to the south, Interstate 580 on ramp to the north, and open space to the east of the site. According to the Alameda County Planning Department's (ACPD), the site is zoned as an unincorporated area. There are no future development plans listed on the ACPD website. The properties surrounding the area is agricultural or commercial zoned. For this FS/CAP, it is assumed that potential future use of this property will be consistent with the property owner's proposed redevelopment plans consisting of a service station and a leachfield (Figure 3).

3. Site Conceptual Model

This section describes the site geology and hydrogeology as well as the nature and extent of remaining petroleum hydrocarbons in the soil and groundwater.

This section describes the current site conceptual model. Information regarding the site geology, hydrogeology, previous investigations and assessments, remedial actions, and soil and groundwater analytical data are presented. Well construction details are included in Table 1. Soil boring logs are included in Appendix B. Current groundwater analytical data are provided in Tables 2 and 3. Historical groundwater analytical data are provided in Appendix C. Grab groundwater analytical data are provided on Table 4. Historical soil analytical data are provided in Appendix D.

3.1 Regional Geology and Hydrogeology

The site is situated in the Tracy Subbasin of the San Joaquin Valley Basin, in the southern extent of the Great Valley Geomorphic Province. According to California's Groundwater Bulletin 118, the Great Valley is structural basin between the folded and faulted structure of the Coast Range on the west and the Sierra Nevada Mountain Range on the east. Shallow alluvial deposits consisting of a mixture of unconsolidated silt, sand, and gravel are present in or near stream channels, with thicknesses of less than 100 feet. In the northern two-thirds of the San Joaquin Basin, low permeability flood basin deposits, consisting of primarily silts and clays, underlies the surficial alluvium with thicknesses up to 1,400 feet. Near the Coast Range, older, loosely and moderately compacted sand, silt, and gravel are exposed in alluvial fans with thicknesses of up to 150 feet. The Tulare Formation, which consists of poorly sorted, semiconsolidated clay, silt, and gravel, underlies the alluvial and flood deposits. The Corcoran clay, which is located near the upper extent of the Tulare Formation, acts as a confining layer to the underlying regional aquifer (DWR 2006).

Water-bearing deposits of the Tracy Subbasin include sand and gravel intervals in shallow alluvium, low-yield, water-bearing gravel interbeds in flood basin deposits, moderately to highly permeable older alluvium in the Coast Range foothills, and the highly productive Tulare Formation (DWR 2006).

The Upper Tulare Aquifer lies from approximately 5 to 200 feet bgs. The Corcoran clay, consisting of low permeability silty diatomaceous clay, is generally encountered at 200 feet bgs, and is approximately 100 feet thick. The confined Lower Tulare Aquifer lies below the Corcoran clay. Primary municipal, industrial, and agricultural water is sourced from beneath the Corcoran clay of the Tulare Formation. Some domestic wells extract water from above the clay; however, water quality and production rate is often reduced. Wells completed beneath the Corcoran clay reportedly pump groundwater at rates up to 3,000 gallons per minute (DWR 2006).

3.2 Local Geology and Hydrogeology

Data collected during subsurface investigations indicate that heterogeneous layers of consolidated fine-grained sediments underlie the site and immediate vicinity. Boring logs from previous site investigations indicate that soil beneath the site consists primarily of fill (combinations of sand, silt and clay), silty clay, clayey sand, silty sand and gravel to a maximum depth of approximately 19 feet bgs. Site soils are underlain by sandstone that extends to the maximum explored depth of 40 bgs. Historical soil sampling locations are

presented on Figure 4. Geologic cross-sections are provided as Figures 5 through 9. Historical boring logs are presented in Appendix B.

Groundwater has typically been encountered at the site from approximately 10 to 32 feet bgs. Resulting groundwater elevations have varied from approximately 292 feet amsl to 306 feet amsl. Depth to water (DTW) measurements in the most recent sampling event (December 2014) ranged from 14.14 ft. below top of casing (btoc) at MW-6 to 32.73 feet btoc at MW-9. LNAPL was observed in monitoring wells MW-1, MW-3, MW-10, and MW-11 at a thickness of 1.62 feet, 0.09 foot, 2.46 feet, and 0.48 foot, respectively. Resulting groundwater surface elevations on-site ranged from 300.63 feet bgs at MW-14 to 300.96 feet bgs at MW-8.

Groundwater flow at the site has historically been reported as varying between north and northeast at gradients ranging from 0.0006 foot per foot (ft/ft) to 0.07 ft/ft. The average groundwater gradient is approximately 0.009 ft/ft. Prior to 2005, groundwater flow and gradient were not calculated at the site (ARCADIS 2015).

The groundwater elevation contour map for the December 2014 sampling event is presented on Figure 10. Water levels from the December 2014 sampling event is presented in Table 2. A groundwater flow direction rose diagram is presented on Figure 11. Historical groundwater monitoring data and analytical results, beginning June 25, 2012 is presented in Table 3. Historical Groundwater Monitoring Data and Analytical Results, Ending February 21, 2012 is provided in Appendix C.

3.3 Previous Investigations and Site Assessments

3.3.1 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). Figure 4 presents the location of the soil vapor samples.

3.3.2 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 on-site 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 (µg/L), exceeding the California recommended action level (Kleinfelder 1988). Water samples were collected as part of the initial site assessment. Figure 4 presents the locations of the soil borings.

3.3.3 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 µg/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 µg/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 µg/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 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). Sample results are presented in Appendix C.

3.3.4 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). Figure 4 presents the location of the soil samples collected during the overexcavation.

3.3.5 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, ethlybenzene and total xylenes (collectively, BTEX) (PEG 1993a). Results of the sampling event can be found within the PEG report. The location of the soil boring is presented on Figure 4.

3.3.6 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).

3.3.7 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). The location of the soil boring is presented on Figure 4.

3.3.8 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).

3.3.9 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).

3.3.10 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*).*

3.3.11 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.

3.3.12 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*).*

3.3.13 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).

3.3.14 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).

3.3.15 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).

3.3.16 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.

3.3.17 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).

3.3.18 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).

3.3.19 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).

3.3.20 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.

3.3.21 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). Soil boring locations are presented

on Figure 4. Historical soil analytical data is presented in Appendix D. Grab groundwater analytical results for B-8 is presented in Table 4.

3.3.22 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). PIANO data and forensic diagnostic calculation results are presented in Table 1 and Table 2 of Appendix E. Appendix E also contains the PIANOS composition histograms of the individual samples. The list of analytes is provided in Table 1 of Appendix E. Soil analytical results are presented in Appendix D. Grab groundwater sample analytical results are presented in Tables 4 and 5.

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^2/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).

3.3.23 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).

3.3.24 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. LNAPL removal data is presented in table 6 and results will be reported within quarterly groundwater monitoring reports.

3.3.25 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.

3.4 Groundwater

Based on the results of site investigation activities performed to date, the primary constituents of concern (COCs) at the site include TPH-GRO and benzene. Additional COCs include toluene, ethylbenzene, and total xylenes.

Elevated concentrations of TPH-GRO and benzene are currently present in groundwater onsite and downgradient from the former USTs. A statistical analysis of groundwater analytical trends is presented in Section 3.4.1. Groundwater isoconcentration contour maps for TPH-GRO and benzene from the December 19, 2014 sampling event are presented in Figures 12 and 13. MTBE concentration distribution map is presented in Figure 14. The figures illustrate that the groundwater plume is stable. Groundwater monitoring well hydrographs depicting groundwater elevation and constituent concentration trends are provided in Appendix F.

Dissolved concentrations of TPH-GRO, benzene and MTBE in groundwater through time are presented on Figures 1 through 15 in Appendix F. Monitoring wells MW-4, MW-9, MW-12, MW-13, MW-14 and MW-15 represent the core of the plume and the residual secondary source zone. Measurable LNAPL has been detected in MW-1 since May 2000, MW-3 since May 2009, MW-10 since December 2013 and MW-11 since March 2013. Measured LNAPL thickness and groundwater elevations versus time at wells MW-1, MW-3, MW-10 and MW-11 are presented as Figures 1 through 4, respectively, of Appendix G. TPH-GRO and benzene were observed to increase at MW-9 and MW-12 during the December 2014 groundwater sampling event. However, concentration trend graphs for the other monitoring wells show an overall decreasing trend. Prior to December 2014, concentrations of TPH-GRO and benzene had an overall decreasing trend at MW-9 and MW-12. Benzene concentrations were below laboratory reporting limits at MW-6, MW-8 and MW-16 during the December 2014 groundwater sampling event. MW-4, MW-13, MW-14 and MW-15 continue to show decreasing overall trends, verifying that natural attenuation and natural depletion of the residual secondary source zone is occurring in groundwater at the site.

3.4.1 Linear Regression Trend Analysis

A statistical analysis of the historical groundwater monitoring data was completed to assess trends in COC concentrations with time. The statistical analysis was based on a review of the available historical groundwater monitoring data for monitoring wells MW-1 through MW-16. Concentration trend graphs are presented in Appendix F. A summary of the statistical analysis and the linear regression analysis outputs are inlcuded in Appendix H.

The screening process included comparison of the historical monitoring data for TPH-GRO and benzene for MW-1 through MW-16 to the water quality objectives (WQOs) summarized below and to select a list of candidates for linear regression analyses.

WQOs used in this analysis are presented in the following table.

COC	WQO (µg/L)	Source
TPH-GRO	100	RWQCB
Benzene	1	MCL

Note:
MCL = California Maximum Contaminant Level

The WQO for TPH-GRO is based on the RWQCB standard *Environmental Screening Levels (ESLs) for Concerns at Sites with Contaminated Soil and Groundwater* Table F-1a: Groundwater Screening Levels where groundwater is a current or potential drinking water resource (RWQCB 2013). An MCL has not been established for TPH-GRO.

Linear regression statistical analyses were then performed for monitoring locations where COCs have exceeded relevant WQOs during the recent monitoring history and where sufficient, representative analytical data are available (typically a minimum of eight data points consisting of positive COC detections). Based on these criteria, wells MW-1, MW-3, MW-4, MW-9, MW-12, MW-13, MW-14, and MW-15 were selected for statistical analysis of TPH-GRO and benzene concentrations over time.

Linear regressions were performed on natural log-normalized concentration data to estimate trend direction, attenuation rates, and approximate time to reach contaminant screening levels for multiple contaminants in multiple wells at the site. The linear regressions were performed following guidance provided by the United States Environmental Protection Agency (US EPA) (US EPA, 2002). The results of the linear regression analyses, including coefficients of determination (R^2 values), p-values of the correlation, and trend directions, are summarized in Table 1 in Appendix H. The R^2 value is a measure of how well the linear regression fits the data; R^2 values less than 0.1 indicate poor model fits while R^2 values greater than 0.5 indicate stronger model fits. The p-value of the correlation provides a measure of the level of significance of the statistical test. Correlations were accepted as significant for p-values less than or equal to 0.05 (95 percent confidence level) and not significant for p-values greater than 0.05. The trend direction was defined as decreasing if the slope of the trend line was negative and increasing if the slope of the trend line was positive.

In general, one dataset was selected for each well currently or recently exhibiting COC concentrations above the screening levels described above. This dataset was comprised of all available historical concentration data to provide an overall trend. Based on review of the last 10 years of historical data, well MW-3 exhibited maximum concentrations of TPH-GRO and benzene in late-2000 and mid-1997, respectively. Based on these data, a subset of TPH-GRO and benzene concentration data collected from well MW-3 after the dates of the maximum detections were also analyzed. These data subsets were selected to assess COC trends potentially representative of natural attenuation (NA) mechanisms operating after peak COC concentrations were observed nearest to the source area.

In addition, wells MW-1 and MW-3 exhibited LNAPL after 1998 and 2008, respectively. The historical data obtained prior to appearance of LNAPL was evaluated for trends to assess the potential for NA mechanisms operating prior to the presence of LNAPL in these wells.

Projections based on the trends for downgradient well MW-3 indicate TPH-GRO will meet WQOs in 2039 and benzene in 2103 using a truncated dataset.

Projections based on the trends for cross-gradient well MW-12 indicate TPH-GRO will meet the WQOs in 2017. There is no significant trend for benzene in MW-12.

Projections based on the trends for downgradient well MW-14 indicate TPH-GRO will meet the WQOs in 2036 and benzene in 2048.

Projections based on the trends for downgradient well MW-15 indicate TPH-GRO will meet the WQOs in 2040 and benzene in 2063.

There was no significant trend for TPH-GRO and benzene in MW-4.

Projections based on the trends for well MW-8B indicate TPH-GRO will meet the ESL in 2013.

Based on the regression analyses presented in Appendix H, the projected dates to reach the TPH-GRO ESL range from 2017 at MW-12 to 2040 at MW-15 and the projected dates to reach the benzene WQO range from 2048 MW-14 to 2103 at MW-3.

California State Water Resources Control Board Resolution 2009-0042 states: “if the requisite level of water quality has not yet been attained, a site may be closed if the level will be attained within a reasonable period” (SWRCB 2009). Groundwater is not likely to be used within the next 88 years because a deeper screened water supply well will be installed onsite to provide water to the site. Neighboring properties most likely have water provided by water supply wells that are screened in a deeper zone. Water is not provided by a water purveyor due to the remote location of the site and area. In addition, throughout the next 88 years, TPH-GRO and benzene concentrations will continue to decrease because groundwater conditions within the hydrocarbon plume are anaerobic and reducing, with dissolved oxygen (DO), nitrate (NO_3^-), ferrous iron (Fe^{2+}), sulfate (SO_4^{2-}) consumed as electron acceptors to support biodegradation of the petroleum hydrocarbon constituents within the plume.

Appendix H provides a summary of statistical analysis for groundwater.

3.5 Soil

Elevated concentrations of TPH-GRO, benzene, toluene, ethylbenzene and total xylenes are currently present in soils deeper than 22 feet bgs within the source area at SB-2, SB-3 and SB-4. Appendix D presents historical soil analytical data. Figure 4 presents the location of the soil boring locations.

During the 2013 site investigation activities, 13 soil borings were advanced at the site and soil samples were collected in the shallow depths, less than 10 feet bgs. Soil analytical results indicated that there is little to no petroleum hydrocarbon impacted soils at the site in the top 10 feet of the site. Soil samples were also collected immediately above groundwater at each soil boring location. Analytical results indicated that these soil samples contained elevated concentrations of TPH-GRO and BTEX.

MTBE and naphthalene were not detected above laboratory reporting limits in any of the samples analyzed during the 2013 site investigation activities. Figures 5 through 9 present cross sections with TPH-GRO and benzene analytical data.

3.6 Light Non-Aqueous Phase Liquid (LNAPL)

LNAPL has been horizontally and vertically delineated at the site. LNAPL presence is greatest near the geographical center of the site in the vicinity of the former USTs, but also extends north to the area surrounding MW-3. The existing network of monitoring wells aided in the horizontal and vertical delineation of LNAPL at the site. Historical boring logs, well installation logs, and the fluid level data were reviewed for the historical presence of LNAPL. Based on these reviews, the existing well network provides adequate delineation to the north, south, east, and west of the site. The areal distribution of LNAPL was determined through the historical presence of LNAPL in monitoring wells, oil-in-soil tests at two locations, and positive responses to PID field screening in soil borings. Soil borings were installed at the fringe of the plume to increase resolution of the well field and refine the LNAPL footprint.

Forensic analysis of LNAPL from well MW-1 indicates that the sample is comprised primarily of light hydrocarbons in the gasoline range. This well is located in the center of the site, immediately downgradient of the former USTs and dispenser island. A forensic source evaluation completed by ARCADIS in October 2013 indicates that the LNAPL present at the site appears to have a common source, characterized by similarity in PIANO composition in groundwater samples taken from temporary wells installed in soil borings completed in 2013.

The potential exists for LNAPL movement in the subsurface at the pore scale wherever LNAPL field saturations exceed residual saturation. LNAPL field saturations determined during petrophysical testing were uniformly equal to residual saturation; therefore, LNAPL pore velocities cannot be determined by calculating LNAPL relative permeability from the fraction of the LNAPL that exceeded residual saturation.

LNAPL pore velocity was; however, calculated using a field-derived LNAPL relative permeability from the baildown test with quantifiable results conducted in October 2013 (discussed further below). Using the average porosity and LNAPL saturation from soil samples collected from multiple intervals at the adjacent soil core, an average pore velocity of 3.51 x 10^{-5} centimeter per second (cm/s) was calculated.

ASTM suggests that LNAPL pore velocities less than 1 x 10^{-6} cm/s indicate that LNAPL in the formation is functionally immobile. LNAPL pore velocity determined using field-derived LNAPL relative permeability from the baildown test exceeds the ASTM functional-immobility criterion within the existing LNAPL body, indicating LNAPL is mobile at the pore scale.

Groundwater analytical data from December 1992 through December 2013 for 12 monitoring wells at the site were used for the dissolved-phase plume stability analysis and served as input data for MAROS. The plume stability evaluation did not include wells if measured LNAPL was historically present.

Dissolved-phase concentration trends of BTEX and TPH-GRO in wells downgradient and crossgradient of LNAPL at the site exhibit stable or decreasing trends, and numerous wells have “ND” results. These results demonstrate that the dissolved-phase plume is stable, which indicates at the site-wide scale that the LNAPL plume is also stable.

Petrophysical testing of undisturbed soil cores and pore entry analysis were conducted in order to evaluate LNAPL mobility at the site. Additionally, an analysis of historical groundwater data demonstrated that generally stable LNAPL accumulations in monitoring wells where corresponding decreases in groundwater elevation have occurred and generally stable to decreasing dissolved-phase concentration trends were observed in downgradient and crossgradient wells. Based on these investigations and observations, LNAPL is not migrating outside the existing LNAPL plume footprint.

However, LNAPL is mobile at the pore scale within the interior of the LNAPL plume. Mobile LNAPL is capable of moving laterally and vertically at the soil media pore scale, meaning the LNAPL can enter a well, but has insufficient mobility to result in expansion of the plume footprint.

Bi-monthly LNAPL removal activities have been conducted at the site since January 2015. LNAPL removal activities have been completed at monitoring wells MW-1, MW-3, MW-10 and MW-11. These recovery events are scheduled to continue on a bi-monthly basis until the end of March 2015. Approximately 18 gallons total of LNAPL has been removed from the 4 monitoring wells to date. Table 6 presents the amount of LNAPL removed from each

well during each LNAPL removal events to date. All data from the LNAPL removal events will be reported in the first quarter 2015 groundwater monitoring report.

3.7 Remedial Action Objectives

3.8 Mitigation of Potential Risk Posed by Volatile Petroleum Hydrocarbons

Concentrations of volatile and semi-volatile petroleum hydrocarbon constituents exceed screening levels for several of the potential risk pathways evaluated. Benzene is the petroleum hydrocarbon constituent that appears to pose the most widespread risk both to surface receptors and to groundwater at the site. The areas of the site where benzene concentrations exceed screening levels encompass the areas of the site where other petroleum hydrocarbon constituents exceed screening levels.

Changing the composition of the bulk petroleum hydrocarbon (residual and mobile LNAPL) that affects site soils to deplete it of these volatile petroleum hydrocarbon constituents will:

- Mitigate potential risks to surface receptors and groundwater
- Reduce concentrations in surface soils, mitigating cumulative risk to commercial/industrial workers
- Reduce concentrations in soil vapor, mitigating risk of future vapor intrusion
- Reduce concentrations in soils so that concentrations in groundwater (under current and potential future conditions) are below MCLs or background, whichever is greater

4. Remedial Alternatives

4.1 Composition-Based Remedial Alternatives for Petroleum Hydrocarbon-Affected Soil

According to the Interstate Technology Regulatory Council (ITRC) guidance document "Evaluating LNAPL Remedial Technologies for Achieving Project Goals" (ITRC 2009), there are three classes of LNAPL Remediation Technologies to consider for a site:

- LNAPL Mass-Recovery Technology
- LNAPL Mass-Control Technology
- LNAPL Phase-Change Technology

For this site, only the LNAPL phase-change technologies are applicable to mitigation of concerns related to the composition of petroleum hydrocarbons in site soils.

As described in the California State Water Resources Control Board (SWRCB) Leaking Underground Fuel Tank Guidance Manual (CA LUFT Manual), phase-change technologies are not targeted at removal of mobile LNAPL from the environment, but instead work to change the LNAPL state to either the vapor phase or the dissolved phase by engineered means. These constituents can then be biodegraded or captured in the vapor or dissolved phase and removed from the subsurface (SWRCB 2012). These technologies are not limited to mobile or migrating LNAPL, but also can be effective for mass reduction and further saturation reduction of residual LNAPL.

Some LNAPL at the site has been found to exist at or below residual saturation; therefore, LNAPL phase-change technologies are the only type applicable for mitigating site concerns throughout the entire LNAPL zone are being evaluated as potential remedial alternatives.

4.1.1 Potentially Applicable Remedial Alternatives

Five remedial alternatives are identified as potentially applicable for accomplishing the composition-based objectives of removing soluble and volatile hydrocarbons from site soils to the extent feasible (ITRC 2009). These remedial alternatives include:

1. No Action
2. Monitored Natural Attenuation (MNA)
3. Dual-Phase Extraction (DPE)
4. Excavation and Pumping
5. Air Sparge/Soil Vapor Extraction (AS/SVE)

4.1.2 Screening of Alternatives against Site-Specific Geologic Factors

In this preliminary step of the ITRC screening methodology, remedial alternatives are evaluated against site-specific geologic and LNAPL-type factors, though the LNAPL-type does not impose any restrictions on potential remedial alternatives for this particular situation. Site-specific geology is summarized in the CSM (Section 3). Potential remedial alternatives are screened for applicability to hydrocarbon-affected soils in the vadose zone and that are, to a significant degree, coarse-grained. Other site-specific geologic conditions

are also considered, in particular that there is no confining or low-permeability layer above the target zone for treatment.

1. No Action: None

2. MNA: The low permeability of bedrock may restrict the natural flux of electron acceptors (oxygen, nitrate, sulfate) that support biodegradation. Mineral sources of iron and manganese are unknown.

3. DPE: None

4. Excavation and Pumping: Bedrock may create difficult excavation conditions.

5. AS/SVE: Low permeability and fractured bedrock may restrict and/or channelize injected air; pilot testing can be conducted to evaluate whether this will severely restrict AS/SVE's effectiveness.

A brief explanation of each of these technologies and reasons for their exclusion is provided below.

4.1.2.1 No Action

This alternative does not involve the implementation of active remediation or further physical monitoring of groundwater and soil at the site. Under this remedial alternative, ACEHD would approve case closure because residual groundwater and soil impacts at the site would not pose a risk to human health and the environment. A Closure Report would be prepared and submitted to the ACEHD, site associated wells would be destroyed and decommissioned, and a well destruction report would be prepared and submitted. No other activities would be warranted.

Due to the lack of historical biogeochemical data, it is difficult to provide a complete assessment of the current biodegradation conditions occurring in the aquifer. However, concentrations of COCs are currently decreasing and there is evidence to support the occurrence of natural attenuation of TPH-GRO and benzene at the site. Overall, the groundwater plume at the site is decreasing, and natural attenuation is expected to continue to reduce COC concentrations at the site. Soil impacts appear vertically and laterally delineated.

Furthermore, potential sources of impacts (e.g., USTs, associated piping) have been removed and previous remedial activities (i.e., ISCO pilot study) have made future COC concentration increases unlikely.

This alternative relies solely on natural attenuation and natural source zone depletion to clean up dissolved groundwater and soil COC concentrations and LNAPL. No action is retained as a potentially effective alternative without regard to any implementability constraints such as timeliness of the cleanup.

4.1.3 Alternatives Screening Against Site-Specific Evaluation Factors

Following screening of the list of possible composition-based remedial alternatives against site-specific geologic factors, four alternatives remain that are all applicable for treating residual LNAPL in coarse-grain lithology under unsaturated conditions. These remedial alternatives include:

1. Monitored Natural Attenuation (MNA)
2. Dual-Phase Extraction (DPE)
3. Excavation and Pumping
4. Air Sparge/Soil Vapor Extraction (AS/SVE)

The remaining remedial alternatives were evaluated for their overall implementability given non-geologic site-specific evaluation factors including:

1. Treatment zone size – Remedial technologies that will be successful are those that can be cost-effective to treat the source area of the hydrocarbon mass at the site. The source area is relatively small and cost is inherently included in this factor because of the small source area and potentially large cost differential for technologies that cannot be efficiently used in this area.
2. Site restrictions – Remedial technologies that will be successful are those that can be applied to least interfere with the future redevelopment plans of the site. Cost is inherently included in this factor because modifying either site activities or remedial infrastructure or approach to minimize interference will increase cost.
3. Remedial time frame – While there does not appear to be imminent and substantial risk to human health and the environment posed by petroleum hydrocarbons (see Section 3) that would justify an aggressive remedial approach, the time frame for the proposed redevelopment is the major driver at the site. The proposed redevelopment of the site

will require an active remedial approach to address the remaining hydrocarbon mass onsite.

Table 7 provides a synopsis of how each alternative ranks against these site-specific factors. Detailed results of each evaluation are provided below.

4.1.3.1 Monitored Natural Attenuation (MNA)

MNA does not involve the implementation of active remediation to remove, treat, or contain COCs at the site. This remedial alternative relies on natural attenuation and natural source zone depletion processes to reduce chemical concentrations through time. Semiannual groundwater monitoring will be performed to document COC concentration changes.

MNA processes achieve site-specific remediation objectives through reliance on natural attenuation within a controlled, monitored site cleanup approach. The natural attenuation process includes a variety of biological, chemical, or physical processes that can reduce mass, toxicity, mobility, volume, or concentrations of COCs in groundwater. Favorable background conditions are necessary in groundwater to drive the natural attenuation process and continue biodegradation of petroleum hydrocarbons. These intrinsic in-situ processes include: biodegradation, volatilization, diffusion, dilution, sorption, and chemical or biological stabilization, transformation, or destruction of COCs.

The effectiveness of natural attenuation processes is driven by the types and concentrations of constituents present and the physical, chemical, and biological characteristics of the soil and groundwater. Natural attenuation processes in the subsurface can reduce the potential risk posed by COCs in multiple ways. The biodegradation process may produce daughter compounds of constituents that are less toxic. Physical processes, dilution, or diffusion within the groundwater aquifer may also reduce risk by decreasing concentration levels. Sorption to soil or aquifer matrix within the subsurface may also decrease constituent mobility.

Components of this alternative include:

- Conducting an additional baseline biogeochemical groundwater monitoring event to further evaluate the biodegradation processes (i.e., anaerobic vs. aerobic) taking place within the site groundwater. This monitoring event would include collection of geochemical and natural attenuation parameters. The supplemental groundwater monitoring event would include collection of DO, nitrate, ferrous iron, sulfate, alkalinity as calcium carbonate, methane, nonvolatile organic carbon, and oxidation reduction potential (ORP); and the evaluation of COCs to confirm water quality at the site. This data, in conjunction with initial baseline geochemical parameters, will be used to

evaluate the effectiveness of MNA via trend analysis to verify decreasing trends and statistical analysis to determine whether site cleanup objectives can be achieved within a reasonable time frame.

- Continuing the semiannual groundwater monitoring program to confirm continued reduction of site COC concentrations through natural attenuation processes. One semiannual groundwater monitoring event each year would also include collection of biogeochemical indicator parameters, including DO, nitrate, ferrous iron, sulfate, alkalinity as calcium carbonate, methane, nonvolatile organic carbon, and ORP for continued evaluation of the biodegradation processes taking place within site groundwater.

Due to the lack of historical biogeochemical data, it is difficult to provide a complete assessment of the current biodegradation conditions occurring in the aquifer. The results of the additional biogeochemical parameter sampling will provide a better understanding of natural COC degradation in groundwater. Even larger certainty exists in attempting to relate natural attenuation observations in groundwater to the necessary depletion of COCs from soil and soil vapor. Potential sources of impacts (e.g., USTs, associated piping) have been removed and previous remedial activities (i.e., over excavations during UST removal) have made future COC concentration increases unlikely.

Under MNA, dissolved concentrations of TPH-GRO is expected to decrease to cleanup goals within approximately 25 years and benzene is expected to decrease to cleanup goals within approximately 88 years based on results from the linear regression trend analysis. TPH-GRO and benzene concentrations will continue to decrease because groundwater conditions within the hydrocarbon plume are anaerobic and reducing, with DO, NO_3^-, Fe^{2+} and SO_4^{2-} consumed as electron acceptors to support biodegradation of the petroleum hydrocarbon constituents within the plume. Routine monitoring of groundwater conditions will document the groundwater changes through time. Uncertainty exists in attempting to relate natural attenuation observations in groundwater to the necessary depletion of COCs from soil.

The costs to implement the MNA alternative include costs associated with groundwater sampling and report preparation. Groundwater concentrations of TPH-GRO is expected to reach cleanup goals in approximately 25 years and benzene is expected to reach cleanup goals in approximately 88 years for the majority of wells with remaining impacts. Based on the current assumption that the remedial time frames estimated for groundwater are relevant to soil, the total estimated cost to implement MNA is $628,500. Assumptions and a breakdown of costs are summarized in Table 8.

Although this alternative would be easily implemented to meet site restrictions and treatment zone size considerations, it would not meet the remedial time frame considerations for this site given the time necessary to reduce groundwater and soil concentrations at the site.

Based on this evaluation, the use of MNA to remediate hydrocarbon impacted soils and groundwater and the presence of LNAPL at the site is and will NOT be RETAINED for further consideration.

4.1.3.2 Dual-Phase Extraction (DPE)

Implementation of DPE is used to contain and treat COCs in groundwater. The DPE process extracts impacted groundwater and vapor from the subsurface through use of a high vacuum system and an extraction well network. The vacuum extraction wells are screened across the fringe of the water table to allow removal of soil vapors in the vadose zone and petroleum-impacted groundwater. Groundwater extraction lowers the water table surrounding the well casing to expose soil below the water table and allow extraction of the VOCs in the newly exposed soils. The vapors or liquid-phase organics and groundwater are removed, separated, and treated in an aboveground remediation building.

Components of this alternative potentially include:

- Conducting an additional baseline biogeochemical groundwater monitoring event to further evaluate the biodegradation processes taking place within the site groundwater.

- Completing a pilot study to further evaluate soil permeability, porosity, moisture content, VOC mass removal rate, radius of influence, and optimal system design and operation parameters.

- Installing vacuum extraction wells, conveyance piping, and a skid-mounted treatment system at the site. The system could include a sufficient number of vacuum wells to capture subsurface vapors and lower the groundwater.

- Performing system startup, optimization, and operation and maintenance (O&M) activities.

- Conducting soil vapor monitoring activities to evaluate the reduction of total VOC concentrations in the subsurface and influent and effluent of the treatment system.

- Maintaining and repairing the concrete/pavement materials covering the majority of the properties during remediation.

Implementation of a DPE system will allow VOCs in the smear zone to volatilize due to water table depression around DPE wells, increasing mass removal rates during sustained operation while continuing to remove hydrocarbon-impacted groundwater. DPE will also target mobile LNAPL removal in onsite monitoring wells MW-1, MW-3, MW-10 and MW-11. DPE is a readily implementable alternative. Equipment and labor required to install extraction wells are available and the well installation depths are easily achieved. The DPE system can be applied using an on-site treatment facility.

CRA performed a groundwater extraction event utilizing high vacuum application in May 2010. Groundwater extraction was performed on monitoring wells MW-1 for approximately 3 hours and MW-3 for approximately 4 hours. Available information from the *Vacuum Extraction Event Report and Work Plan for Surfactant-Enhanced Recovery* indicates that minimal to no drawdown was observed in either extraction well (CRA 2010). MW-1 extraction test results demonstrated a drawdown of 0.18 feet within the monitoring well. Water level measurements from MW-3 throughout groundwater extraction displayed that no drawdown was observed in the monitoring well. The elevated groundwater recovery rates and minimal drawdown observed during the 2010 extraction test indicate that operation of a full-scale DPE system may be infeasible at the site. ARCADIS attempted to perform a pump test using MW-1, however, due to well construction, a constant pumping rate wasn't sustained using a pneumatic pump.

ARCADIS has assumed 6 extraction wells will be installed at the site for this FS/CAP. Groundwater and soil vapor conditions will be monitored for effectiveness of vapor and liquid recovery rates from the extraction wells. This alternative will require a pilot test to provide data necessary to evaluate the effectiveness of the remedy and estimate the anticipated remedial timeframe; however, for costing purposes, remedial operation (including performance and groundwater monitoring) is assumed to continue for 6 years. The total estimated cost to implement DPE is $1,315,488. Assumptions and a breakdown of costs are summarized in Table 8.

4.1.3.3 Excavation and Pumping

While excavation and pumping, is not a phase change technology, it has been proposed by the property owner and is being included in this evaluation at the request of the regulator.

Excavation is the removal of impacted soils at a site using heavy machinery. Excavated soils are either disposed of off-site or treated in a manner appropriate for site-specific

purposes (SWRCB 2012). Excavation can be an effective means to achieve significant concentration reduction in a short period of time and is often an effective method for site cleanup where a substantial risk to human health, safety, and/or the environment is present (SWRCB 2012). Excavations can also be a hindrance to the local community as risks posed by increased dust, truck traffic, and the open excavation itself require their own set of mitigation measures.

Two options of excavation are proposed at the site. The excavation options outlined below were provided by the property owner's consultant. The first option is to excavate and pump LNAPL out of the excavation pit into a 10,000-gallon tank to create a cone of depression in the source area.

Components of this option include:

- Excavating a 15 foot square to a depth of 15 feet (approximately 125 cubic yards of soil).
- Transportation and disposal of soil offsite.
- Placing appropriate shoring and benching in the excavation pit.
    - Benching or sloping at a ratio of 2:1 will generate significantly more than the 125 cubic yards of soil stated above.
- Use of a diaphragm pump on a platform in the excavation pit to pump LNAPL from the excavation into a 10,000-gallon tank.
- Weekly pumping for approximately 4 weeks.
    - Pumping details not provided by property owner, however, assumed 8 hours of continuous pumping one day per week.
- Installation of a 6-inch diameter well with stainless steel screen into the zone where LNAPL is observed in the excavation pit.
- Place geotextile fabric in the excavation pit.
- Backfill and compact the excavation pit to surface using clean soil and/or gravel.
- Pump LNAPL from the well into the 10,000-gallon tank using a submersible pump.

- Decommission the well after approximately 6 months.

The second option is to drill excavate 3 borings using a 6 foot diameter bucket auger in the source area of the site to a depth of approximately 38 feet (6 feet below the depth of the LNAPL) and pump LNAPL out of the borings into a 10,000-gallon tank to create a cone of depression in the source area.

Components of this option include:

- Transportation and disposal of approximately 150 cubic yards of soil offsite.
- Use of a diaphragm pump on a platform in the excavation pit to pump LNAPL from the excavation into a 10,000-gallon tank.
- Weekly pumping for approximately 4 weeks.
    - Pumping details not provided by property owner, however, assumed 8 hours of continuous pumping one day per week.
- Installation of a 6-inch diameter well with stainless steel screen into the zone where LNAPL is observed in each of the borings.
- Backfill the remainder of the boring with neat cement grout.
- Pump LNAPL from the 3 wells into the 10,000-gallon tank using a submersible pump.
- Decommission the 3 wells after approximately 6 months.

At this site, impacted soils are known to exist at depths ranging from 15 to 30 feet bgs in the source area. Excavating to those depths would pose significant safety concerns for anyone working at the site. These would include, but not be limited to, concerns of workers or other site personnel falling into the excavation, excavation collapse, and incidents involving heavy equipment required to excavate soil and transport it off site. Additionally, leaving the excavation open for approximately 4 weeks would pose significant safety concerns for people loitering in the area. Due to the remote location of the site and the park and ride use outside of the site, there is a concern that those parking outside the site for the park and ride can loiter in the site where the excavation is. Although barricades, fencing and signage can be placed around the excavation pit, it may not ward off intruders who may fall into the

excavation pit. Similarly, having 6-foot diameter open borings opened for approximately 4 weeks poses the same hazards.

Historically, LNAPL bailing, skimming, and vacuum enhanced LNAPL removal activities have been successful at only removing a small fraction of the total (mobile plus residual) LNAPL at the site, as documented in Section 3.3. This remedy relies on no action (or unmonitored natural attenuation and natural source zone depletion) to achieve the bulk of the phase-change action to reduce the residual LNAPL and soil concentrations of BTEX and other soluble components of TPH-GRO that is required to achieve water quality objectives.

Although the cost to implement either option of this alternative would be relatively low, the cost would include procurement of equipment, excavation, backfill operations, trucking, and offsite disposal of impacted soils. Additional costs for this alternative would include permitting, sampling, and disposal costs. The total estimated cost to implement option one of excavation and pumping is $302,150. The total estimate cost to implement option two of drill excavation and pumping is $340,828. Assumptions and a breakdown of costs are summarized in Table 8.

Since this remedial alternative does not meet any of the considerations of the site specific evaluation factors, the alternative does not appear to be implementable at this site. There are other in-situ applications which have the potential to mitigate concerns for soil and LNAPL at the site.

Based on this evaluation, the use of excavation and pumping to deplete BTEX and other soluable components of TPH-GRO from hydrocarbon impacted soils and LNAPL at the site is NOT RETAINED for further consideration.

4.1.3.4 Air Sparge / Soil Vapor Extraction (AS/SVE)

This alternative utilizes AS/SVE to treat petroleum hydrocarbon impacts through physical treatment. AS involves the controlled injection of ambient air into the subsurface beneath the water table and LNAPL smear zone through a series of injection wells. The injected air treats dissolved petroleum hydrocarbons and LNAPL through volatilization or stripping. Volatilized VOCs then migrate upward through groundwater and into the vadose zone. The VOC vapors are captured in SVE wells and directed to a treatment system through air conveyance piping. Typical equipment used for implementation of AS includes vertical sparge wells, a blower to inject air, and system controls and instrumentation.

SVE is a process that removes VOCs from unsaturated soil below the ground surface and above the groundwater table. The SVE process involves inducing a vacuum within the soil matrix through a network of vapor extraction wells. The vacuum induced in the vadose zone volatilizes VOCs in the soil and captures VOCs stripped from groundwater through the AS process. After collection in the SVE wells, vapors are conveyed to a treatment system. Typically, the extracted vapors are treated by vapor-phase granular activated carbon or thermal destruction (catalytic or thermal oxidation) prior to being discharged through an exhaust stack. SVE also increases oxygen concentrations in the soil vapor which supports enhanced biodegradation. Typical equipment used for implementation of SVE includes vertical extraction wells, a vacuum unit (blower), a liquid/vapor separator (knock-out tank), a discharge vapor treatment system, and system controls and instrumentation.

Components of this remedial alternative potentially include:

- Completing a pilot study to further evaluate soil permeability, porosity, moisture content, VOC mass removal rate, radius of influence, and optimal system design and operation parameters.

- Installing AS and SVE wells, conveyance piping, and a skid-mounted treatment system at the site. The system would include necessary SVE wells to capture subsurface vapors after stripping through the AS process.

- Performing system startup, optimization, and O&M activities.

- Conducting soil vapor monitoring activities to evaluate the reduction of total VOC concentrations in the subsurface and influent and effluent of the treatment system.

- Maintaining and repairing the concrete/pavement materials covering the majority of the properties during remediation.

- Continuing the semiannual groundwater monitoring program. One semiannual groundwater monitoring event each year would also include collection of biogeochemical indicator parameters, including DO, nitrate, ferrous iron, sulfate, alkalinity as calcium carbonate, methane, nonvolatile organic carbon, and ORP for continued evaluation of the biodegradation processes taking place within site groundwater.

The AS/SVE technology can be an effective remedy through sustained and optimized system operation. A review of historical boring logs and additional soil boring investigation data collected during pilot testing will provide necessary information to select optimal well

locations to remediate the site. SVE well location selection will consider vapor capture from sparging, as well as LNAPL in monitoring wells at the site. Targeted SVE application in the vicinity of MW-1, MW-3, MW-10 and MW-11 will reduce observed LNAPL through volatilization. Air sparging near these wells will be conducted carefully while LNAPL is present in the wells and evidence of mobile LNAPL in the surrounding formation. Monitoring may include frequent LNAPL thickness gauging and frequent soil vapor concentration monitoring to detect sudden changes in LNAPL distribution. In general, though, air sparing in areas of low mobility LNAPL is unlikely to cause significant LNAPL migration and impact to previously unaffected areas.

AS/SVE is a readily implementable alternative based on necessary infrastructure. Equipment and labor required to install injection wells are available and the well installation depths are easily achieved. The AS/SVE system can be applied using an on-site treatment facility. This alternative will be reliable for long-term operation because the VOC concentrations within the residual LNAPL, soil and groundwater will be reduced and is a permanent and irreversible process. The O&M of an AS/SVE system is relatively undemanding because air is the only amendment added to groundwater and extracted from the vadose zone, Typical O&M activities include collection of AS/SVE system component readings, pressures, vacuums, flow rates, and discharge photoionization detector readings and system optimization. More frequent monitoring may be necessary during the initial period of AS/SVE until evidence of mobile LNAPL is no longer apparent. Vacuum application data was not available in the 2010 *Vacuum Extraction Event Report and Work Plan for Surfactant-Enhanced Recovery* document, nor has any previous AS/SVE pilot testing been performed at the site. The pilot test associated with this alternative will provide valuable system design information for operational vacuum, pressure and flow ranges for AS/SVE wells.

This alternative will involve the installation of AS and SVE wells. Air injection into the subsurface below the water table under controlled pressure allows VOCs to be volatilized. The resulting VOC vapors are then captured by SVE wells and conveyed into a treatment system. ARCADIS has been assumed that 10 AS wells and 8 SVE wells will be installed at the site to address remaining dissolved -phase source areas for this FS. Groundwater conditions will be monitored for effectiveness of biodegradation and stripping from air sparging. This remedial alternative will require a pilot test to provide data necessary to evaluate the effectiveness of the remedy and estimate the anticipated remedial timeframe; however, for costing purposes, the duration of AS/SVE implementation, including performance and groundwater monitoring, is assumed to be 6 years. The total estimated cost to implement AS/SVE is $1,178,608. Assumptions and a breakdown of costs are summarized in Table 8.

5. Recommended Remedial Alternatives

Based on the evaluation of remedial alternatives presented in Section 5 above, the following remedial alternatives are proposed:

- Use of DPE is proposed for mitigation of the concern of hydrocarbons leaching to groundwater from residual LNAPL sources in vadose zone soils and will allow removal of soil vapors in the vadose zone and petroleum-impacted groundwater. It is contingent upon water yield data from a proposed pilot test. If high water yields are observed during pilot testing then it would be unfeasible to implement this technology and a second alternative may be AS/SVE

Based on the results of the comparative analysis presented above, DPE has the highest reasonable probability to achieve remedial objectives; however, prior to the preparation of a corrective action plan (CAP) ARCADIS recommends the following:

- Conducting a DPE pilot study to evaluate if it is feasible at the site. There is no sanitary sewer or utility connections available at the site. The pilot study will be used to determine water yields.
- The installation of one extraction well screened between 25 to 45 feet bgs located between MW-1 and MW-10. The extraction well will be completed with 4-inch outer diameter casing and a sump. The location of this proposed well location is presented on Figure 3.
- Installation of one observation well approximately 15 feet east of the proposed extraction well.
- Collect continuous soil samples from the pilot boring for the intermediate extraction well for VOC screening using a photo-ionization detector (PID) and laboratory analyses to conduct vertical delineation of the smear zone
- The conductance of a DPE pilot test consisting of two stages:
    - 24 hour pump-only test: Water yield and formation behavior will be evaluated during this test. The second stage of the test will be assessed based on allowable potential treated wastewater disposal volumes per discussion with ACEHD.
    - DPE pilot test: Following the 24 hour pump test, while the well remains dewatered, a vacuum will be applied. The DPE pilot test will run continuously for approximately 48 to 72 hours. If drawdown and mass removal rate remain steady for 48 hours, the test can be stopped.
- The collection of one round of geochemical analysis during the next groundwater monitoring and sampling event to evaluate MNA parameters. Geochemical

parameters include the analysis of DO, nitrate (NO3-), Fe2+, sulfate (SO42-) and ORP.

If the recommendations presented within this FS/CAP are approved by ACEHD, ARCADIS will prepare a work plan detailing the methodology of the DPE pilot study and installation of one extraction well and one observation well and the DPE pilot test.

6. References

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Tables

Table 1
Well Construction Details
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California

Well I.D.	Drill Date	Well		Screen		Screen Length (feet)	Comments
		Depth (feet bgs)	Diameter (inches)	Top (feet bgs)	Bottom (feet bgs)		
Monitoring Wells							
MW-1	12/8/1992	38	4	22	37	15	
MW-2	12/10/1992	37	2	21	36	15	
MW-3	12/10/1992	37.5	2	22.5	37.5	15	
MW-4	5/21/1993	37	2	22	37	15	
MW-5	5/25/1993	25	2	5	25	20	
MW-6	10/27/1995	30	2	7	30	23	
MW-7	10/24/1995	25	2	5	25	20	
MW-8	10/27/1995	40	2	20	40	20	
MW-9	8/22/2011	37	2	27	37	10	
MW-10	8/23/2011	37	2	27	37	10	
MW-11	8/23/2011	37	2	24	34	10	
MW-12	8/24/2011	37	2	22	32	10	
MW-13	8/24/2011	47	2	24	39	15	
MW-14	8/24/2011	37	2	22	32	10	
MW-15	8/25/2011	38	2	25.5	35.5	10	
MW-16	7/14/2014	30	2	15.0	30.0	15	

Notes:
Wells are of poly-vinyl-chloride (PVC) construction
bgs = Below ground surface

Table 2
Fourth Quarter 2014 Groundwater Monitoring Data and Analytical Results
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	12/19/14	SPH	331.83	32.39	1.62	300.66	--	--	--	--	--	--	
MW-2	12/19/14		329.89	29.20	0.00	300.69	--	--	--	--	--	--	Monitored Only
MW-3	12/19/14	SPH	331.93	31.33	0.09	300.67	--	--	--	--	--	--	
MW-4	12/19/14		329.27	28.55	0.00	300.72	900	120	13	7	30	<0.5	
MW-5	12/19/14		315.83	--	--	--	--	--	--	--	--	--	Unable to Access
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-7	12/19/14		316.32	15.60	0.00	300.72	--	--	--	--	--	--	Monitored Only
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-9	12/19/14		332.46	32.73	0.00	299.73	7,900	2,300	1,300	42	230	<5	
MW-10	12/19/14	SPH	331.68	32.67	2.46	300.86	--	--	--	--	--	--	
MW-11	12/19/14	SPH	331.88	31.58	0.48	300.66	--	--	--	--	--	--	
MW-12	12/19/14		332.44	31.73	0.00	300.71	640	110	0.7	2	1	0.9	
MW-13	12/19/14		331.51	30.81	0.00	300.70	410	56	<0.5	<0.5	<0.5	2	
MW-14	12/19/14		332.13	31.50	0.00	300.63	22,000	3,600	3,900	250	1,900	<5	
MW-15	12/19/14		332.78	32.11	0.00	300.67	11,000	3,500	290	160	370	<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	
WSW-1	12/19/14		--	--	--	--	<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

Table 3
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	06/25/12	SPH	331.93	31.85	1.80	300.08	--	--	--	--	--	--	
	09/22/12	SPH	331.93	32.85	2.42	299.08	--	--	--	--	--	--	
	12/10/12	SPH	331.93	32.21	1.90	299.72	--	--	--	--	--	--	
	03/26/13	SPH	331.81	31.30	1.29	300.51	--	--	--	--	--	--	
	06/13/13	SPH	331.81	32.39	2.03	300.94	--	--	--	--	--	--	
	09/04/13	SPH	331.81	33.23	2.53	300.48	--	--	--	--	--	--	
	12/04/13	SPH	331.81	33.05	2.34	300.52	--	--	--	--	--	--	
	03/06/14	SPH	331.81	32.33	1.85	300.87	--	--	--	--	--	--	
	06/09/14	SPH	331.81	33.16	2.36	300.42	--	--	--	--	--	--	
	09/22/14	SPH	331.83	33.73	2.65	300.09	--	--	--	--	--	--	
	12/19/14	SPH	331.83	32.39	1.62	300.66	--	--	--	--	--	--	
MW-2	06/25/12		329.98	28.60	0.00	301.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		329.98	29.15	0.00	300.83	--	--	--	--	--	--	
	12/10/12		329.98	28.79	0.00	301.19	--	--	--	--	--	--	
	03/26/13		329.88	28.45	0.00	301.43	--	--	--	--	--	--	
	06/13/13		329.88	28.89	0.00	300.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		329.88	29.47	0.00	300.41	--	--	--	--	--	--	
	12/04/13		329.88	29.31	0.00	300.57	--	--	--	--	--	--	
	03/06/14		329.88	29.00	0.00	300.88	--	--	--	--	--	--	
	06/09/14		329.88	29.42	0.00	300.46	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/14		329.89	29.80	0.00	300.09	--	--	--	--	--	--	
	12/19/14		329.89	29.20	0.00	300.69	--	--	--	--	--	--	
MW-3	06/25/12	SPH	332.03	30.88	0.22	301.15	--	--	--	--	--	--	
	09/22/12	SPH	332.03	31.58	0.42	300.45	--	--	--	--	--	--	
	12/10/12	SPH	332.03	31.00	0.06	301.03	--	--	--	--	--	--	
	03/26/13	SPH	331.91	30.65	0.21	301.26	--	--	--	--	--	--	
	06/13/13	SPH	331.91	31.54	0.63	300.84	--	--	--	--	--	--	
	09/04/13	SPH	331.91	32.08	0.73	300.38	--	--	--	--	--	--	
	12/04/13	SPH	331.91	31.72	0.34	300.45	--	--	--	--	--	--	
	03/06/14	SPH	331.91	31.23	0.20	300.83	--	--	--	--	--	--	
	06/09/14	SPH	331.91	32.02	0.56	300.31	--	--	--	--	--	--	
	09/22/14	SPH	331.93	32.44	0.63	299.96	--	--	--	--	--	--	
	12/19/14	SPH	331.93	31.33	0.09	300.67	--	--	--	--	--	--	
MW-4	06/25/12		320.22	27.88	0.00	292.34	1,300	170	44	23		<0.5	
	09/22/12		329.44*	28.35	0.00	301.09	--	--	--	--	--	--	
	12/10/12		329.44*	28.11	0.00	301.33	490	<0.5	<0.5	<0.5	25	<0.5	
	03/26/13		329.25	27.73	0.00	301.52	--	--	--	--	--	--	
	06/13/13		329.25	28.16	0.00	301.09	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		329.25	28.75	0.00	300.50	--	--	--	--	--	--	
	12/04/13		329.25	28.62	0.00	300.63	1900	320	19	6	100	<0.5	
	03/06/14		329.25	28.35	0.00	300.90	--	--	--	--	--	--	
	06/09/14		329.25	28.69	0.00	300.56	1,500	160	7	5	21	<0.5	
	09/22/14		329.27	29.04	0.00	300.23	--	--	--	--	--	--	
	12/19/14		329.27	28.55	0.00	300.72	900	120	13	7	30	<0.5	

Table 3

Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012

Former Chevron Service Station No. 97127

Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	06/25/12	INA	315.97	14.68	0.00	301.29	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		315.97	15.19	0.00	300.78	--	--	--	--	--	--	
	12/10/12		315.97	14.63	0.00	301.34	--	--	--	--	--	--	
	03/26/13	INA	315.84	--	0.00	--	--	--	--	--	--	--	
	06/13/13		315.84	14.96	0.00	300.88	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		315.84	15.52	0.00	300.32	--	--	--	--	--	--	
	12/04/13		315.84	15.33	0.00	300.51	--	--	--	--	--	--	
	03/06/14		315.84	15.03	0.00	300.81	--	--	--	--	--	--	
	06/09/14		315.84	15.50	0.00	300.34	<50	<0.5	<0.5	<0.5	<0.5	<0.5	Bucket Purge
	09/22/14		315.83	15.81	0.00	300.02	--	--	--	--	--	--	
	12/19/14		315.83	--	--	--	--	--	--	--	--	--	Unable to Access
MW-6	06/25/12		314.91	13.79	0.00	301.12	<50	<0.5	<0.5	<0.5	<0.5	1	
	09/22/12		314.91	14.33	0.00	300.58	--	--	--	--	--	--	
	12/10/12		314.91	13.87	0.00	301.04	<50	<0.5	<0.5	<0.5	<0.5	1	
	03/26/13		314.92	13.56	0.00	301.36	--	--	--	--	--	--	
	06/13/13		314.92	14.08	0.00	300.84	<50	<0.5	<0.5	<0.5	<0.5	2	
	09/04/13		314.92	14.65	0.00	300.27	--	--	--	--	--	--	
	12/04/13		314.92	14.43	0.00	300.49	<50	<0.5	<0.5	<0.5	<0.5	2	
	03/06/14		314.92	14.08	0.00	300.84	--	--	--	--	--	--	
	06/09/14		314.92	14.57	0.00	300.35	<50	<0.5	<0.5	<0.5	<0.5	2	
	09/22/14		314.84	14.95	0.00	299.89	--	--	--	--	--	--	
	12/19/14		314.84	14.14	0.00	300.70	<50	<0.5	<0.5	<0.5	<0.5	0.5	
MW-7	06/25/12	INA	316.39	14.98	0.00	301.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		316.39	15.46	0.00	300.93	--	--	--	--	--	--	
	12/10/12		316.39	14.93	0.00	301.46	--	--	--	--	--	--	
	03/26/13		316.28	14.85	0.00	301.43	--	--	--	--	--	--	
	06/13/13		316.28	15.28	0.00	301.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		316.28	15.83	0.00	300.45	--	--	--	--	--	--	
	12/04/13		316.28	15.70	0.00	300.58	--	--	--	--	--	--	
	03/06/14		316.28	15.40	0.00	300.88	--	--	--	--	--	--	
	06/09/14		316.28	15.80	0.00	300.48	<50	<0.5	<0.5	<0.5	<0.5	<0.5	Bucket Purge
	09/22/14		316.32	16.15	0.00	300.17	--	--	--	--	--	--	
	12/19/14		316.32	15.60	0.00	300.72	--	--	--	--	--	--	
MW-8	03/26/13		333.00	--	0.00	--	--	--	--	--	--	--	
	06/13/13		333.00	31.75	0.00	301.25	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		333.00	32.33	0.00	300.67	--	--	--	--	--	--	
	12/04/13		333.00	32.23	0.00	300.77	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	03/06/14		333.00	32.00	0.00	301.00	--	--	--	--	--	--	
	06/09/14		333.00	32.29	0.00	300.71	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/14		333.02	32.63	0.00	300.39	--	--	--	--	--	--	
	12/19/14		333.02	32.06	0.00	300.96	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-9	06/25/12		332.56	31.13	0.00	301.43	2,400	370	84	59	62	<0.5	
	09/22/12		332.56	31.65	0.00	300.91	5,200	1,100	950	110	300	<5	
	12/10/12		332.56	31.34	0.00	301.22	6,800	1,400	1,100	90	370	<5	
	03/26/13		332.45	31.00	0.00	301.45	4,400	700	110	57	120	<0.5	
	06/13/13		332.45	31.42	0.00	301.03	1,400	190	11	24	10	<0.5	
	09/04/13		332.45	31.99	0.00	300.46	5,900	930	350	30	230	<1	
	12/04/13		332.45	31.84	0.00	300.61	9,600	2300	1500	54	330	<3	
	03/06/14		332.45	31.58	0.00	300.87	9,500	1700	1100	100	660	<1	
	06/09/14		332.45	31.95	0.00	300.50	8,200	1,700	630	140	810	<1	
	09/22/14		332.46	32.29	0.00	300.17	6,000	1,500	290	16	320	<3	
	12/19/14		332.46	32.73	0.00	299.73	7,900	2,300	1,300	42	230	<5	

Table 3

Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012

Former Chevron Service Station No. 97127

Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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-10	06/25/12		331.77	30.32	0.00	301.45	2,500	420	70	27	180	<5	
	09/22/12		331.77	30.85	0.00	300.92	2,900	620	470	30	160	<5	
	12/10/12		331.77	36.64	0.00	295.13	3,100	630	27	<5	37	<5	
	03/26/13		331.66	30.16	0.00	301.50	920	150	18	4	26	<0.5	
	06/13/13		331.66	30.63	0.00	301.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		331.66	31.14	0.00	300.52	6,800	1,300	510	14	180	<1	
	12/04/13	SPH	331.66	31.34	0.28	300.53	--	--	--	--	--	--	
	03/06/14	SPH	331.66	32.30	1.92	300.80	--	--	--	--	--	--	
	06/09/14	SPH	331.66	32.50	1.68	300.42	--	--	--	--	--	--	
	09/22/14	SPH	331.68	32.77	1.56	300.08	--	--	--	--	--	--	
	12/19/14	SPH	331.68	32.67	2.46	300.86	--	--	--	--	--	--	
MW-11	06/25/12		331.98	30.63	0.00	301.35	47,000	9,800	7,900	880	3,900	<50	
	09/22/12		331.98	31.15	0.00	300.83	51,000	9,000	7,200	1,200	4,600	<50	
	12/10/12		331.98	30.88	0.00	301.10	41,000	8,400	6,800	720	3,600	<25	
	03/26/13	SPH	331.87	31.35	1.26	300.52	--	--	--	--	--	--	
	06/13/13	SPH	331.87	31.96	1.33	300.91	--	--	--	--	--	--	
	09/04/13	SPH	331.87	32.36	1.26	300.46	--	--	--	--	--	--	
	12/04/13	SPH	331.87	32.23	1.12	300.48	--	--	--	--	--	--	
	03/06/14	SPH	331.87	31.84	1.09	300.85	--	--	--	--	--	--	
	06/09/14	SPH	331.87	32.04	0.69	300.35	--	--	--	--	--	--	
	09/22/14	SPH	331.88	32.35	0.69	300.05	--	--	--	--	--	--	
	12/19/14	SPH	331.88	31.58	0.48	300.66	--	--	--	--	--	--	
MW-12	06/25/12		332.53	31.23	0.00	301.30	570	21	0.8	38	3	<0.5	
	09/22/12		332.53	31.78	0.00	300.75	350	2	<0.5	6	<0.5	<0.5	
	12/10/12		332.53	31.37	0.00	301.16	380	17	<0.5	1	0.9	<0.5	
	03/26/13		332.42	31.05	0.00	301.37	240	7	0.7	0.9	1	<0.5	
	06/13/13		332.42	31.51	0.00	300.91	180	7	0.6	0.6	0.5	<0.5	
	09/04/13		332.42	32.06	0.00	300.36	160	12	<0.5	<0.5	0.7	<0.5	
	12/04/13		332.42	31.90	0.00	300.52	470	140	1	<0.5	3	<0.5	
	03/06/14		332.42	31.60	0.00	300.82	1,300	320	3	0.7	4	<0.5	
	06/09/14		332.42	32.03	0.00	300.39	470	39	0.6	<0.5	<0.5	<0.5	
	09/22/14		332.44	32.37	0.00	300.07	340	4	<0.5	<0.5	<0.5	<0.5	
	12/19/14		332.44	31.73	0.00	300.71	640	110	0.7	2	1	0.9	
MW-13	06/25/12		331.60	30.34	0.00	301.26	290	22	0.7	2	1	2	
	09/22/12		331.60	30.89	0.00	300.71	290	11	0.6	4	0.7	2	
	12/10/12		331.60	30.47	0.00	301.13	240	16	<0.5	5	1	1	
	03/26/13		331.49	30.15	0.00	301.34	290	23	<0.5	2	<0.5	2	
	06/13/13		331.49	30.62	0.00	300.87	240	22	<0.5	<0.5	<0.5	2	
	09/04/13		331.49	31.19	0.00	300.30	210	40	<0.5	<0.5	<0.5	2	
	12/04/13		331.49	31.00	0.00	300.49	430	110	<0.5	1	<0.5	2	
	03/06/14		331.49	30.68	0.00	300.81	320	35	<0.5	1	<0.5	2	
	06/09/14		331.49	31.12	0.00	300.37	550	130	0.6	2	0.9	2	
	09/22/14		331.51	31.49	0.00	300.02	430	130	<0.5	<0.5	<0.5	2	
	12/19/14		331.51	30.81	0.00	300.70	410	56	<0.5	<0.5	<0.5	2	

Table 3
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	
	09/22/12		332.24	31.45	0.00	300.79	83,000	25,000	9,900	1,800	6,600	<25	
	12/10/12		332.24	31.07	0.00	301.17	70,000	19,000	8,700	1,200	4,600	<50	
	03/26/13		332.12	30.74	0.00	301.38	92,000	23,000	6,200	1,200	4,700	<5	
	06/13/13		332.12	31.21	0.00	300.91	76,000	24,000	7,000	1,300	4,900	<10	
	09/04/13		332.12	31.77	0.00	300.35	100,000	23,000	8,200	1,400	5,500	<25	
	12/04/13		332.12	31.60	0.00	300.52	64,000	23,000	8,000	1,500	5,500	<50	
	03/06/14		332.12	31.28	0.00	300.84	77,000	25,000	3,400	1,600	4,200	<25	
	06/09/14		332.12	31.70	0.00	300.42	61,000	20,000	6,200	1,300	4,500	<10	
	09/22/14		332.13	32.08	0.00	300.05	31,000	10,000	2,100	730	2,500	<10	
	12/19/14		332.13	31.50	0.00	300.63	22,000	3,600	3,900	250	1,900	<5	
MW-15	06/25/12		332.88	31.51	0.00	301.37	88,000	28,000	8,400	1,100	4,300	<50	
	09/22/12		332.88	32.05	0.00	300.83	77,000	29,000	9,000	1,700	6,400	<25	
	12/10/12		332.88	31.70	0.00	301.18	71,000	22,000	5,900	1,200	4,800	<100	
	03/26/13		332.77	31.36	0.00	301.41	96,000	25,000	4,300	1,200	4,400	<5	
	06/13/13		332.77	31.81	0.00	300.96	58,000	24,000	4,500	1,100	3,900	12	
	09/04/13		332.77	32.37	0.00	300.40	95,000	24,000	4,400	1,200	4,400	<25	
	12/04/13		332.77	32.22	0.00	300.55	50,000	20,000	2,300	1,100	3,700	<50	
	03/06/14		332.77	31.91	0.00	300.86	62,000	22,000	1,300	1,200	3,400	<25	
	06/09/14		332.77	32.31	0.00	300.46	64,000	23,000	1,900	1,100	3,400	<10	
	09/22/14		332.78	32.69	0.00	300.09	53,000	19,000	1,100	1,200	3,000	<25	
	12/19/14		332.78	32.11	0.00	300.67	11,000	3,500	290	160	370	<5	
MW-16	09/22/14		318.20	18.89	0.00	299.31	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	12/19/14		318.20	17.51	0.00	300.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
WSW-1	06/25/12		--	--	--	--	--	--	--	--	--	--	
	09/22/12		--	--	--	--	--	--	--	--	--	--	
	12/10/12		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	03/26/13		--	--	--	--	--	--	--	--	--	--	
	06/13/13		--	--	--	--	--	--	--	--	--	--	
	09/04/13		--	--	--	--	--	--	--	--	--	--	
	12/04/13		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	03/06/14		--	--	--	--	--	--	--	--	--	--	
	06/09/14		--	--	--	--	--	--	--	--	--	--	
	09/22/14		--	--	--	--	--	--	--	--	--	--	
	12/19/14		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	

Table 3
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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

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
J = Estimated value (less than the method reporting limit and greater than or equal to the method detection limit)
N = Identity of contaminant uncertain (hydrocarbon pattern atypical of indicated analyte); see lab report
R = Data rejected (data determined to be unreliable by laboratory)
INA = Well inaccessble due to steep terrain, grab samples collected
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

Table 4
Grab Groundwater Analytical Results
Total Petroleum Hydrocarbons and Volatile Organic Compounds

Grant Line Road and I-580
Tracy, California

Sample ID	Sample Date	Sample Depth (ft bgs)	USEPA Method 8015B	USEPA Method 8260B				
			TPH-GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Screening Levels: California Primary Maximum Contaminant Levels (MCLs)[1]			NE	1	150	300	1,750	13
B-8	8/25/2011	--	64,000	24,000	1,500	1,300	2,500	<25
SB-1-W-40	10/22/13	40	**4,100**	**170**	**170**	**78**	**280**	<0.5
SB-2-W-38	10/21/13	38	**150,000**	**17,000**	**29,000**	**1,700**	**8,100**	<25
SB-3-W-36	10/21/13	36	**110,000**	**13,000**	**23,000**	**1,300**	**6,300**	<10
SB-4-W-35	10/18/13	35	**170,000**	**28,000**	**24,000**	**2,100**	**9,200**	**98**
SB-5-W-40	10/21/13	40	**1,500**	**230**	**140**	**22**	**63**	<0.5
SB-6-W-38	10/17/13	38	**9,300**	**2,600**	**8**	**190**	**290**	<1
SB-7-W-39	10/18/13	39	<50	<0.5	<0.5	<0.5	<0.5	<0.5
SB-8-W-36	10/16/13	36	<50	<0.5	<0.5	<0.5	<0.5	<0.5
SB-9-W-37	10/15/13	37	<50	<0.5	<0.5	<0.5	<0.5	<0.5
SB-10-W-34	10/16/13	34	**800**	**7**	<0.5	**27**	**0.9**	**0.8**
SB-11-W-39	10/17/13	39	**3,100**	**41**	**2**	**240**	**340**	<0.5
SB-12-W-37	10/16/13	37	**66**	<0.5	<0.5	<0.5	<0.5	**2**
SB-13-W-25	10/22/13	25	<50	<0.5	<0.5	<0.5	<0.5	<0.5
QA-T-131015	10/15/13	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
QA-T-131017	10/17/13	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
QA-T-131022	10/22/13	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5

NOTES:
Concentrations are in micrograms per liter (µg/L)
Bolded values indicate detected concentrations above the laboratory detection limit.
Highlighed cells indicate concentrations exceeding the screening levels.
< = Less than the stated laboratory detection limit
ft bgs = feet below ground surface
MTBE = Methyl tert-butyl ether
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics
USEPA = United States Environmental Protection Agency
NE = Not Established
[1] = California Department of Public Health (CDPH). 2008. Maximum Contaminant Levels and Regulatory Dates for Drinking Water U.S. EPA vs California. November 28.

Table 5
PIANO Concentrations (MW-16)

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Well ID	Laboratory Number	Date Sampled	Parafins	Butane	Pentane	Hexane	Heptane	Octane	Nonane	Decane	Undecane	Isoparafins	Isobutane	Isopentane	2,2-Dimethylbutane	2,3-Dimethylbutane	2-Methylpentane	3-Methylpentane	2,2-Dimethylpentane	2,4-Dimethylpentane	3,3-Dimethylpentane	2-Methylhexane	2,3-Dimethylpentane	3-Methylhexane	2,2,4-Trimethylpentane	2,5-Dimethylhexane	2,4-Dimethylhexane	2,3,4-Trimethylpentane	2,3-Dimethylhexane	2-Methylheptane	4-Methylheptane	2,3,3-Trimethylpentane	3,4-Dimethylhexane
MW-16	**43669-1**	**7/23/2014**		ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
All concentrations are reported in micrograms per Liter.
ND = Non-detect
Detection Limit = 1.00
1 = Total PIANOS is the sum of the Parafins, Isoparafins, Aromatics, Naphthenes, Olefins and Sulfurs.

Table 5
PIANO Concentrations (MW-16)

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Well ID	Laboratory Number	Date Sampled	3-Ethyl-3-methylpentane	3-Methylheptane	2,2-Dimethylheptane	2,4,4-Trimethylhexane	2,4-Dimethylheptane	2,6-Dimethylheptane	2,5-Dimethylheptane	3-Ethylheptane	3-Methyloctane	2,3-Dimethylheptane	4-Methyloctane	2-Methyloctane	3,3,5-Trimethylheptane	2,2-Dimethyloctane	3-Methylnonane	3,3-Dimethyloctane	3,3,4-Trimethylheptane	**Aromatics**	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Isopropylbenzene	n-Propylbenzene	1-Methyl-3-ethylbenzene	1-Methyl-4-ethylbenzene	1,3,5-Trimethylbenzene	1-Methyl-2-ethylbenzene	1,2,4-Trimethylbenzene	1-Methyl-3-isopropylbenzene
MW-16	**43669-1**	**7/23/2014**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
All concentrations are reported in microgra
ND = Non-detect
Detection Limit = 1.00
1 = Total PIANOS is the sum of the Parafi

Table 5
PIANO Concentrations (MW-16)

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Well ID	Laboratory Number	Date Sampled	sec-Butylbenzene	1,2,3-Trimethylbenzene	Indane	1,3-Diethylbenzene	n-Butylbenzene	1,3-Dimethyl-5-ethylbenzene	1,4-Diethylbenzene	1-Methyl-2-propylbenzene	1,4-Dimethyl-2-ethylbenzene	1,3-Dimethyl-4-ethylbenzene	1,2-Dimethyl-4-ethylbenzene	1,3-Dimethyl-2-ethylbenzene	1,2,4,5-Tetramethylbenzene	1,2,3,5-Tetramethylbenzene	1,2,3,4-Tetramethylbenzene	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	n-Pentylbenzene	**Naphthenes**	Cyclopentane	Methylcyclopentane	Cyclohexane	trans-1,3-Dimethylcyclopentane	cis-1,3-Dimethylcyclopentane	1,2-Dimethylcyclopentane	Methylcyclohexane	trans-1,4-Dimethylcyclohexane	trans-1,2-Dimethylcyclohexane	Ethylcyclohexane	1,2,4-Trimethylcyclohexane
MW-16	**43669-1**	**7/23/2014**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
All concentrations are reported in microgra
ND = Non-detect
Detection Limit = 1.00
1 = Total PIANOS is the sum of the Parafi

Table 5
PIANO Concentrations (MW-16)

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Well ID	Laboratory Number	Date Sampled	1,1,2-Trimethylcyclohexane	Isopropylcyclohexane	**Olefins**	Isobutene	3-Methyl-1-butene	1-Pentene	2-Methyl-1-butene	trans-2-Pentene	cis-2-Pentene	2-Methyl-2-butene	Cyclopentene	4-Methyl-1-pentene	trans-2-Hexene	2-Methyl-2-pentene	3-Methylcyclopentene	3-Methyl-2-pentene	cis-2-Hexene	1-Methylcyclopentene	5-Methyl-1-hexene	4,4-Dimethyl-2-pentene	2,2,3-Trimethylpentane	trans-2-Heptene	2-Methyl-1-heptene	1-Octene	Styrene	1-Nonene	1-Decene	Indene	**Sulfurs**	Thiophene	2-Methylthiophene
MW-16	**43669-1**	**7/23/2014**	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

Notes:
All concentrations are reported in microgra
ND = Non-detect
Detection Limit = 1.00
1 = Total PIANOS is the sum of the Parafi

Table 5
PIANO Concentrations (MW-16)

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Well ID	Laboratory Number	Date Sampled	3-Methylthiophene	2-Ethylthiophene	Benzothiophene	Z	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	Total PIANOS[1]
MW-16	**43669-1**	**7/23/2014**	ND	ND	ND		8.03	ND	0

Notes:
All concentrations are reported in microgra
ND = Non-detect
Detection Limit = 1.00
1 = Total PIANOS is the sum of the Parafi

Table 6
LNAPL Recovery Data

Former Chevron Service Station No. 9-7127
Grant Line Road and Interstate 580
Tracy, California

Well ID	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
1/29/2015	1.41	1.21	18	2
2/13/2015	1.23	1.11	19	4
2/25/2015	1.25	0.6	10	2
3/15/2015	1.29	1.12	10	1
MW-3				
1/17/2015	0.07	0.03	0.06	0.06
1/29/2015	0.06	0.04	0.02	0.25
2/13/2015	0.02	0.00	0.02	0.08
2/25/2015	0	0	0	0
3/15/2015	0	0	0	0
MW-10				
1/17/2015	1.39	0.48	3.5	1.5
1/29/2015	1.26	0.42	3.5	0.5
2/13/2015	1.14	0.46	4	1
2/25/2015	1.21	0.42	3	1
3/15/2015	1.07	0.59	4	1
MW-11				
1/17/2015	0.47	0.05	0.77	0.23
1/29/2015	0.10	0.07	0.08	0.50
2/13/2015	0.06	0.02	0.06	0.04
2/25/2015	0.06	0.04	0.02	0.08
3/15/2015	0.02	0.03	0.02	0.43

Table 7
Screening Composition-Based Remedial Alternatives for
Petroleum Hydrocarbon Affected Soil against Site-Specific Evaluation Factors

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California

Site-Specific Evaluation Factors	Remedial Technology: Monitored Natural Attenuation (MNA)	Multi-Phase Extraction (DPE)	Excavation and Pumping	Air Sparge/Soil Vapor Extraction (AS/SVE)
Treatment Zone Size	No Treatment zone is too deep.	Yes MPE will address dissolved-phase constituents and residual NAPL with an effective number of treatment wells.	No The proposed excavation area for both options are relatively small compared to the size of the source area.	Yes AS/SVE will address dissolved-phase constituents (AS) and residual LNAPL (SVE) with an effective number of treatment wells in select locations
Site Restrictions	Yes Continued groundwater monitoring of exisitng monitoring wells and of newly installed monitoring wells to replace those that will be decommissioned during redevelopment activities.	Yes Arrangement of MPE infrastructure is very flexible.	No The site will need to be barricaded during excavation activities.	Yes Arrangement of AS/SVE infrastructure is very flexible.
Remedial Time Frame	No Time to reach remedial objectives from current site conditions would be many decades or longer.	Yes MPE can typically achieve remedial objectives in 3 to 4 years.	Yes Excavation and pumping will be completed within 1 year.	Yes AS/SVE can typically achieve remedial objectives in 2 to 3 years, dependant on residual LNAPL.
Cost	Medium	High	Low	Medium

= Indicates ideal performance for the category
= Indicates moderate performance for the category
= Indicates poor performance for the category

Table 8
Remedial Alternatives Cost Estimate

Feasibility Study / Corrective Action Plan
Grant Line Road and Interstate 580
Tracy, California

Remedial Alternative 2	
Monitored Natural Attenuation	
Key Assumptions	
Remedial alternative duration assumes 88 years are required to achieve cleanup goals for TPH-GRO and benzene	
Semi-annual sampling and reporting for 25 years	
Annual sampling and reporting for 63 years	
Monitoring for MNA parameters in select wells within existing monitoring network	
Total anticipated remedial alternative duration: 88 years	
Tasks	**Estimated Cost**
Semi-annual sampling and reporting (25 years, $8,500/year)	$220,000
Annual sampling and reporting (63 years, $4,500/year)	$283,500
Site decommissiong and well abandonment	$125,000
Lifecycle Cost Totals:	**$628,500**

Remedial Alternative 3	
Dual-Phase Extraction (DPE)	
Key Assumptions	
Pilot study will be completed to determine key design parameters (2 extraction wells)	
Full-scale DPE system includes installation of 6 MPE wells, distribution piping, and remediation system equipment	
DPE system O&M for 4 years	
Semi-annual sampling and reporting for 6 years (4 years during active treatment, 2 years post-treatment)	
Monitoring for MNA parameters in select wells within existing monitoring network	
Total anticipated remedial alternative duration: 6 years	
Tasks	**Estimated Cost**
DPE Pilot Study	
Work plan preparation	$20,000
Permitting (Air Permit, POTW)	$8,000
Pilot study well installation (2 extraction wells)	$10,000
Perform DPE Pilot Study	$120,000
RAP preparation and system design	$50,000
Full-Scale DPE System	
Installation of 6 DPE wells	$90,000
Installation of full-scale DPE system (including major system components, trenching, distribution piping, utility connection, and remediation building)	$250,000
Monthly system O&M and annual utility usage (4 years, $80,000/year)	$320,000
Utility Usage (4 years, $20,000/year)	$80,000
Semi-annual sampling and reporting (6 years, $30,000/year)	$180,000
Site decommissiong and well abandonment	$187,488
Lifecycle Cost Total:	**$1,315,488**

Remedial Alternative 4	
Excavation and Pumping (Option 1)	
Key Assumptions	
Soil excavation and offsite disposal of 125 cubic yards of soil	
Excavation area shoring, backfill and grading	
Rental of 10,000-gallon tank, pump and generator for 6 months	
O&M during pumping	
Disposal of of petroleum impacted groundwater	
Total anticipated remedial alternative duration: 1 years	
Tasks	**Estimated Cost**
Soil Excavation and Backfill	
Work plan preparation	$12,000
Soil excavation of 125 cubic yards of soil with offsite disposal (includes sub-contractor costs and shoring)	$67,000
Well Installation (1 well)	$8,000
Backfill activities	$22,000
Pumping	
Transportation and disposal of of petroleum impacted groundwater	$24,700
Equipment rental	$18,000
Weekly O&M to pump LNAPL out of excavation and well	$25,450
Well Destruction Activities	
Site decommissiong and well abandonment	$125,000
Lifecycle Cost Totals:	**$302,150**

Table 8
Remedial Alternatives Cost Estimate

Feasibility Study / Corrective Action Plan
Grant Line Road and Interstate 580
Tracy, California

Drill Excavation and Pumping (Option 2)

Key Assumptions	
Drilling three 6-foot diameter borings to approximately 38 feet below ground surface (bgs)	
Offsite disposal of 150 cubic yards of soil	
Installation of 3 6-inch diameter wells at each boring location	
O&M during pumping activities	
Total anticipated remedial alternative duration: 1 years	
Tasks	**Estimated Cost**
Drill Excavation and Backfill	
Work plan preparation	$12,000
Drilling activities and well installation (3 wells)	$19,000
Soil excavation of 150 cubic yards of soil with offsite disposal	$70,000
Backfill activities	$24,000
Pumping	
Transportation and disposal of of petroleum impacted groundwater	$24,700
Equipment rental	$18,000
Weekly O&M to pump LNAPL out of excavation and well	$24,700
Well Destruction Activities	
Site decommissiong and well abandonment	$148,428
Lifecycle Cost Totals:	**$340,828**

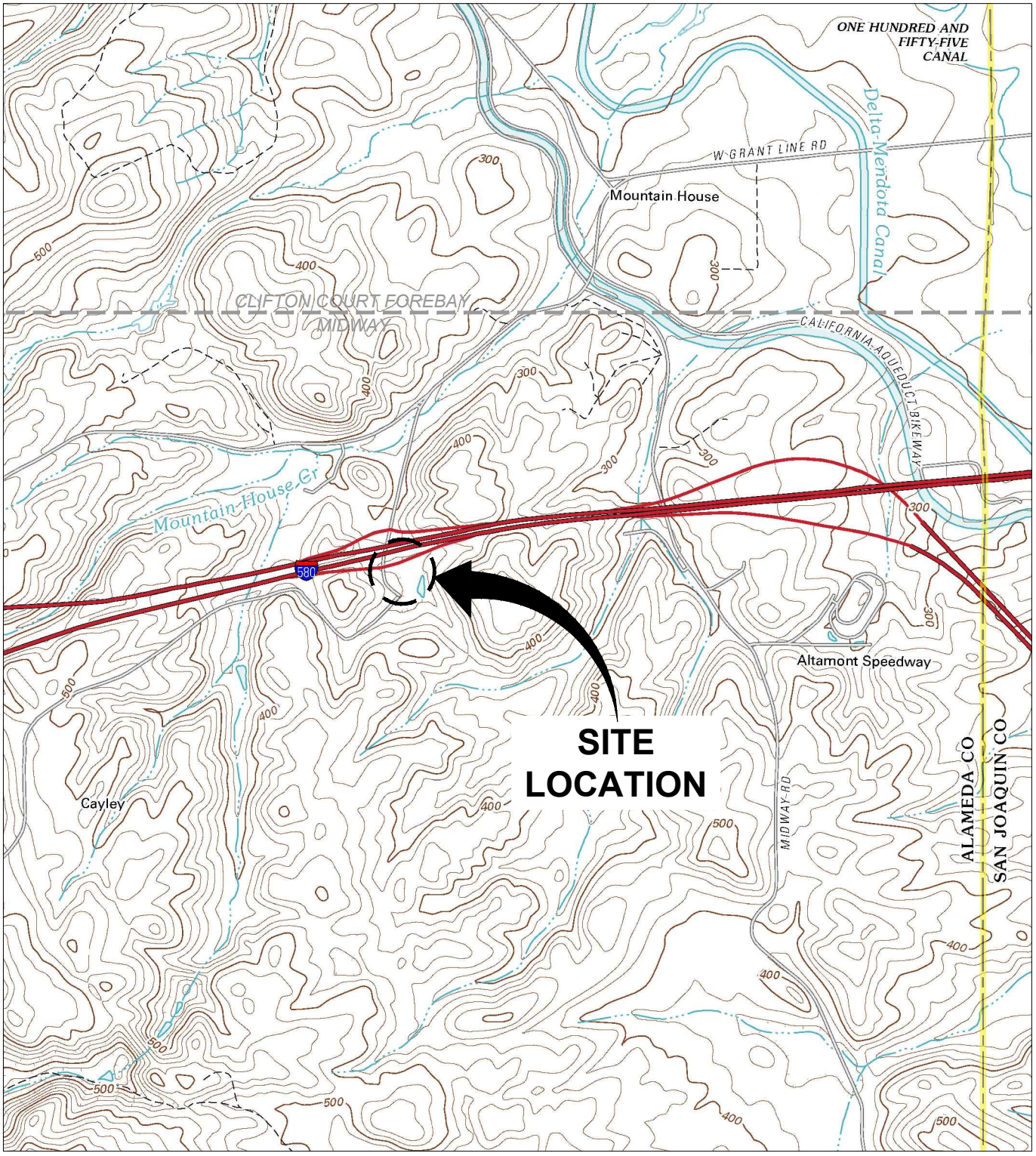
Remedial Alternative 5

Air Sparge/Soil Vapor Extraction (AS/SVE)

Key Assumptions	
Pilot study will be completed to determine key design parameters (2 AS wells, 1 SVE well)	
Full-scale AS/SVE system includes installation of 10 AS wells, 8 SVE wells, distribution piping, and remediation system equipment	
AS/SVE system O&M for 4 years	
Semi-annual sampling and reporting for 6 years (4 years during active treatment, 2 years post-treatment)	
Monitoring for MNA parameters in select wells within existing monitoring network	
Total anticipated remedial alternative duration: 6 years	
Tasks	**Estimated Cost**
AS/SVE Pilot Study	
Work plan preparation	$20,000
Permitting (Air Permit)	$8,000
Pilot study well installation (2 AS wells and 1 SVE well)	$15,000
Perform AS/SVE Pilot Study	$100,000
RAP preparation and system design	$50,000
Full-Scale AS/SVE System	
Installation of 10 AS wells and 8 SVE wells	$120,000
Installation of full-scale AS/SVE system (including major system components, trenching, distribution piping, utility connection, and remediation building)	$200,000
Quarterly system O&M (4 years, $40,000/year)	$160,000
Utility Usage (4 years, $15,000/year)	$60,000
Semi-annual sampling and reporting (6 years, $30,000/year)	$180,000
Site decommissiong and well abandonment	$265,608
Lifecycle Cost Totals:	**$1,178,608**

ARCADIS

Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., MIDWAY AND CLIFTON COURT FOREBAY, CALIFORNIA, 2012.

0 2000' 4000'

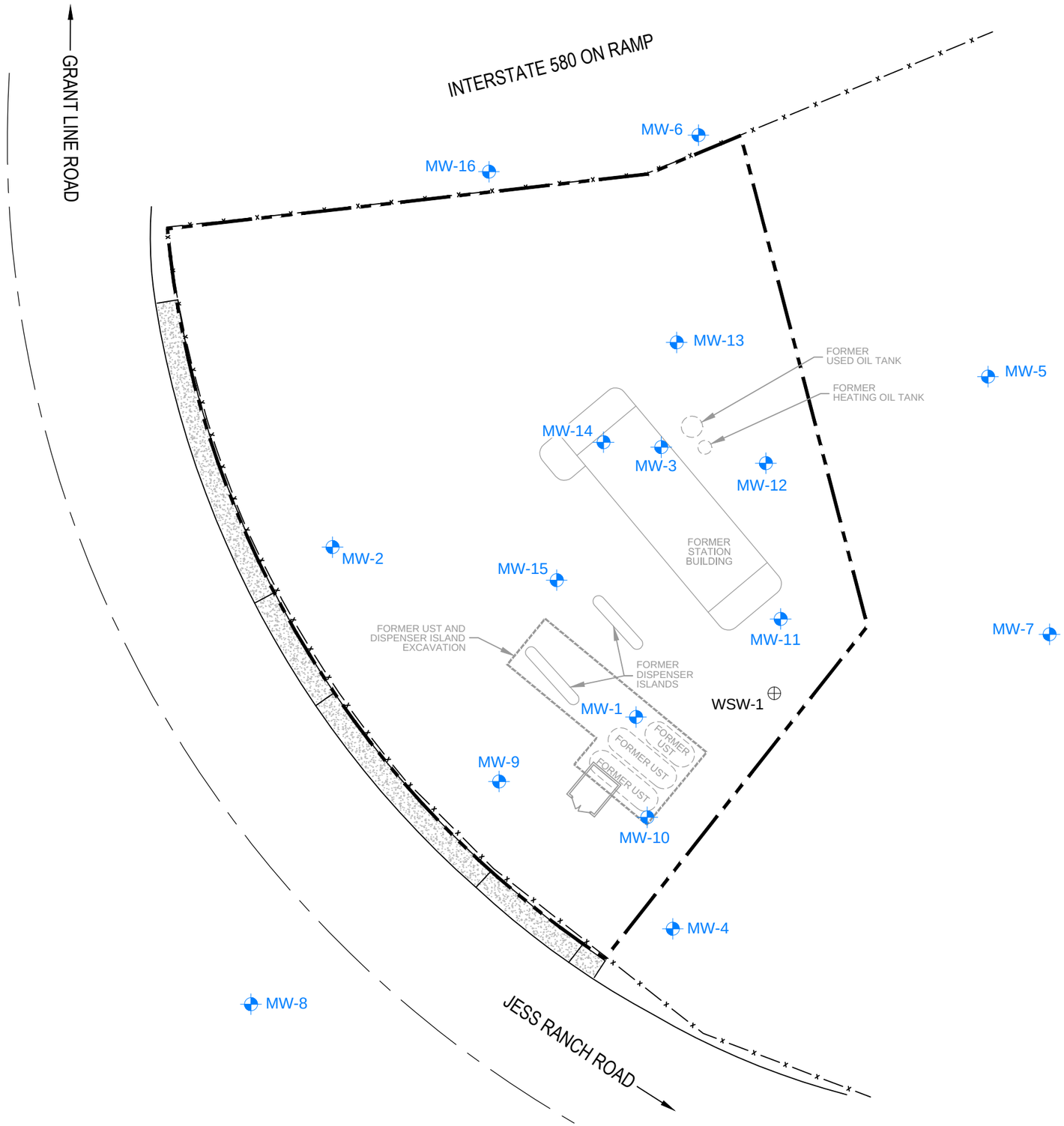
Approximate Scale: 1 in. = 2000 ft.

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

SITE LOCATION MAP

ARCADIS

FIGURE 1



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 MONITORING WELL LOCATION
- WSW-1 WATER SUPPLY WELL (LIVESTOCK)

NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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.

0 40' 80'

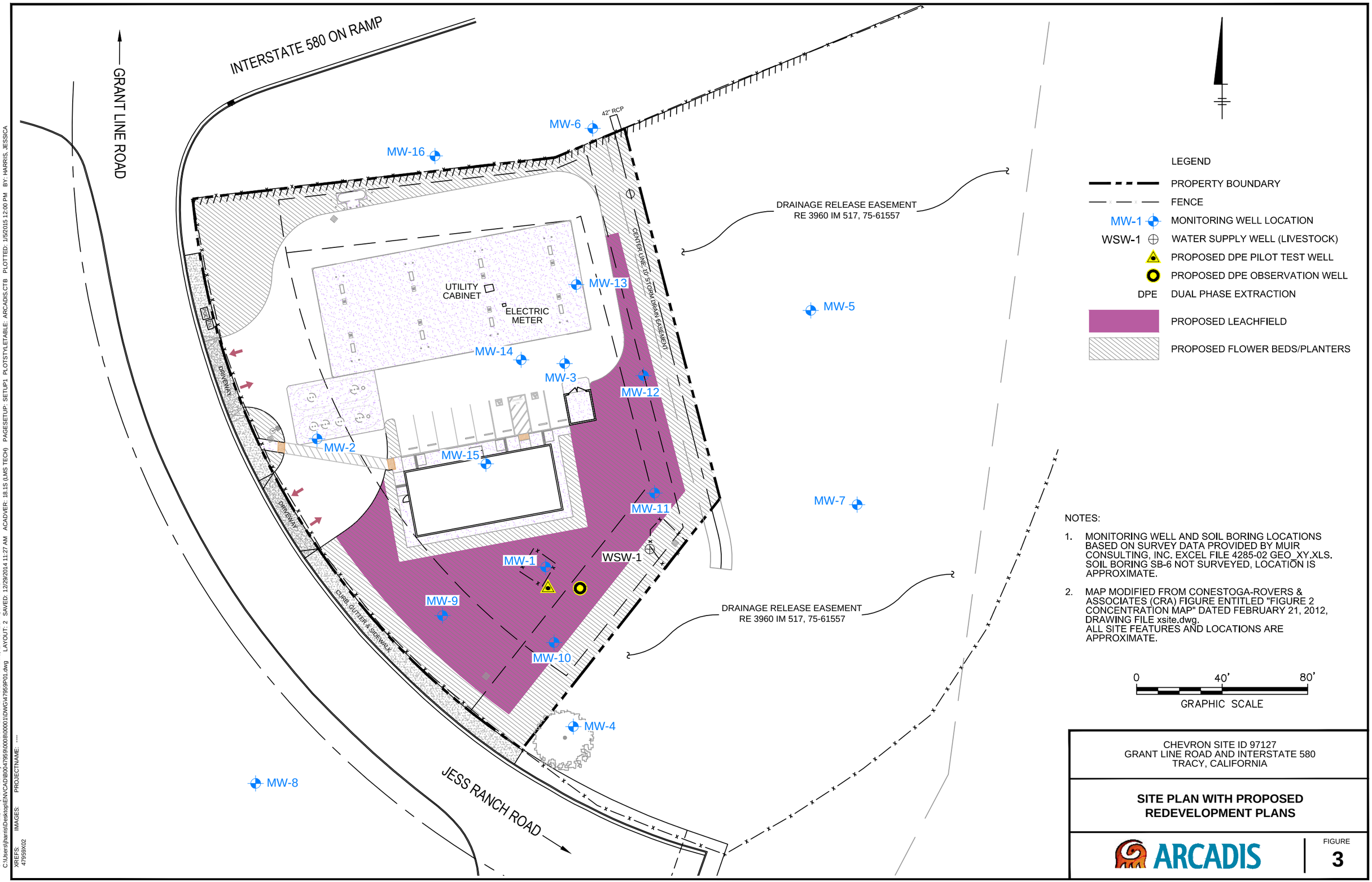
GRAPHIC SCALE

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

SITE PLAN

ARCADIS

FIGURE
2



NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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.

0 40' 80'

GRAPHIC SCALE

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

SITE PLAN WITH PROPOSED REDEVELOPMENT PLANS

ARCADIS

FIGURE 3

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS, E. MURESAN, J. HARRIS
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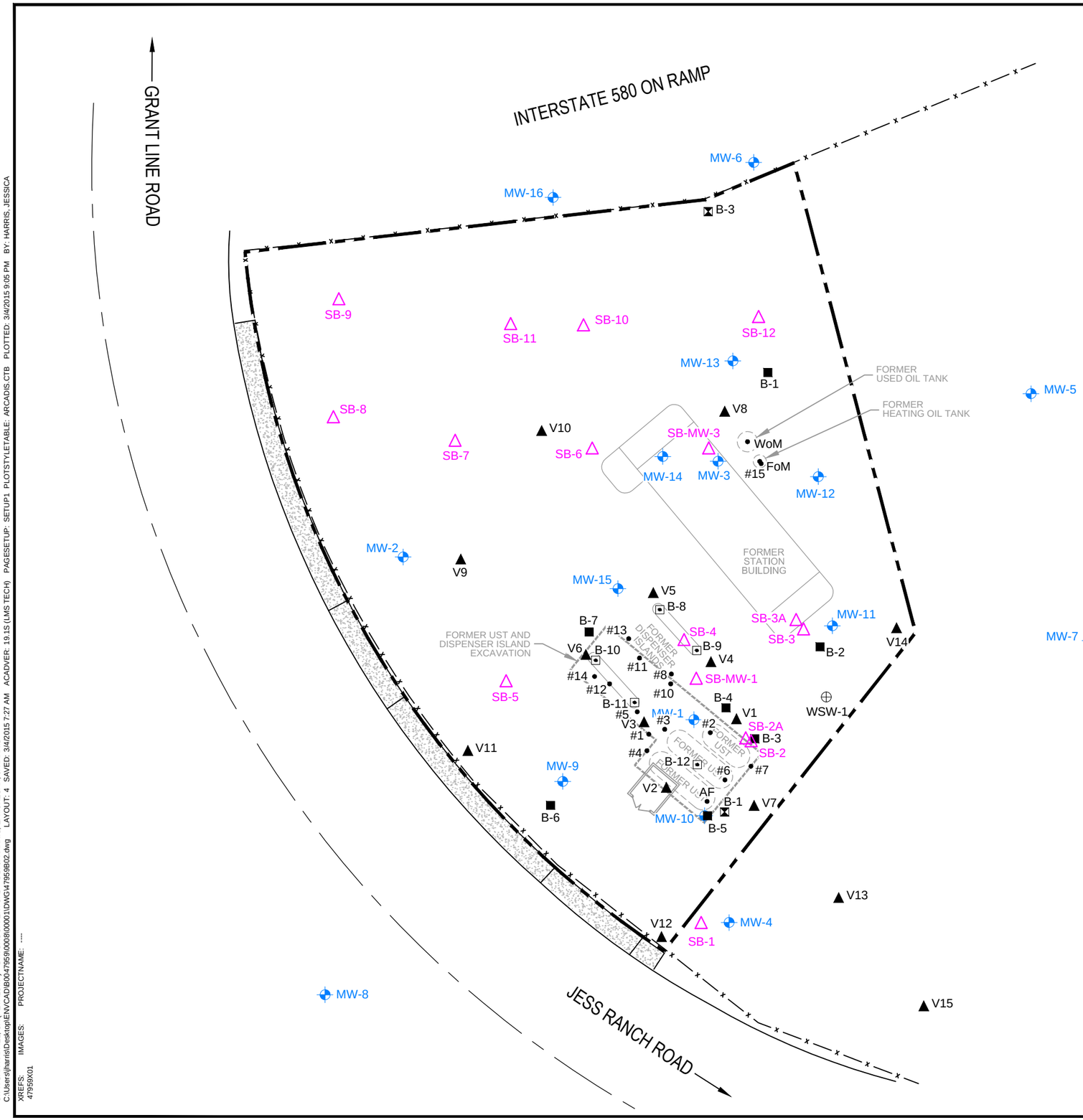
XREFS: IMAGES: PROJECTNAME: ----
47959X02



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 MONITORING WELL LOCATION
- WSW-1 WATER SUPPLY WELL (LIVESTOCK)
- SB-1 SOIL BORING (ARCADIS 2013)
- B-1 APPROXIMATE SOIL BORING LOCATION (KLEINFELDER 1987)
- B-1 APPROXIMATE SOIL BORING LOCATION (PEG 1992-1993)
- B-8 APPROXIMATE SOIL BORING LOCATION (CRA 2011)
- #1 APPROXIMATE SOIL SAMPLE LOCATION (BLAINE TECH SERVICES 1991)
- V1 APPROXIMATE SOIL VAPOR SAMPLE LOCATION (EA 1987)

NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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.

0 40' 80'

GRAPHIC SCALE

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

SITE PLAN WITH HISTORICAL SAMPLING LOCATIONS

ARCADIS

FIGURE 4

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS, E. MURESAN, J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B00479590008\00001\DWG\47959B02.dwg LAYOUT: 4 SAVED: 3/4/2015 7:27 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 3/4/2015 9:05 PM BY: HARRIS, JESSICA
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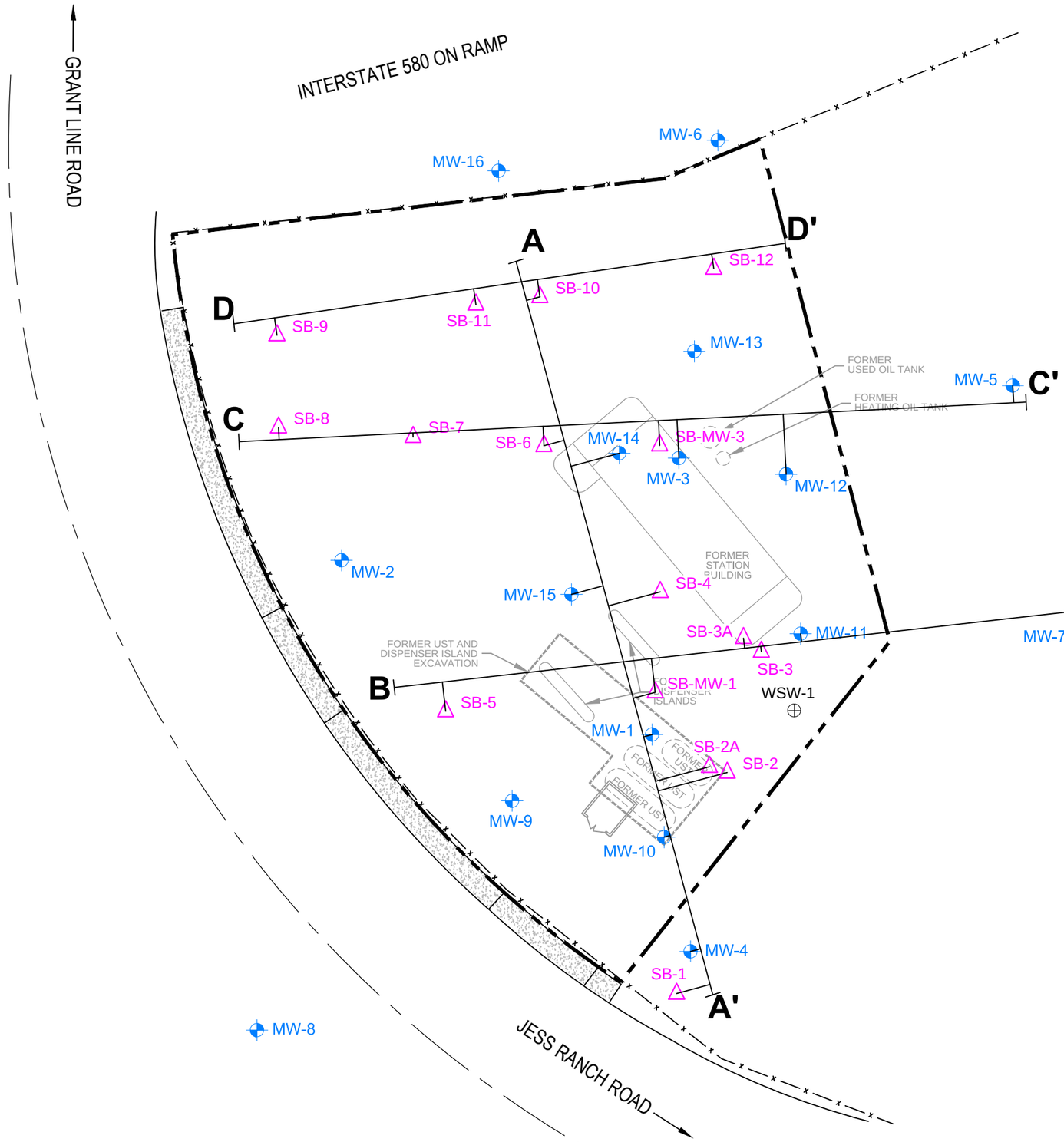

LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 — MONITORING WELL LOCATION
- WSW-1 — WATER SUPPLY WELL (LIVESTOCK)
- SB-1 — SOIL BORING (ARCADIS 2013)[4]
- 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.

0 40' 80'

GRAPHIC SCALE

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

SITE PLAN SHOWING CROSS SECTION LINES

ARCADIS

FIGURE 5

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENV/CAD DB: J. HARRIS, B. ROBITAILLE
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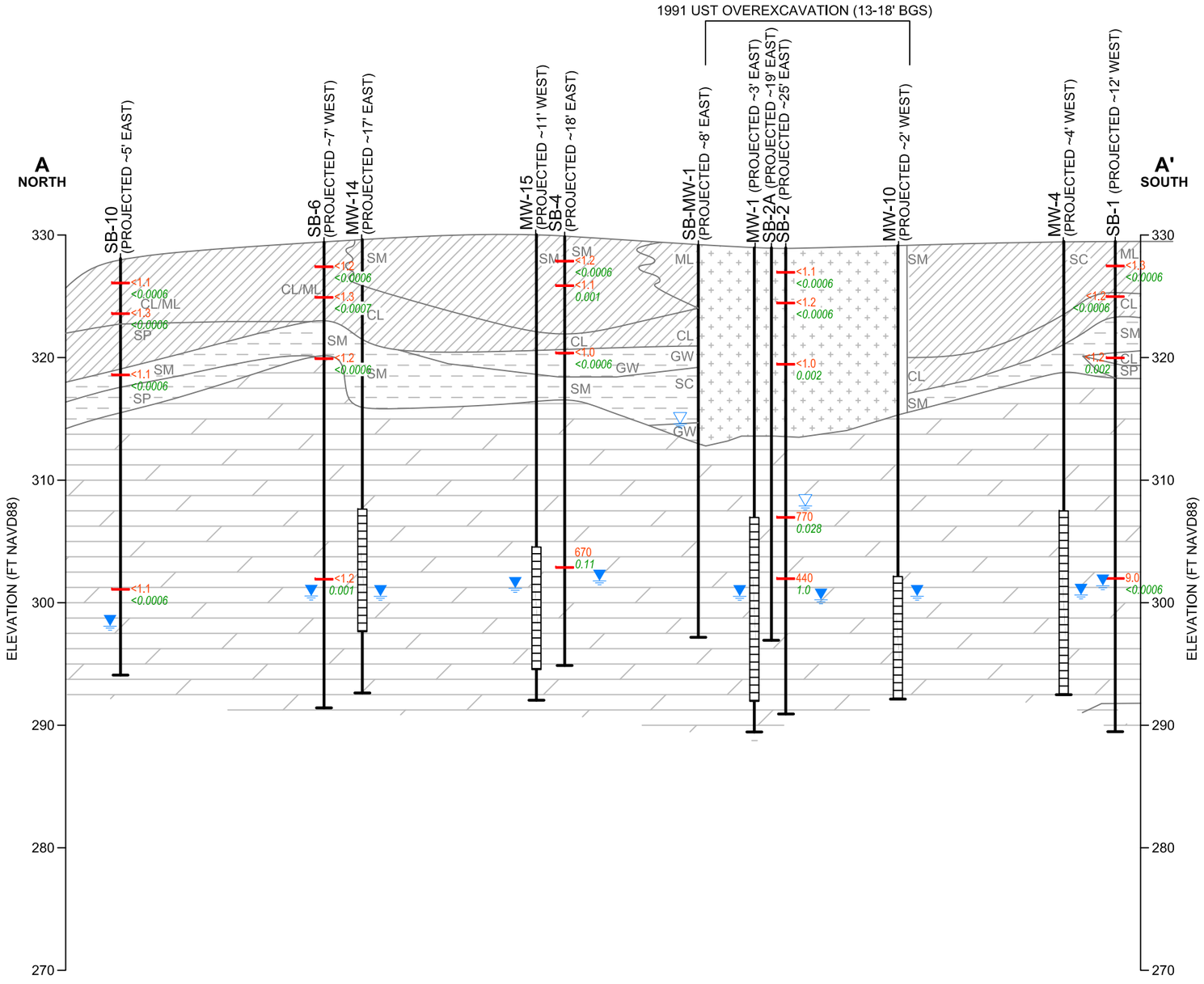


LEGEND:

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
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

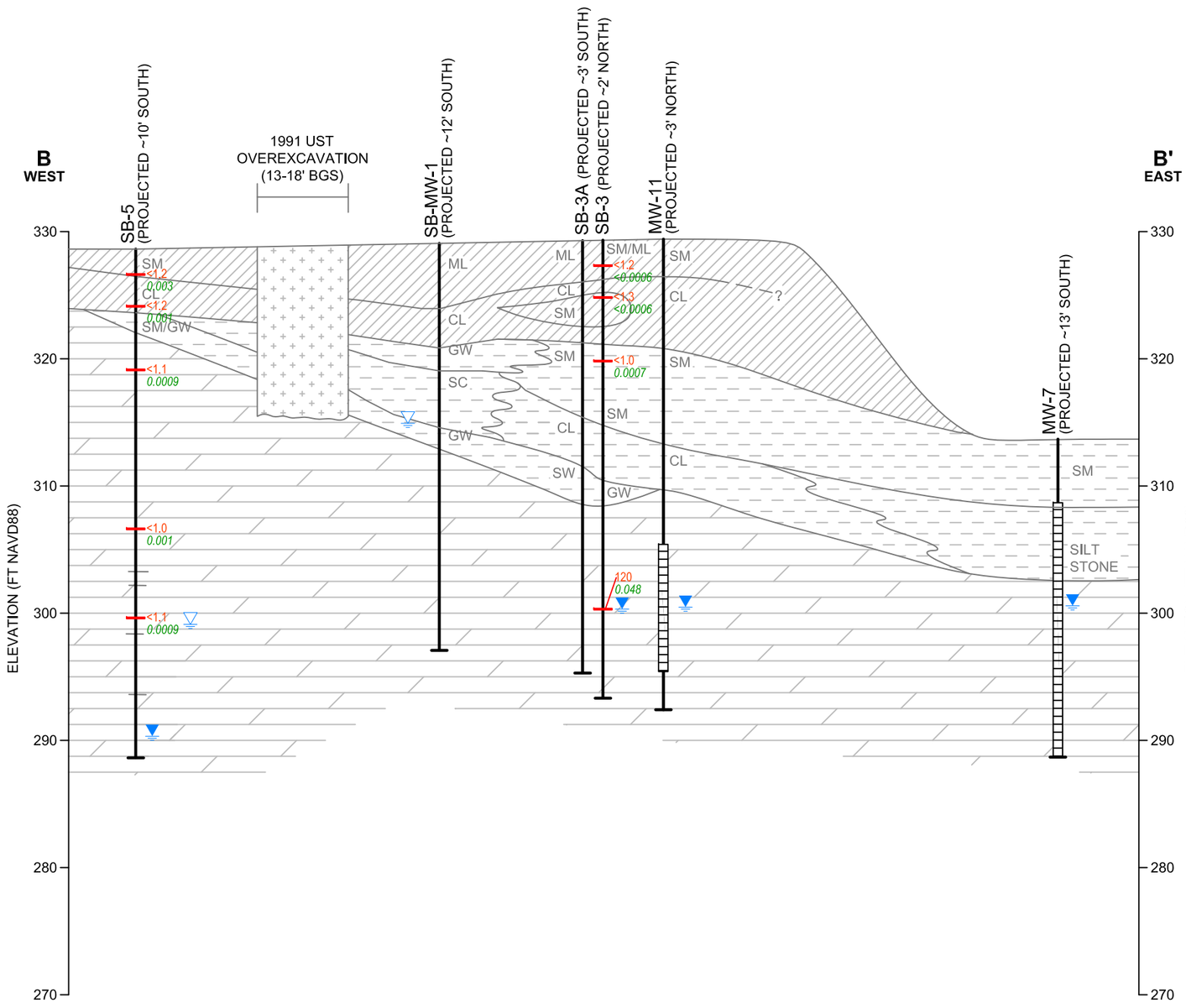
0 30 60
HORIZONTAL SCALE IN FEET

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

CROSS SECTION A-A'

ARCADIS

FIGURE 6



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
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

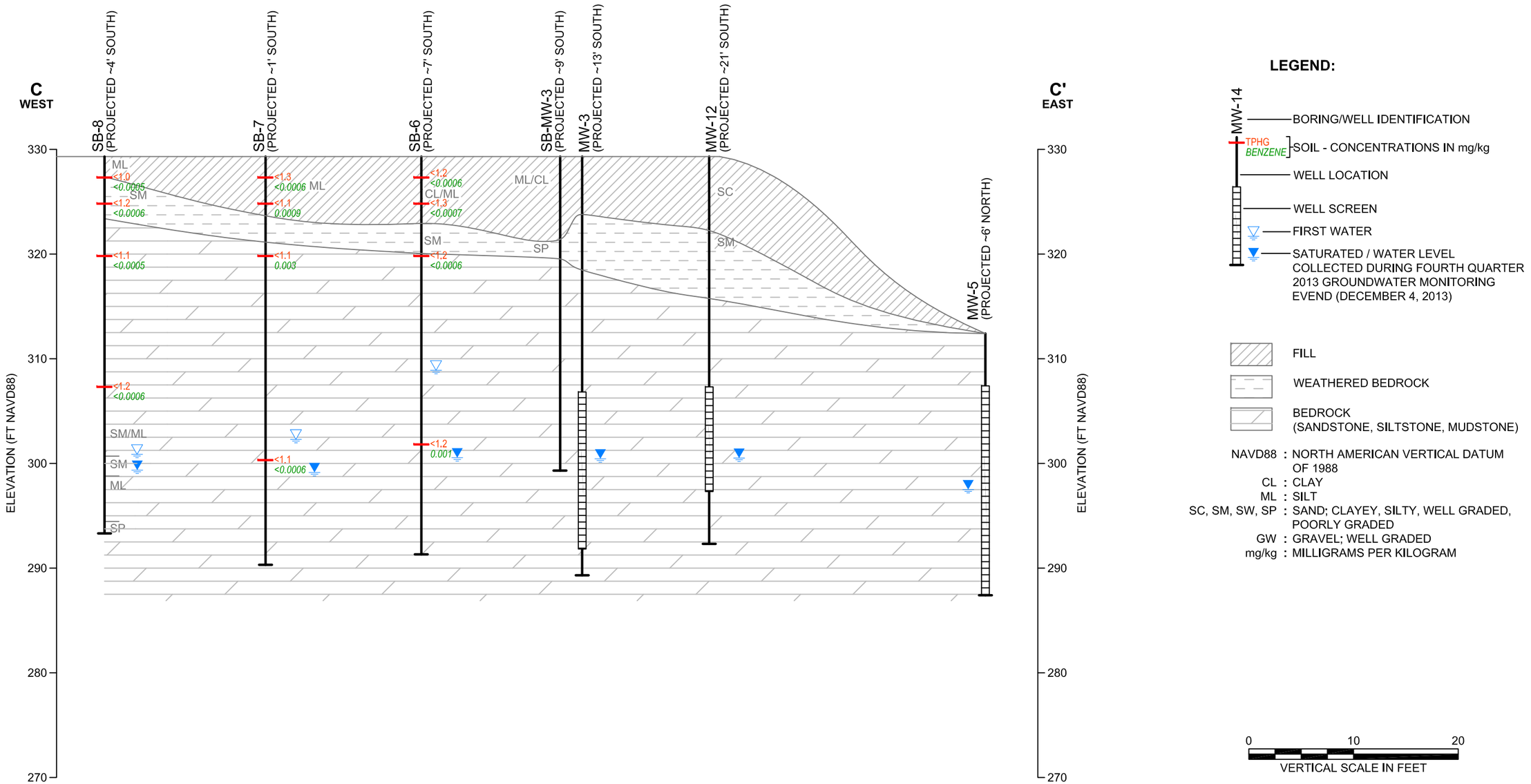
CHEVRON SITE ID 97127
GRANT LINE ROAD AND INTERSTATE 580
TRACY, CALIFORNIA

CROSS SECTION B-B'

ARCADIS

FIGURE
7

CITY: ROSEVILLE, CA DIV/GROUP: ENV DB: BAR PM: RUSSI, TONYA
Z:\ENVCAD\Roseville-CA\RETURN-TO\Petaluma-CA\B0047959 ret 20140121 vbs s drive\0003\000020\B0047959\0003 V03.dwg LAYOUT: B-B SAVED: 1/10/2014 8:29 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/5/2014 7:47 AM BY: LOVING, JEFF



LEGEND:

MW-14
TPHG
BENZENE
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

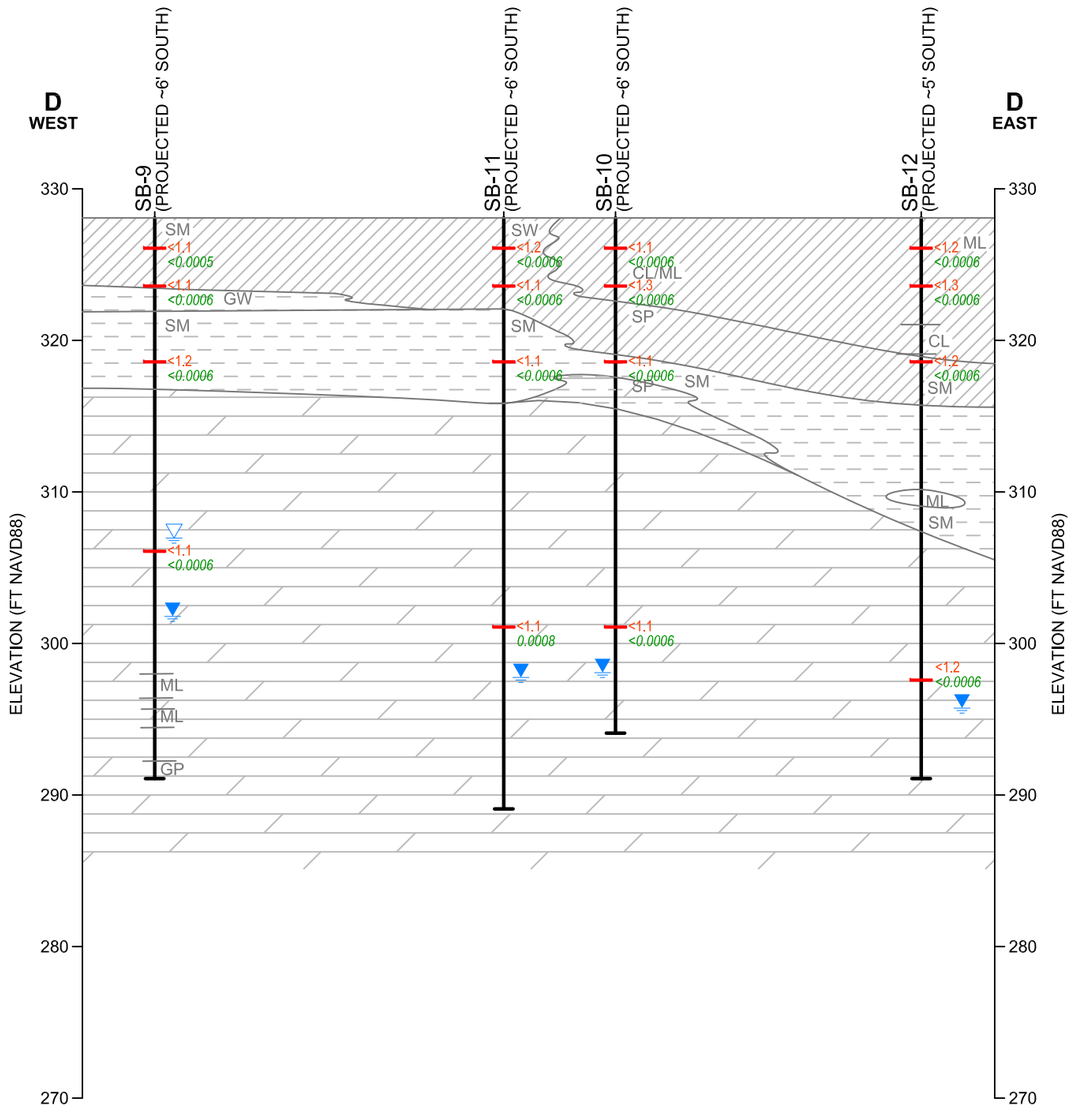
CHEVRON SITE ID 97127
GRANT LINE ROAD AND INTERSTATE 580
TRACY, CALIFORNIA

CROSS SECTION C-C'

ARCADIS

FIGURE
8

CITY: ROSEVILLE, CA DIV/GROUP: ENV DB: BAR PM: RUSSI, TONYA
Z:\ENV\CAD\Roseville-CA\RETURN-TO\Petaluma-CA\B00479\9 ret 20140121 via s drive\0003\0000\2\B00479590003 V03.dwg LAYOUT: C-C SAVED: 1/10/2014 8:29 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/5/2014 7:53 AM BY: LOVING, JEFF



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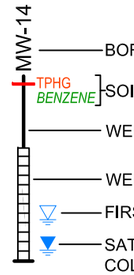


BORING/WELL IDENTIFICATION

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

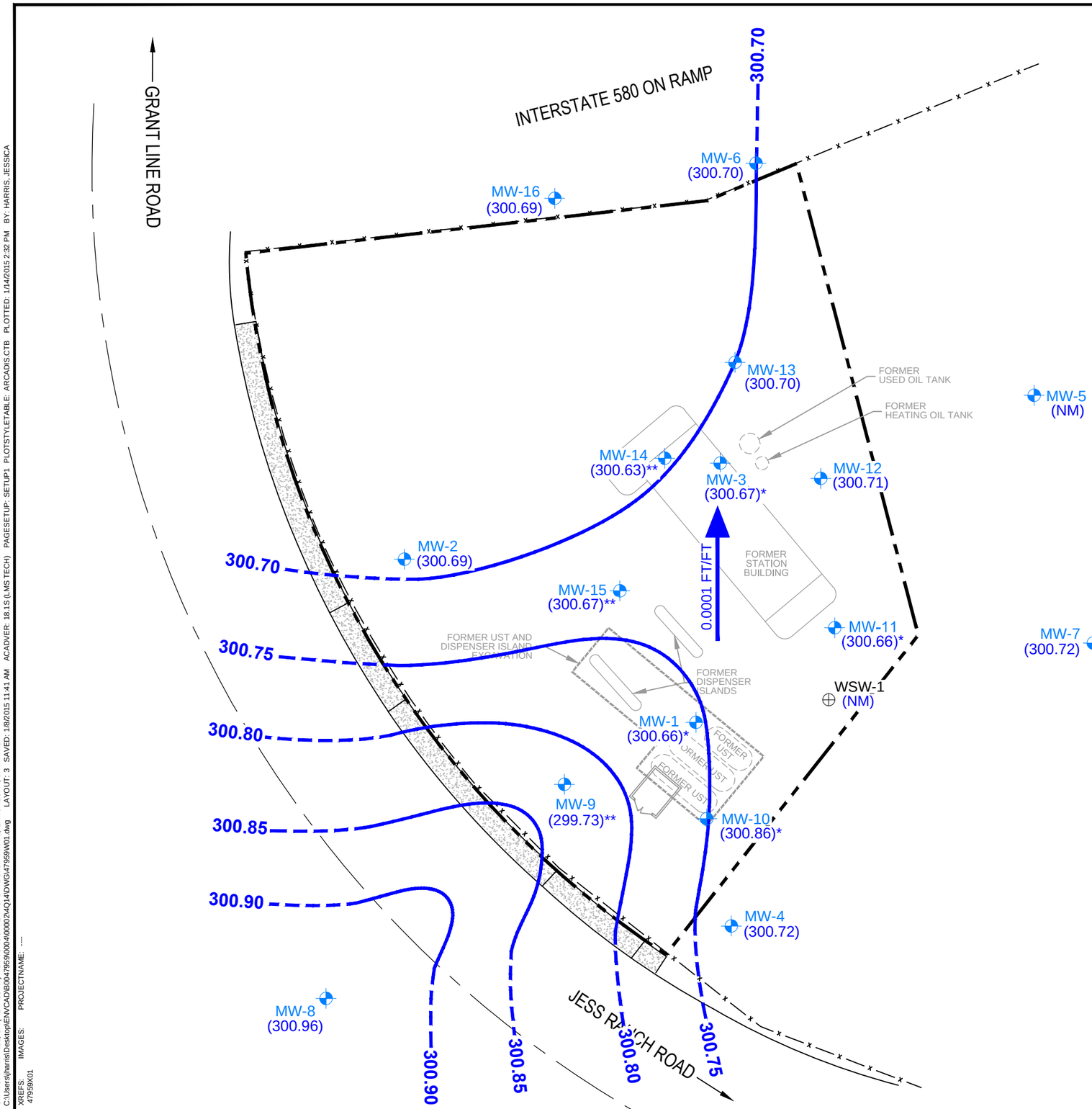
CHEVRON SITE ID 97127
GRANT LINE ROAD AND INTERSTATE 580
TRACY, CALIFORNIA

CROSS SECTION D-D'

ARCADIS

FIGURE
9

CITY: ROSEVILLE, CA DIV/GROUP: ENV DB: BAR PM: RUSSI, TONYA
Z:\ENVCAD\Roseville-CA\RETURN-TO\Petaluma-CA\B0047959 ret 20140121 via s drive\0003\00002\B0047959\0003 V03.dwg LAYOUT: D-D SAVED: 1/10/2014 8:29 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/5/2014 8:02 AM BY: LOVING, JEFF



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 — MONITORING WELL LOCATION
- WSW-1 — WATER SUPPLY WELL (LIVESTOCK)
- (300.70) — GROUNDWATER ELEVATION IN FEET MEAN SEA LEVEL (FT MSL)
- 300.80 — GROUNDWATER ELEVATION CONTOUR IN FT MSL (DASHED WHERE INFERRED)
- 0.0001 FT/FT — GROUNDWATER FLOW DIRECTION AND GRADIENT IN FOOT PER FOOT (FT/FT)
- (NM) — NOT MONITORED
- * — DUE TO THE PRESENCE OF SEPARATE PHASE HYDROCARBONS (SPH), GROUNDWATER ELEVATIONS NOT USED FOR CONTOURING
- ** — NOT USED FOR CONTOURING

NOTES:

1. MONITORING WELL LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. JULY 2014.
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. CALCULATED GROUNDWATER ELEVATION = TOC-DEPTH TO WATER+0.75*(MEASURED SPH THICKNESS); ASSUMING A SPECIFIC GRAVITY OF 0.75 FOR SPH.

0 40' 80'

GRAPHIC SCALE

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

GROUNDWATER ELEVATION CONTOUR MAP DECEMBER 19, 2014

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FIGURE 10

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS, E. MURESAN, J. HARRIS
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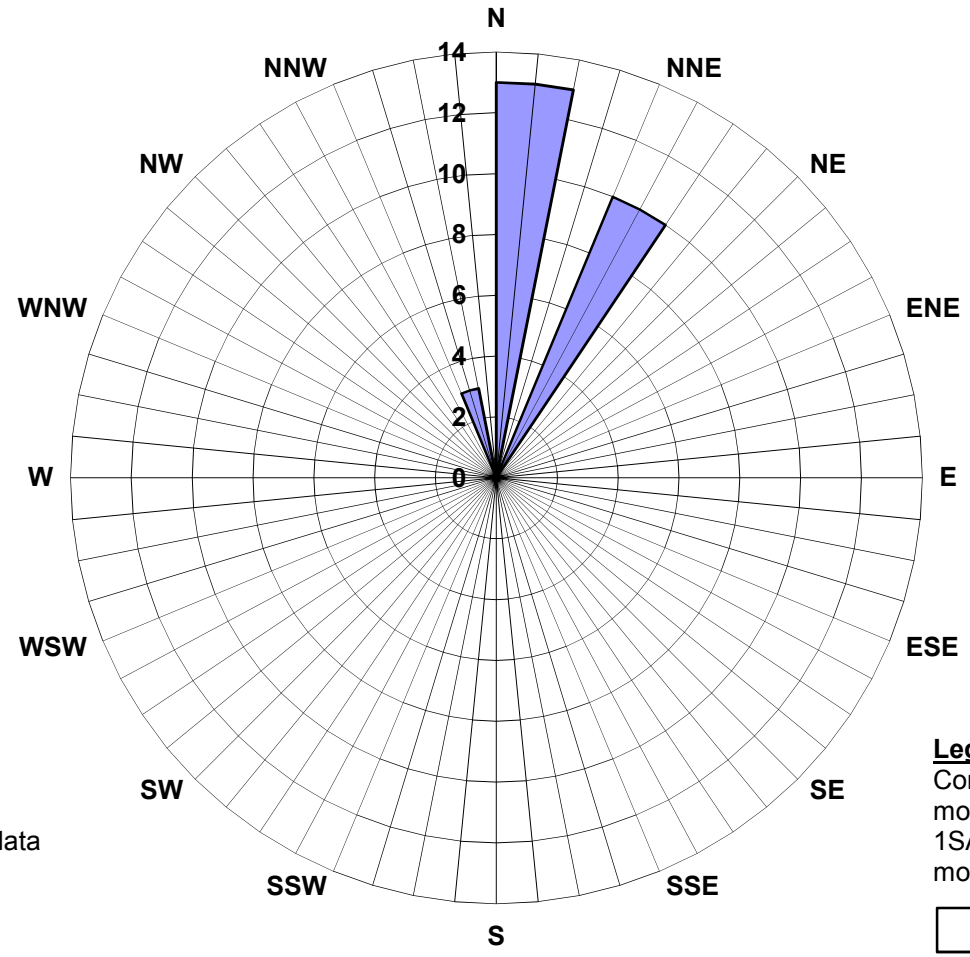
XREFS: IMAGES: PROJECTNAME: ---
47959X01

FIGURE 11

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California

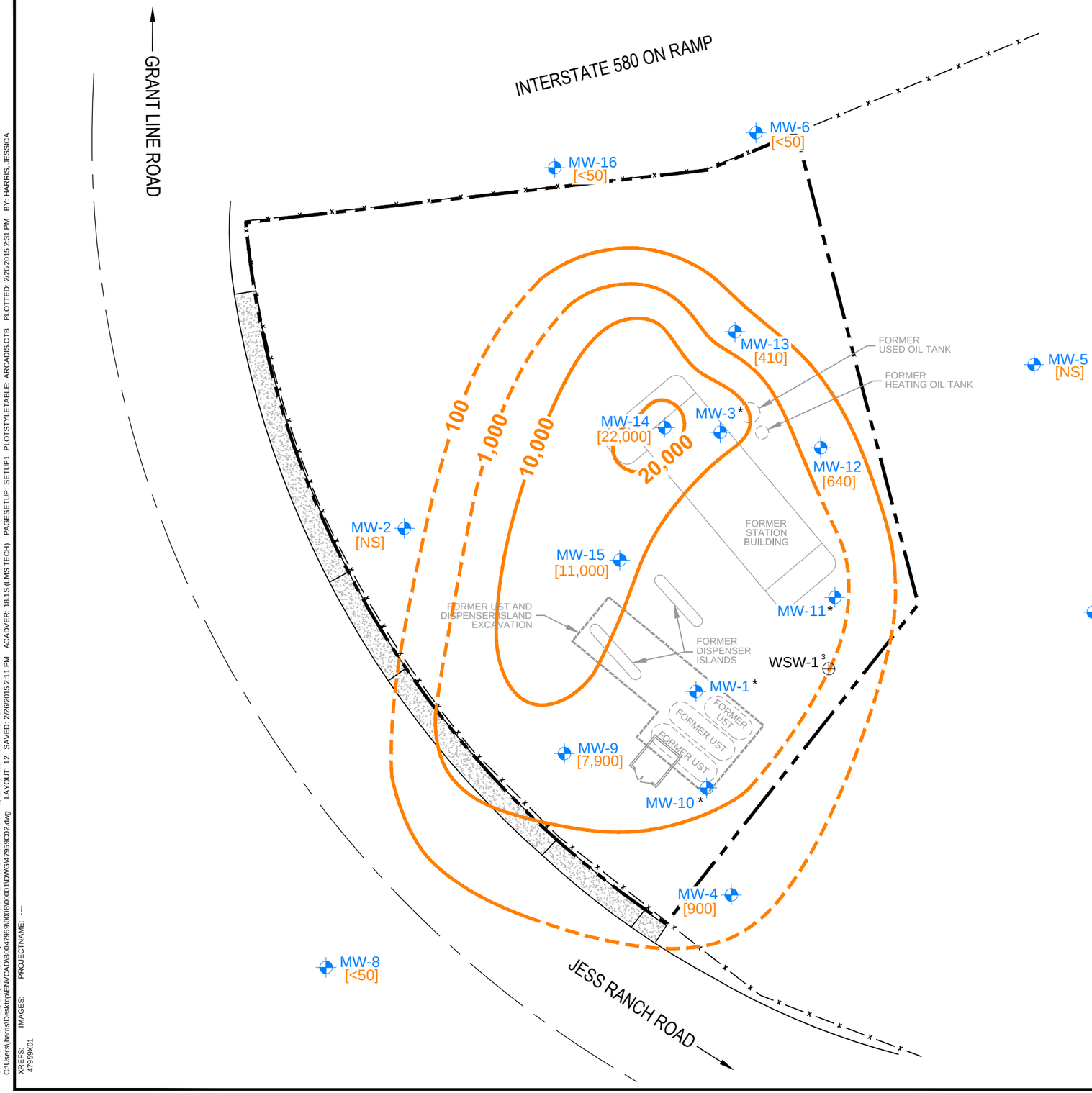


Note
Groundwater gradient and flow data beginning 1SA05 through 1Q12 monitoring events provided by Gettler Ryan, Inc.

Legend
Concentric circles represent monitoring events beginning 1SA05 through 4Q14 quarterly montoring event.

Groundwater Flow Direction

1/28/2015
\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 4 - Groundwater Flow Direction Rose Diagram 97127



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 — MONITORING WELL LOCATION
- WSW-1 — WATER SUPPLY WELL (LIVESTOCK)
- [TPH-GRO] — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- 1,000 — TPH-GRO ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- [NS] — NOT SAMPLED DURING FOURTH QUARTER 2014
- < — NOT DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT
- * — SEPARATE PHASE HYDROCARBONS (SPH) PRESENT IN WELL

NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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. WATER SUPPLY WELL (WSW-1) NOT USED TO CONTOUR.

0 40' 80'

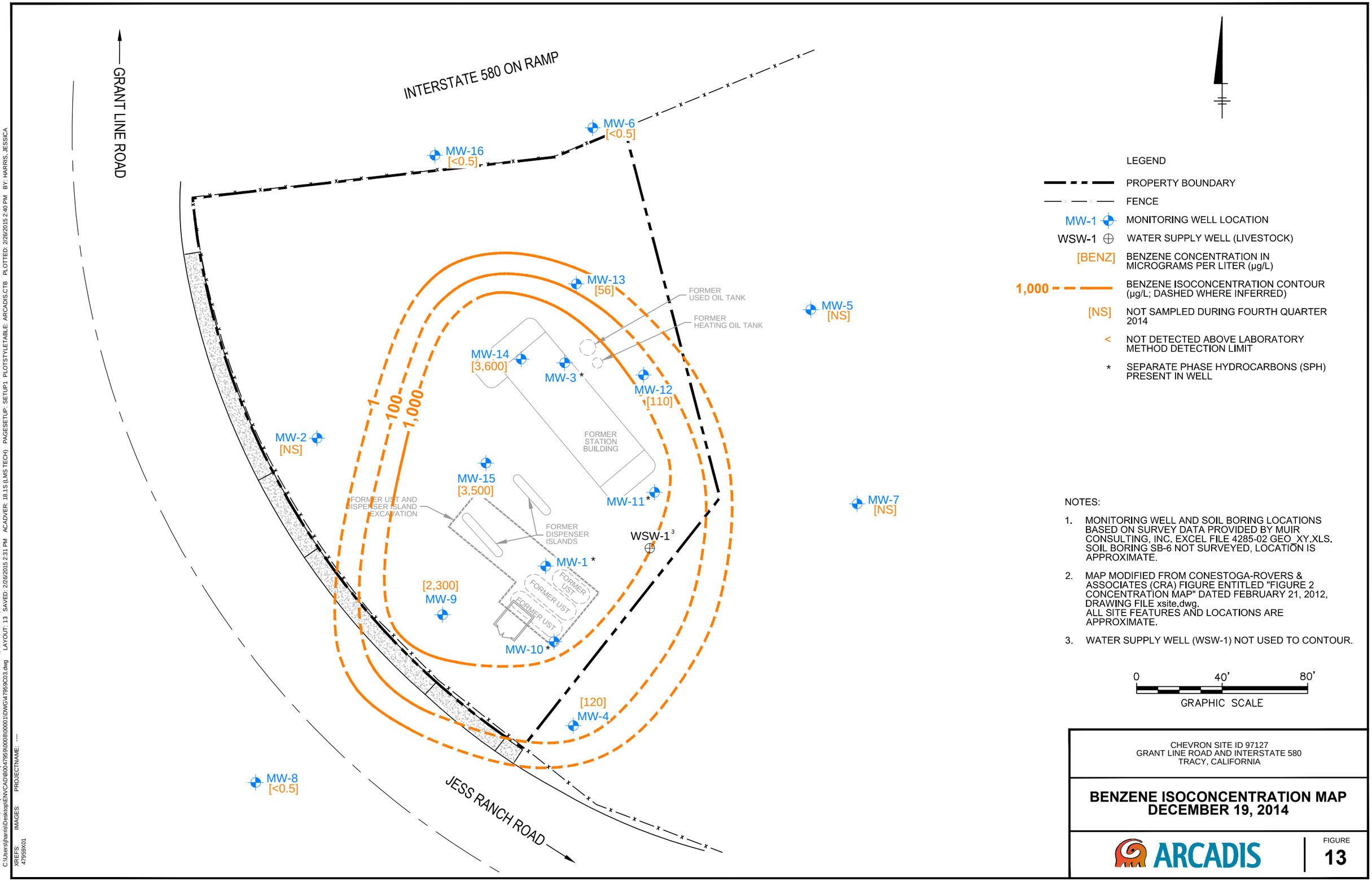
GRAPHIC SCALE

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

TPH-GRO ISOCONCENTRATION MAP DECEMBER 19, 2014

ARCADIS

FIGURE 12



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 — MONITORING WELL LOCATION
- WSW-1 — WATER SUPPLY WELL (LIVESTOCK)
- [BENZ] — BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- 1,000 — BENZENE ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- [NS] — NOT SAMPLED DURING FOURTH QUARTER 2014
- < — NOT DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT
- * — SEPARATE PHASE HYDROCARBONS (SPH) PRESENT IN WELL

NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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. WATER SUPPLY WELL (WSW-1) NOT USED TO CONTOUR.

0 40’ 80’

GRAPHIC SCALE

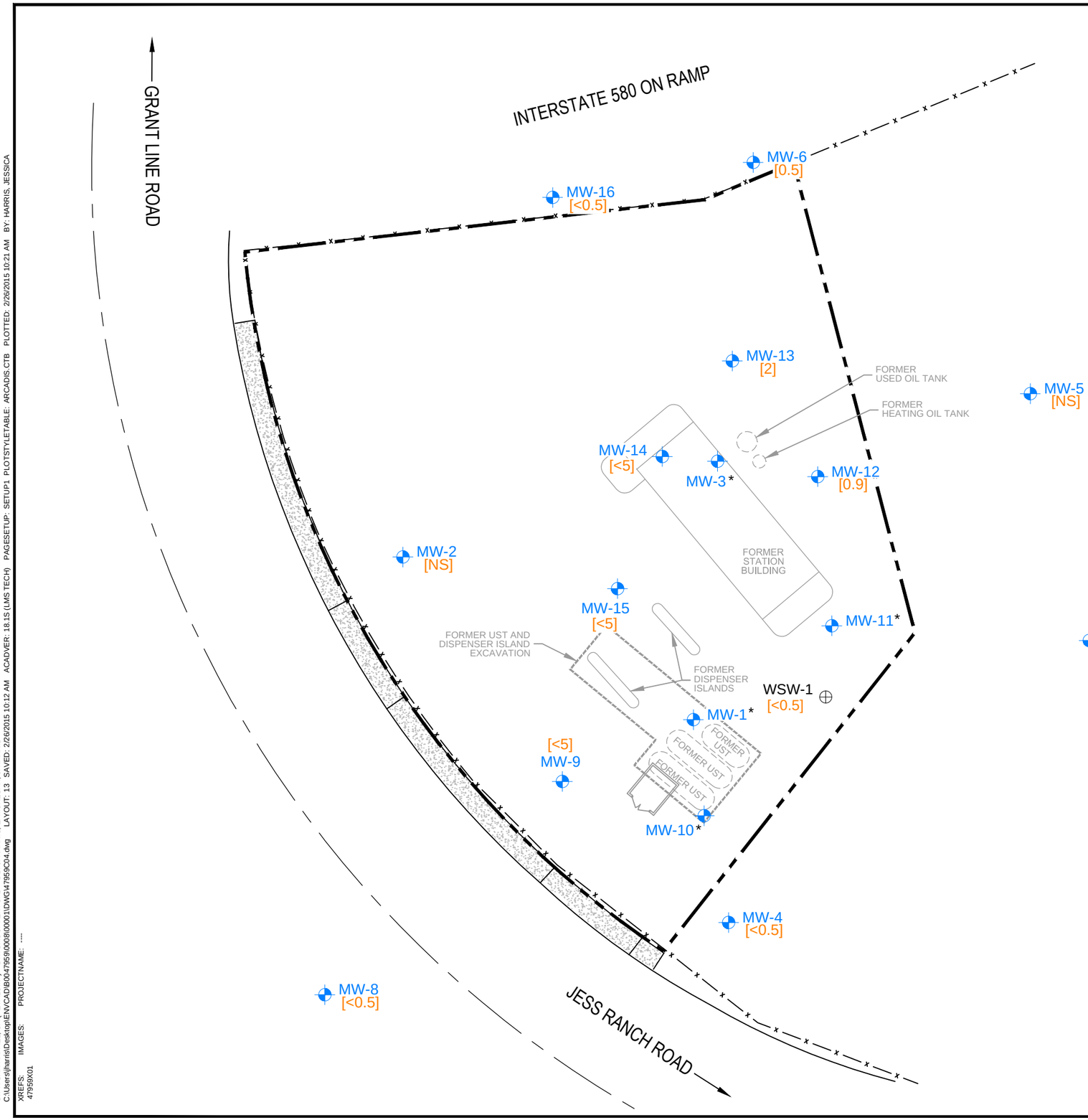
CHEVRON SITE ID 97127
GRANT LINE ROAD AND INTERSTATE 580
TRACY, CALIFORNIA

BENZENE ISOCONCENTRATION MAP DECEMBER 19, 2014

ARCADIS

FIGURE 13

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS, E. MURESAN, J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B004795900081000011DWG\47959C03.dwg LAYOUT: 13 SAVED: 2/26/2015 2:31 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/26/2015 2:40 PM BY: HARRIS, JESSICA
XREFS: 47959X01 IMAGES: PROJECTNAME: ----



LEGEND

- PROPERTY BOUNDARY
- FENCE
- MW-1 — MONITORING WELL LOCATION
- WSW-1 — WATER SUPPLY WELL (LIVESTOCK)
- [MTBE] — MTBE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- [NS] — NOT SAMPLED DURING FOURTH QUARTER 2014
- < — NOT DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT
- * — SEPARATE PHASE HYDROCARBONS (SPH) PRESENT IN WELL

NOTES:

1. MONITORING WELL AND SOIL BORING LOCATIONS BASED ON SURVEY DATA PROVIDED BY MUIR CONSULTING, INC. EXCEL FILE 4285-02 GEO_XY.XLS. SOIL BORING SB-6 NOT SURVEYED, LOCATION 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.

0 40’ 80’

GRAPHIC SCALE

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

MTBE CONCENTRATION DISTRIBUTION MAP DECEMBER 19, 2014

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FIGURE 14

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Appendix **A**

Agency Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

July 10, 2014

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

Mr. Onsori Ardavan
37 Victoria Drive
Atherton, CA 94027-4122

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: Request for Feasibility Study / Corrective Action Plan; 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 *Additional Site Assessment Report,* dated February 6, 2014 and the *First Quarter 2014 Groundwater Monitoring Report,* dated May12, 2014. The reports were prepared and submitted on your behalf by ARCADIS US, Inc. (ARCADIS). Thank you for submitting the reports.

Thank you also for attending the meeting of July 8, 2014, to further discuss these documents and the site. The meeting, between ACEH LOP and Land Use Programs staff, Chevron, ARCADIS, and Acorn Onsite, the septic system design consultant for the property owner, was conducted to discuss a strategy to integrate the timeline for site investigation and remediation, and the timeline for site redevelopment. As discussed in a directive letter dated July 9, 2014, the property owner failed to attend the meeting, and to provide a current site development update that would allow for the integration of the two timelines. To allow the integration of the two timelines, to the extent practicable, deadlines for the submittal of data by Mr. Onsori to Chevron were requested by August 9, 2014 (**not August 23, 2014 as inadvertently partly stated**), in the July 9, 2014 directive letter. The lack of data by August 9, 2014, will result in ACEH and Chevron proceeding with site cleanup without consideration of the redevelopment timeline.

Based on the review of the case file ACEH has the following technical comments, requests that you address the technical comments, and send us the documents requested below.

TECHNICAL COMMENTS

1. **Water Supply Well Destruction –** Based on the recent video log of the well casing, and as discussed in the directive letter dated July 9, 2014 to Mr. Ardavan, the upper portion of the existing water supply well is screened in the same water bearing zone contaminated by the release of petroleum fuels from the former service station at the site. Although groundwater concentrations from groundwater collected from the well are non-detectable, the well is essentially located within the core separate-phase and very high dissolved-phase plumes, and thus ACEH regards the well to be a highly capable vertical conduit for subsurface contamination and a public health risk associated with site development. Therefore, ACEH requires the documentation of the contracting of well destruction by the date identified below.
2. **Interim Remedial Actions (LNAPL Product Recovery) –** As discussed at the meeting, it is appropriate to resume recovery of Light Non-Aqueous Phase Liquid (LNAPL) at the subject site.

While the referenced site investigation report indicates that LNAPL mobility is stable and not migrating beyond the current extent, ACEH's review of the four LNAPL wells indicates the migration of LNAPL into wells MW-1, MW-3, MW-10, and MW-11 at different periods of time after their initial sampling ranged from 9 months to 16 years. This data does not support a stable non-migrating LNAPL plume. Ultimately this may affect the existing water supply well, located in proximity to three of these wells, without its destruction. Therefore, ACEH requests the identification, installation, and reporting on an appropriate continuous interim LNAPL recovery method by the date identified below. Please also document the planned installation of the downgradient well discussed at the meeting in this report.

3. **Feasibility Study / Draft Corrective Action Plan –** Although the referenced site investigation report indicates that historic efforts at LNAPL recovery have yielded poor results, the report also concludes that potentially significant volumes of LNAPL may be recovered. ACEH is in general agreement with these assessments, and notes that limited historic recovery efforts have documented sufficient LNAPL mobility at the site to allow recovery.

   At this time, a Draft Feasibility Study / Corrective Action Plan (FS/CAP) prepared in accordance with Title 23, California Code of Regulations, Section 2725 appears warranted. The FS/CAP must include a concise background of soil and groundwater investigations performed in connection with this case and an assessment of the residual impacts of the chemicals of concern (COCs) for the site and the surrounding area where the unauthorized release has migrated or may migrate. The FS/CAP should also include, but is not limited to, a detailed description of site lithology, including soil permeability, and most importantly, contamination cleanup levels and LTCP appropriate cleanup goals in accordance with the Central Valley Regional Water Quality Control Board (RWQCB) Basin Plan. Please note that soil cleanup levels should ultimately (within a reasonable timeframe) achieve water quality objectives (cleanup goals) for groundwater in accordance with the Central Valley RWQCB Basin Plan. Please specify appropriate cleanup levels and cleanup goals in accordance with 23 CCR Section 2725, 2726, and 2727 in the CAP.

   The FS/CAP should incorporate site development plans, including the septic system design and the location of the new water supply well, as provided to Chevron and ACEH by August 9, 2014. The CAP must evaluate at least three viable alternatives for remedying or mitigating the actual or potential adverse affects of the unauthorized release(s) besides the 'no action' and 'monitored natural attenuation' remedial alternatives. Each alternative shall be evaluated not only for cost-effectiveness but also its timeframe to reach cleanup levels and cleanup goals, and ultimately the Responsible Party must propose the most cost-effective corrective action. Please submit the Draft FS/CAP by the date identified below.

4. **Groundwater Monitoring –** Please continue to conduct quarterly groundwater monitoring at the subject site and submit report on the schedule listed below.

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:

- **August 9, 2014** – Septic System Design and New Water Supply Well Location for FS/CAP Design Consideration (See July 9, 2014 directive letter); File to be named: RO185_MISC_R_yyyy-mm-dd

- **August 15, 2014** – Second Quarter 2014 Groundwater Monitoring Report
  File to be named: RO185_GWM_R_yyyy-mm-dd

- **September 12, 2014** – Interim Remedial Action (LNAPL Recovery and Well Installation Report)
  File to be named: RO185_IR_R_yyyy-mm-dd

- **November 14, 2013** – Third Quarter 2013 Groundwater Monitoring Report
  File to be named: RO185_GWM_R_yyyy-mm-dd

- **December 12, 2014** – Draft FS / CAP
  File to be named: RO185_DRAFT_FS/CAP_R_yyyy-mm-dd

- **February 13, 2015** – Fourth Quarter 2014 Groundwater Monitoring Report
  File to be named: RO185_GWM_R_yyyy-mm-dd

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.

Sincerely,

Digitally signed by Mark E. Detterman
DN: cn=Mark E. Detterman, o, ou, email, c=US
Date: 2014.07.10 09:45:54 -07'00'

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: Ms. Alexis Fischer, Chevron Environmental Management Company, 6101 Bollinger Canyon Road, San Ramon, CA 94583; (sent via email to AFischer@chevron.com)

Tonya Russi, ARCADIS US, Inc, 950 Glenn Drive, Suite 125, Folsom, CA 95630
(sent via electronic mail to Tonya.Russi@arcadis-us.com)

Gary Grimm, Law Office of Gary J. Grimm, 2390 Vine Street, Berkeley, CA 94708, (sent via electronic mail to gjgrimm@mindspring.com)

Dilan Roe, ACEH, (sent via electronic mail to dilan.roe@acgov.org)
Mark Detterman, ACEH, (sent via electronic mail to 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/).

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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**REVISION DATE:** May 15, 2014
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** 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
   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**.

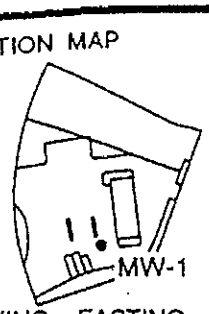
2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, 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 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.

Appendix B

Soil Boring Logs

LOCATION MAP



NORTHING 154.6 | EASTING 172.9 | ELEVATION 29.18

PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-1
PAGE 1 OF 2

PROJECT NO. 325-04.01
LOGGED BY: RWNT
DRILLER: GREAT SIERRA
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: DRY CORE
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020"
GRAVEL PACK: #2-/16 Lonestar

CLIENT: CHEVRON
DATE DRILLED: 12-8-92
LOCATION: Grant Line Road
HOLE DIAMETER: 10"
HOLE DEPTH: 39.5'
WELL DIAMETER: 4"
WELL DEPTH: 38'
CASING STICKUP: ~2.3

WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	RQD (%)	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT			Dp	0	0	1–2				SC	CLAYEY SAND - FILL: dark grayish brown; low to moderate plasticy; 40% clay; 15% silt; 45% fine to medium sand; weak subangular blocky; minor angular gravel fragments; loose; no product odor.
		1				3–4				GC-SC	CLAYEY GRAVEL to CLAYEY SAND - FILL: dark gray; 60% clay; 10% silt; 30% medium to coarse sand with 1" angular gravel fragments throughout; minor iron oxide staining and caliche; medium dense; weak product odor.
	1			16		5–6					
		2			0	7–8				SC	CLAYEY SAND: dark greenish gray; low to medium plasticity; 50% clay; 15% silt; 35% medium to coarse sand; granular; loose texture; paleosol odor; no product odor.
						9–10					
		3			12	11–12					
				1		13–14				GC	SILTY GRAVEL: silica cemented 1/4 - 1 1/4" diameter rounded quartz pebbles; poor core recovery.
						15				SS	SANDSTONE - (Neroly Formation): very dark greenish brown; 80-90% medium quartz, feldspar and mafic mineral grains subrounded with 10-20% coarse rounded 1/4 - 1" diameter conglomeratic pebbles; minor mica; local 1/4" bandof white altered feldspar rich zone perpendicular TCA; sandstone is granular; poorly sorted and is derived from intermediate volcanic rocks (andesite); low hardness; no product odor.
BENTONITE		4	Dry		16	16–17					
				3		18–19					@19': weak product odor increasing to strong product odor at 23'.
SAND		5				20–21					
					32	22					

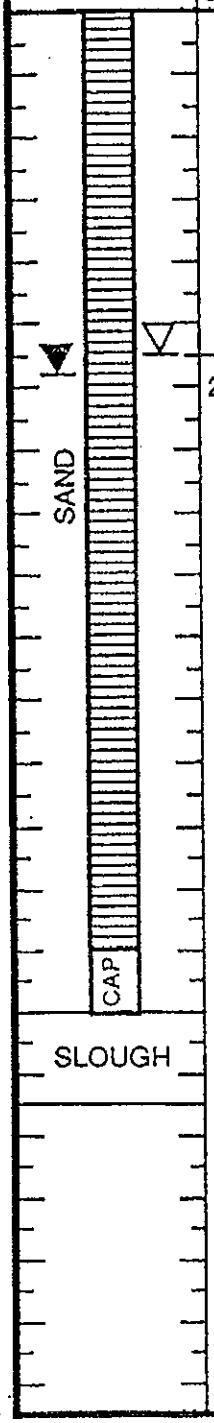
See Page One

PACIFIC ENVIRONMENTAL GROUP, INC.

WELL MW-1
PAGE 2 OF 2

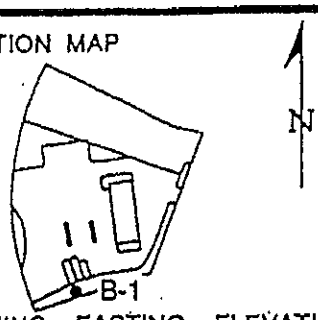
PROJECT NO. 325-04.01
LOGGED BY:
DRILLER:
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT:
DATE DRILLED:
LOCATION:
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:



CORE BOX RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY / SAMPLE ANALYZED	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
				23			SS	SANDSTONE (Neroly Formation): continued
5	Dp-Mst	>200		24				@23': 1/2" altered epidotized vein at 35° TCA, horizontal parting common; very strong product odor at 25' and continues with depth.
				25				
				26				
6			22	27				
2				28				
	Dp	>220		29				@29': bedding at 80° TCA.
7	Dp		53	30				
				31				@31': moderate product odor; equigranular sandstone.
				32				@32': poor core recovery due to saturation of sandstone; weak product odor.
8	Wt		0	33				
		70		34				
				35				
				36				
9	Wt		12	37				
	Dp			38				@38': 5" bed of subrounded conglomerate pebbles from 1/4" to 2" diameter; no product odor.
		6		39				@39': 1mm wide chlorite veinlets at 12° TCA.
				40				BOTTOM OF BORING AT 39.5'
				41				
				42				
				43				
				44				

LOCATION MAP



NORTHING EASTING ELEVATION
154.6 172.9 29.18

PACIFIC ENVIRONMENTAL GROUP, INC.

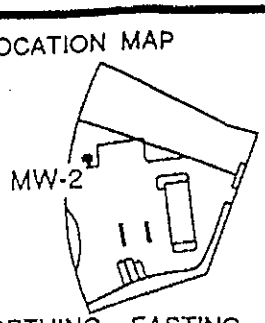
BORING NO.B-1
PAGE 1 OF 1

PROJECT NO. 325-04.01
LOGGED BY: RWNT
DRILLER: GREAT SIERRA
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: DRY CORE
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: CHEVRON
DATE DRILLED: 12-9-92
LOCATION: Grant Line Road
HOLE DIAMETER: 6"
HOLE DEPTH: 22'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
Back Filled With Grout			Mst			1				SP	SAND - FILL: variable color from yellow to dark yellowish brown; no plasticity; 15% clay; 15% silt; 70% fine to medium sand; subrounded; minor wood fragments; local rooted peds of gray clay; loose; no product odor.
			Dp			2				SM	SILTY SAND - FILL: brown; low plasticity; 15% clay; 25% silt; 60% fine to medium sand; loose; subrounded gravel to 1/2" diameter; no product odor.
				0		3					
						4					
						5				SC	CLAYEY SAND - FILL: low plasticity; dark grayish brown; 30% clay; 15-20% silt 50-55% fine to medium sand; abundant angular to 1-1/2" diameter gravel fragments; no product odor.
	1	1	Mst			6					
				0		7				CL	CLAY - FILL: very dark greyish brown; low plasticity; subangular conglomeratic pebbles in dark gray sandy clay matrix; 60% clay; 20% silt; 20% fine to coarse sand; silty texture; angular coarse sand fragments throughout; rare iron oxide blebs; soft; no product odor.
			Mst			8					
						9					
		2				10					
						11					
				2		12					
			Mst-Wt	11		13				SM	SILTY SAND - FILL: grayish green; no to low plasticity; 15% silt;10% clay; 75% medium to coarse sand; subrounded coarse sand pebbles; loose; slight product odor.
		3				14					
						15					SANDSTONE (Neroly Formation): variable color from white to very dark gray brown; 10% clay;10% silt; 80% medium quartz and weathered mafic minerals and iron oxide altered feldspars, subangular; abundant to 1/2" clastic fragments; weak fracturing; intragranular porosity; hard; no to weak product odor.
						16					
				15		17				SS	@19': very dark gray; 10% fines; 90% fine to medium sand; subangualr granular sucrosic texture; weak fracturing and alteration; dense; no to weak product odor.
		4				18					
						19					@20': bedding at 77° TCA.
			Dp		26	20					@22': moderate product odor.
						21					
				>200		22					BOTTOM OF BORING AT 22'

LOCATION MAP



NORTHING 270.1 | EASTING 131.9 | ELEVATION 27.22

PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-2

PROJECT NO. 325-04.01
LOGGED BY: RWNT
DRILLER: GREAT SIERRA
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: DRY CORE
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020"
GRAVEL PACK: #2-/16 Lonestar

CLIENT: CHEVRON
DATE DRILLED: 12-10-92
LOCATION: Grant Line Road
HOLE DIAMETER: 8"
HOLE DEPTH: 37'
WELL DIAMETER: 2"
WELL DEPTH: 36'
CASING STICKUP: ~2.1

WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT	1	1	Dp	0	16	1–7			SC	CLAYEY SAND - FILL: brown to dark brown; low plasticity; 25% clay; 15% silt; 60% medium sand; abundant subangular lithic fragments throughout; loose; no product odor.
						3–7			SS	SANDSTONE (Neroly Formation): >90% fine to medium sand as subangular quartz and mafic mineral grains and weakly altered feldspar; sucrosic texture; weak alteration; moderate to hard; no product odor.
						5–6				@2-5.5': moderate alteration evident as iron oxide surrounding up to 10% rounded 1/4 - 1" conglomeratic pebbles; 50% pebbles from 2-3'.
						7				@5': bedding attitude at 55° TCA.
		2	Dp	0	8	11–13				
		3	Mst	0	0	14–19				@14-19': loose; unconslidated sandstone; no core recovery.
BENTONITE										
SAND	2	4		0	100	20–22				@20': pebbles; brown to dark brown; matrix is >90% quartz and altered chloritic minerals; ~5-20% intergranular porosity; angular grains; pebbles are subangular, 1/4 - 1" diameter pebbles weathered by iron oxide and manganese oxide; hard; no product odor.

See Page One

PACIFIC ENVIRONMENTAL GROUP, INC.

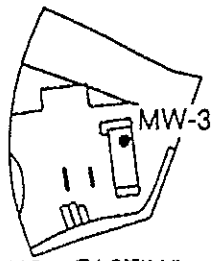
WELL MW-2
PAGE 2 OF 2

PROJECT NO. 325-04.01
LOGGED BY:
DRILLER:
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT:
DATE DRILLED:
LOCATION:
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	RQD (%)	DEPTH (FEET)	RECOVERY	SAMPLE ANALYZED	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
SAND / CAP	2	5	Dp-Mst	0	6	23–27				SS	SANDSTONE (Neroly Formation): continued @25-26': sandy claystone; brown to dark brown; fine sandy texture; horizontal platy fracturing; rare mineral grain solution cavities; moderate hardness; no product odor. @27.5': parting common at 80° TCA. @28.5-29.3': sandy claystone; brown to dark brown; fine sandy texture; horizontal platy fracturing; rare mineral grain solution cavities; moderate hardness; no product odor.
			Wt	0		28–29					
	3	6	Mst		0	30–31					@31.5': bedding at 75° TCA.
			Wt	0		32–34					@33.3-34': brecciated claystone as described above; rare biotite; moderate hardness; crushed fracturing; no product oodor. @34-36': Neroly Formation; intense parting at 76° TCA.
		7	Dp		0	35–36					
			Wt	1		37					@36-36.2': brecciated claystone as described above; rare biotite; moderate hardness; crushed fracturing; no product oodor.
						38–44					BOTTOM OF BORING AT 37'

LOCATION MAP



NORTHING	EASTING	ELEVATION
220.3	242.3	29.26

PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-3

PROJECT NO. 325-04.01
LOGGED BY: RWNT
DRILLER: GREAT SIERRA
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: DRY CORE
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020"
GRAVEL PACK: #2-/16 Lonestar

CLIENT: CHEVRON
DATE DRILLED: 12-10-92
LOCATION: Grant Line Road
HOLE DIAMETER: 8"
HOLE DEPTH: 40'
WELL DIAMETER: 2"
WELL DEPTH: 37.5'
CASING STICKUP: ~2.3

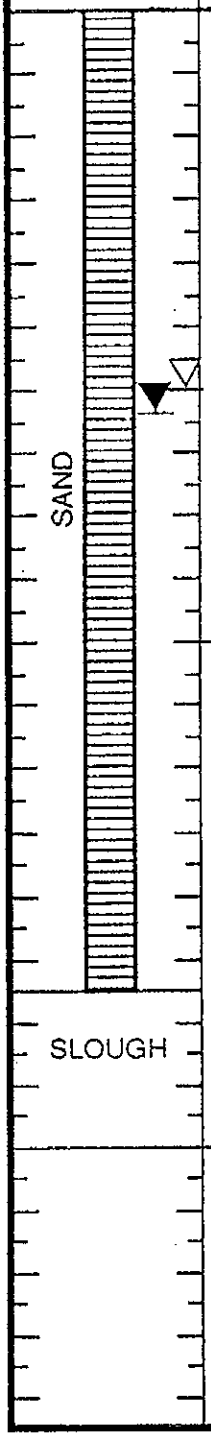
WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT	1	1	Dp			1			SC	CLAYEY SAND - FILL: moderate plasticity; 50% clay; 10% silt; 40% fine to medium sand; occasional to 3" angular lithic fragments throughout; minor roots; soft; no product odor.
						2				@1': 3-4" asphalt layer
						3			CL	SANDY CLAY - FILL: yellowish brown; medium plasticity; 65% clay; 10% silt; 25% fine to medium sand; subangular blocky peds; calcium carbonate and iron oxide blebs and fracture fills; in part lithified with low hardness; minor rounded to 1" pebbles; rare manganese oxide; stiff; no product odor.
						4				
						5				
					0	6				
		2				7			SP	SAND (Neroly Formation): black; <15% fines; 85% fine to medium, subangular, volcanically derived sand; poorly graded; massive; weathered feldspar grains; weakly oxidized; poor recovery; loose; no product odor.
			Mst	0		8				
						9				
						10				
					0	11				
		3				12				
						13				
						14				
				3		15			SS	CONGLOMERATIC SANDSTONE (Neroly Formation): matrix as sand above, but lithified in part; subrounded pebbles to 2" diameter; minor calcium carbonate and iron oxide around pebble edges; intense fracturing; as strong iron oxide alteration throughout matrix from 16-17' and 20-21'.
		4	Dp		0	16				
						17				
						18				
		5			0	19				
			Wt			20				@17-18': rounded 2" diameter pebbles recovered; no sand matrix.
				0		21				@21': see next page.
SAND		6			24	22				
BENTONITE										

PACIFIC ENVIRONMENTAL GROUP, INC.

See Page One

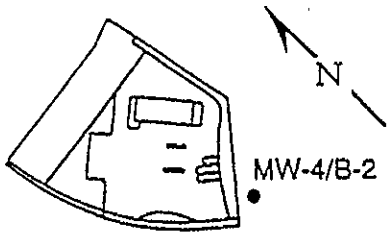
PROJECT NO. 325-04.01
LOGGED BY:
DRILLER:
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT:
DATE DRILLED:
LOCATION:
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:



CORE BOX	RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
			16		23				SS	SANDSTONE (Neroly Formation): black; 90% subangular quartz and weathered mafic minerals; minor feldspar grains fine to medium grained; 10% fines; sucrosic texture; homogeneous; moderate to intense fracturing; weakly weathered; low hardness; no product odor.
					24					@22-24': slight clay enriched zone; brittle subhorizontal parting.
					25					
2		Dp			26					@23.5': bedding at 62° TCA with perpendicular fracture running at 77° TCA.
	7				27					
				6	28					@28': bedding at 77° TCA with similar high angle fracture perpendicular to bedding at 25° TCA; increased hardness due to cementation; parting common along bedding planes at 75° and 83° TCA.
		Dp	1		29					
					30					@30': slight product odor.
					31					
					32					
	8			0	33					
					34					
					35					
			0		36					@36': bedding at 55° TCA.
3					37					
		Mst-			38					@38': high angle fractures at 30° TCA and 11° TCA.
	9	Dp		0	39					
			2		40					BOTTOM OF BORING AT 40'
					41					
					42					
					43					
					44					

LOCATION MAP

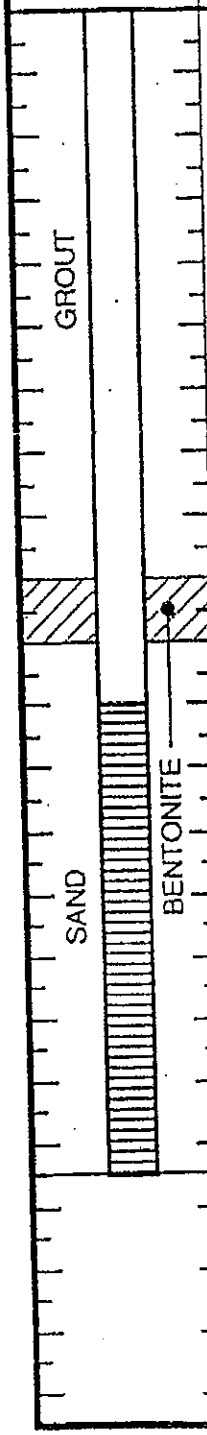


PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-4/B-2
PAGE 1 OF 1

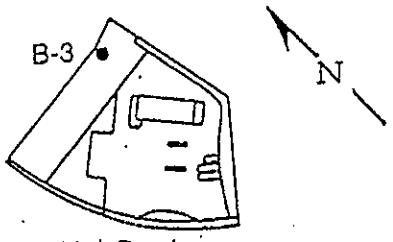
PROJECT NO. 325-04.04
LOGGED BY: AFW
DRILLER: Great Sierra
DRILLING METHOD: AIR
SAMPLING METHOD: CORE
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020"
GRAVEL PACK: 2 X 12 Sand

CLIENT: Chevron
DATE DRILLED: 5-21-93
LOCATION: Grant Line Road
HOLE DIAMETER: 8 7/8"
HOLE DEPTH: 37'
WELL DIAMETER: 2"
WELL DEPTH: 37"
CASING STICKUP: 3'



MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
			2			SC	CLAYEY SAND - FILL: dark brown; 30-40% fines; abundant lithic fragments; loose; no product odor.
Dp	0	push	4				
			6				
			8				
Dp	0.1		10				
			12			SS	SANDSTONE (Neroly Formation): olive green >90% fine to medium sand; subangular quartz, lithic fragments, and weakly altered feldspar; faint product odor.
			14				
			16				
			18				
			20				
			22				
			24				
			26				
			28				
Wt	2.0		30				@30': as above; no product odor.
			32				
			34				
			36				
			38				
			40				
			42				
			44				

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

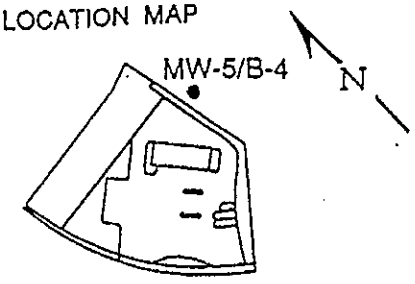
BORING NO. B-3
PAGE 1 OF 1

PROJECT NO. 325-04.04
LOGGED BY: CJM
DRILLER: Great Sierra
DRILLING METHOD: AIR
SAMPLING METHOD: CORE
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: Chevron
DATE DRILLED: 5-21-93
LOCATION: Grant Line Road
HOLE DIAMETER: 94 mm
HOLE DEPTH: 25'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
Backfilled With Cement	Mst	0		2, 4, 6, 8, 10, 12, 14			SS	SANDSTONE (Neroly Formation): green; >85% coarse sand; subangular; lithic fragments; moderate to hard no product odor.
	Dp	0		16, 18, 20, 22, 24				@15': bluish/green; 90% medium to fine sand; quartz; no lithic fragments; moderate to hard, no product odor.
				26, 28, 30, 32, 34, 36, 38, 40, 42, 44				BOTTOM OF BORING 25'

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

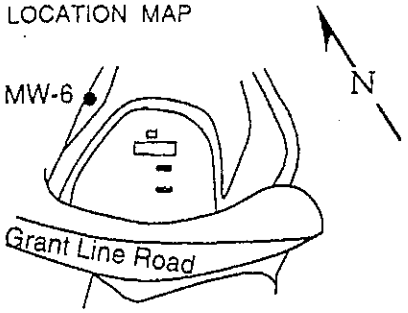
WELL NO. MW-5/B-4
PAGE 1 OF 1

PROJECT NO. 325-04.04
LOGGED BY: CJM
DRILLER: Great Sierra
DRILLING METHOD: AIR
SAMPLING METHOD: CORE
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020"
GRAVEL PACK: 2 X 12 SAND

CLIENT: Chevron
DATE DRILLED: 5-25-93
LOCATION: Grant Line Road
HOLE DIAMETER: 8 7/8"
HOLE DEPTH: 25'
WELL DIAMETER: 2"
WELL DEPTH: 25'
CASING STICKUP: 3'

WELL COMPLETION	MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT, BENTONITE, SAND				2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24			SS	SANDSTONE: greenish brown; 90% coarse sand; lithic fragments; no product odor.
	Mst	0						@10': grayish brown; 90% coarse to medium sand; subrounded to subangular; lithic fragments; hard to very hard; no product odor.
	Wt	0						
				26, 28, 30, 32, 34, 36, 38, 40, 42, 44				BOTTOM OF BORING 25'

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

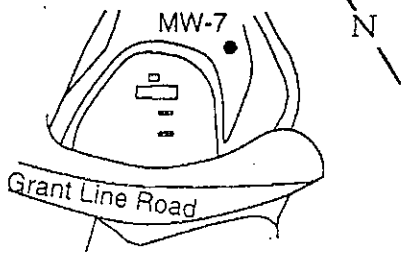
WELL NO. MW-6
PAGE 1 OF 1

PROJECT NO. 325-004.1B
LOGGED BY: MOTO
DRILLER: ALL TERRAIN
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: CORE
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.020"
SAND PACK: 2 X 12 SAND

CLIENT: CHEVRON
DATE DRILLED: 10-27-95
LOCATION: Grant Line Road
HOLE DIAMETER: 6.5"
HOLE DEPTH: 30'
WELL DIAMETER: 2"
WELL DEPTH: 30'
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT				2				TOPSOIL
				4				
	Dp	0		6			SS	SANDSTONE (Neroly Formation): gray; 15% fines; 45% fine to coarse sand; 40% subangular to subrounded gravel to 1" diameter; hard; no product odor.
	Mst	0		8				@8-12': alternating 1" beds of sandstone and conglomeratic lenses; scour marks; no product odor.
				10				
BENTONITE				12				
	Wt	0		14				@13-14': coarsens downward.
SAND				16				
				18				@18-26': dark gray; 15% fines; 85% fine to medium sand; subangular quartz and weathered mafics; alternating crossbeds of medium sand and coarse sand; no product odor.
	Wt	0		20				
				22				
	Wt	0		24				
				26				@26-30': predominately fine to medium grained sand; no product odor.
				28				
	Wt	0		30				
				32				BOTTOM OF BORING AT 30'
				34				
				36				
				38				
				40				
				42				
				44				

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-7
PAGE 1 OF 1

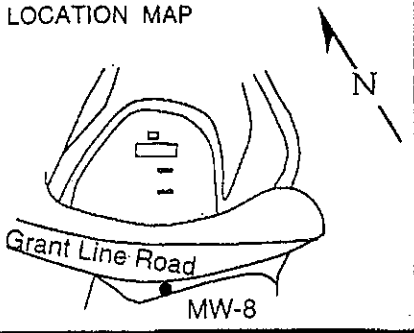
PROJECT NO. 325-004.1B
LOGGED BY: MOTO
DRILLER: ALL TERRAIN
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: CORE
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.020"
SAND PACK: 2 X 12 SAND

CLIENT: CHEVRON
DATE DRILLED: 10-24-95
LOCATION: Grant Line Road
HOLE DIAMETER: 6.5"
HOLE DEPTH: 25'
WELL DIAMETER: 2"
WELL DEPTH: 25'
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
				0–4				ALLUVIUM: topsoil
	Dp	0		6			Slst	SANDY SILTSTONE (Neroly Formation): olive; strongly weathered; vertical root holes to 1 cm common; no product odor.
	Dp	0		10				
	Dp	0		12			SS	SANDSTONE (Neroly Formation): light gray to olive; 85% fine to medium grained sand; 15% coarse sand; very hard; no product odor.
	Wt	0		14				@11': verticalar calcite veins to 1/2" diameter common; no product odor.
				16			SS	CONGLOMERATIC SANDSTONE (Neroly Formation): matrix as above; matrix is partially lithified subrounded pebbles to 2" diameter; very hard; no product odor.
	Wt	0		20				
	Wt	0		24			SS	SANDSTONE (Neroly Formation): gray; 10% fines; 80% medium sand; 10% coarse sand common; scour marks; 1/4" thick lenses of coarse grained sand; well lithified; no product odor.
				26–44				BOTTOM OF BORING AT 25'

GROUT
BENTONITE
SAND

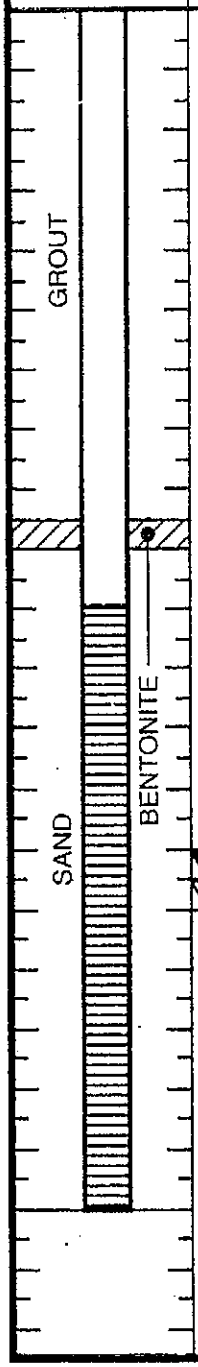
LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-8
PAGE 1 OF 1

PROJECT NO. 325-004.1B	CLIENT: CHEVRON
LOGGED BY: MOTO	DATE DRILLED: 10-24, 25, 27-95
DRILLER: ALL TERRAIN	LOCATION: Grant Line Road
DRILLING METHOD: AIR ROTARY	HOLE DIAMETER: 6.5"
SAMPLING METHOD: CALMOD/CORE	HOLE DEPTH: 40'
CASING TYPE: SCH 40 PVC	WELL DIAMETER: 2"
SLOT SIZE: 0.020"	WELL DEPTH: 40'
SAND PACK: 2 X 12 SAND	CASING STICKUP: NA



MOISTURE CONTENT	PID	PENETRATION (BLOWS/FT.)	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
			2				SS	SANDSTONE (Neroly Formation): dark gray; 15% fines; 85% fine to medium subangular sand; weathered feldspars; massive; weakly oxidized; well sorted; no product odor.
Dp	0		4					
			6					
			8					
Dp	0		10					@10': dark bluish gray to black; no product odor.
			12					
			14					
Dp	0		16					
			18					@17': light gray; 85% fine to medium sand; 15% coarse sand; subrounded to subangular; weakly altered feldspars; massive; very hard; no product odor.
Dp	0		20					
			22				Slst	SANDY SILTSTONE: pinkish gray to brown; fine sandy texture; occasional mineral grain solution cavities; massive; manganese oxide common; moderate hardness; no product odor.
Mst	0		24					
			26					
			28					
Wt	0		30				SS	CONGLOMERATIC SANDSTONE (Neroly Formation): grayish brown; 10% fines; 15% fine to medium sand; 75% rounded pebbles to 2" diameter; minor iron oxide staining around pebble edges; hard; no product odor.
			32					
Wt	0		34					@30-33': rounded pebbles to 2" diameter recovered; no sand matrix.
			36					@33-40': conglomeratic sandstone; 10% fines; 15% medium sand; 75% rounded pebbles to 4" diameter; pebbles as volcanics and andesite common; matrix is strongly oxidized; hard; no product odor.
			38					
			40					BOTTOM OF BORING AT 40'
			42					
			44					

Conestoga-Rovers & Associates
10969 Trade Center Drive, Suite 107
Rancho Cordova, CA
Telephone: 916-889-8900
Fax: 916-889-8999

BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-9
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	22-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	22-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	330.11 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	332.56 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	27 to 37 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.5 fbg (22-Aug-11) ▽
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	30.6 fbg (26-Aug-11) ▼
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**FILL - Silty SAND:** Very pale light brown; dry; non-plastic; loose; medium to fine sand; fine to coarse gravel up to 1/3"-diam, angular.		Concrete
0.0		MW-9-5		5	ML		**FILL - Sandy SILT:** Dark brown; moist; low plasticity; fine sand; fine gravel, angular.	5.0	
								8.5	
0.0		MW-9-10		10			**SANDSTONE:** Dusky brown; dry; fine to medium sand; quartz, mafic minerals; moderately weathered; loose; medium soft to hard; planar lineations observed.		Portland Type I/II
7.0		MW-9-15		15			@ 17 fbg: Brown to pale brown; moderate alterations; unconsolidated; fine to medium sand; coarse gravel, subrounded to rounded; oxidation staining.		
2.6		MW-9-20		20					
434		MW-9-25		25			@ 24.5 fbg: Greenish discoloration.		Bentonite Seal
							@ 27 fbg: Very hard; fine to medium sand.		Monterey Sand #2/16
							Sandy SILTSTONE: Brown to dark brown; wet; very fine sand; medium soft to soft hardness; platy fracturing. ▽		
72.0		MW-9-30		30					

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	**BORING/WELL NAME**	MW-9
JOB/SITE NAME	Former Chevron Service Station 9-7127	**DRILLING STARTED**	22-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	**DRILLING COMPLETED**	22-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
18.3		MW-9-35		35			**Sandy SILTSTONE:** Same soil matrix as above; brown to dark brown; fine sand; medium soft to soft hardness. ▼	37.0	2"-diam., 0.010" Slotted Schedule 40 PVC Bottom of Boring @ 37 fbg

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63---\6316-\631656\634676~1\631656-GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-10
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	23-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	329.40 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	331.77 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	27 to 37 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	27.0 fbg (23-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	29.8 fbg (26-Aug-11)
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		MW-10 -5		5	SM		FILL - Silty SAND with gravel: Pale brown; dry; hard; fine sand and gravel; concrete debris up to 4"-diam.	9.0	Concrete
3.0		MW-10 -10		10	CL		FILL - CLAY with sand: Dusky brown; moist; low plasticity; fine sand; fine gravel up to 1/5"-diam.	12.0	
					SM		FILL - Silty SAND with gravel: Dusky brown; moist; loose; fine sand; fine gravel up to 1/4"-diam.	13.5	Portland Type I/II
5.2		MW-10 -15		15			SANDSTONE: Dark brownish gray; dry/moist; medium soft hardness; fine to medium sand, quartz and mafic minerals; derived from volcanic rocks; subrounded to subangular; moderately weathered.		
1,037		MW-10 -20		20			@ 19 fbg: Poorly sorted; medium soft hardness; coarse gravel up to 1/3"-diam, subrounded to angular; moderately weathered.		
284		MW-10 -25		25					Bentonite Seal
1,254		MW-10 -27					@ 27 fbg: Wet.		Monterey Sand #2/16
227		MW-10 -30		30					

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	**BORING/WELL NAME**	MW-10
JOB/SITE NAME	Former Chevron Service Station 9-7127	**DRILLING STARTED**	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	**DRILLING COMPLETED**	23-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
96.2		MW-10 -35		35			@ 30 fbg: Same soil matrix as above; poor recovery due to saturated sandstone; dark brown; wet; loose; fine to medium sand, subrounded to subangular; coarse gravel gravel up to 1.5"-diam, subrounded to rounded; conglomerate pebbles.	37.0	2"-diam., 0.010" Slotted Schedule 40 PVC Bottom of Boring @ 37 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-11
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	23-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	329.62 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	331.98 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	24 to 34 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.0 fbg (23-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	31.5 fbg (26-Aug-11)
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	SAMPLE ID	DEPTH (fbg)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
			SM	FILL - Silty SAND: Tannish brown; dry; loose; fine to medium sand; coarse gravel up to 2"-diam. subrounded to subangular; concrete debris up to 4"-diam.	3.0
0.4	MW-11 -5	5	CL	FILL - Sandy CLAY: Brown to dark brown; dry/moist; low plasticity; fine to medium sand; fine gravel, subangular to angular; cobbles up to 3"-diam.	8.5
0.4	MW-11 -10	10	SM	FILL - Silty SAND with gravel: Moderate brown; dry; loose; fine to medium sand; coarse gravel up to 1 1/5"-diam, rounded to subangular.	
27.6	MW-11 -15	15		@ 14 fbg: Grayish brown.	16.0
			CL	FILL - Sandy CLAY with gravel: Grayish/blackish brown; moist/dry; low plasticity; firm; coarse gravel up to 3/4"-diam., rounded to subrounded.	19.5
17.1	MW-11 -20	20		SANDSTONE: Blackish brown; moist/dry; moderate hardness; moderately weathered; planar laminations observed; fine to medium sand; fine gravel up to 1/2"-diam., subangular to subrounded; reddish oxidation observed.	
157	MW-11 -25	25			
				@ 27 fbg: Fine gravel up to 1/4"-diam., subangular; highly weathered. ▽	
1,113	MW-11 -30	30		@ 28 fbg: Wet; saturated sandstone	

WELL DIAGRAM: Concrete; Portland Type I/II; Bentonite Seal; Monterey Sand #2/16; 2"-diam., 0.010" Slotted

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	**BORING/WELL NAME**	MW-11
JOB/SITE NAME	Former Chevron Service Station 9-7127	**DRILLING STARTED**	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	**DRILLING COMPLETED**	23-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
199		MW-11 -35		35			@ 30 fbg: Same soil matrix as above; wet; moderate to highly weathered, friable pieces. ▼	37.0	Schedule 40 PVC Bottom of Boring @ 37 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-12
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	24-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	330.27 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	332.53 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	22 to 32 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	27.0 fbg (24-Aug-11) ▽
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	29.0 fbg (26-Aug-11) ▼
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.2		MW-12 -5		5	SC		FILL - Clayey SAND: Light brown; dry; low plasticity; fine to medium sand; fine gravel up to 1/3"-diam., subrounded to angular.	7.0	Concrete
0.2		MW-12 -10		10	SM		FILL - Silty SAND with gravel: Yellowish brown; dry/moist; loose; fine to medium sand; fine gravel up to 1/4"-diam., subrounded; cobbles up to 3 1/2"-diam. @ 11.5 fbg: Dusky dark brown	13.5	Portland Type I/II
0.7		MW-12 -15		15			SANDSTONE: Dusky dark brown; dry/moist; medium soft hardness; moderately to highly weathered; fine to medium sand; fine to very coarse gravel to 1 1/2"-diam., rounded to subangular; conglomeritic; poorly graded; weakly oxidized.		Bentonite Seal
1.1		MW-12 -20		20			@ 20 fbg: Dusky yellow brown		Monterey Sand #2/16
1.6		MW-12 -25		25			@ 22 fbg: Dusky yellow brown; medium sand, quartz, weathered mafic minerals; coarse gravel up to 3/4"-diam., angular to subrounded. @ 25 fbg: Moderate hardness; intense fracturing observed; moderately oxidized gravel @ 27 fbg: Wet; saturated sandstone; little to no recovery to a depth of 34 fbg. ▽ ▼		2"-diam., 0.010" Slotted Schedule 40 PVC
				30					

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63---\6316--\631656\634676-1\631656-GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	**BORING/WELL NAME**	MW-12
JOB/SITE NAME	Former Chevron Service Station 9-7127	**DRILLING STARTED**	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	**DRILLING COMPLETED**	24-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
8.4		MW-12 -35		35			@ 34 fbg: Same soil matrix as above; saturated sandstone; fine to medium sand; coarse gravel up to 1"-diam., subrounded.	37.0	Bottom of Boring @ 37 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-13
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	24-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	329.50 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	331.60 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	24 to 39 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.0 fbg (24-Aug-11) ▽
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	30.1 fbg (26-Aug-11) ▼
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
0.3		MW-13 -5	ML	FILL - Sandy SILT: Pale brown; dry; loose; fine to medium sand; fine gravel, angular to subangular.	
				@ 7 fbg: Increasing clay content	9.5
1.1		MW-13 -10	SM	FILL - Silty SAND with gravel: Dusky dark brown; dry; loose; soft hardness; fine to medium sand; very coarse gravel up to 2"-diam., subrounded to subangular.	
3.3		MW-13 -15			16.5
			CL	FILL - CLAY with sand: Dusky yellowish brown; dry/moist; low to medium plasticity; fine sand.	19.5
1.1		MW-13 -20		SANDSTONE: Dusky yellowish brown; dry; moderate hardness; moderately weathered; highly fractured; fine to medium sand; fine gravel up to 1/4"-diam., subangular to rounded.	
2.7		MW-13 -25		@ 25 fbg: Brownish black gray; highly weathered; friable fragments of sandstone.	
				@ 28 fbg: Wet; little to no recovery to 31.5 fbg; heavily saturated sandstone. ▽	

WELL DIAGRAM: Concrete; Portland Type I/II; Bentonite Seal; Monterey Sand #2/16

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-13
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	24-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
1.0		MW-13 -35		35			**SANDSTONE:** Brownish black gray; wet; loose; fine to medium sand, mafic minerals observed, volcanic in nature; fine gravel up to 1/7"-diam.; highly weathered; friable.		2"-diam., 0.010" Slotted Schedule 40 PVC
0.0		MW-13 -40		40			@ 37 fbg: Tannish brown; dry. @ 38 fbg: Wet; saturated sandstone; fine sand; moderately weathered; highly fragmented, friable.		
0.3		MW-13 -45		45			@ 42 fbg: Increased clay content; intense fracturing; brittle. @ 45 fbg: Increased sand content; hard; moderately weathered; fine to medium sand; mafic minerals; moderately oxidized.	47.0	Bottom of Boring @ 47 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-14
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	24-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	329.89 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	332.24 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	22 to 32 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	27.0 fbg (24-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	30.9 fbg (26-Aug-11)
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	SAMPLE ID	DEPTH (fbg)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
			SM	**FILL - Silty SAND**: Moderate dusky brown; dry; loose; fine to medium sand; fine gravel up 1/5"-diam.	3.5	Concrete
1.1	MW-14 -5	5	CL	**FILL - Sandy CLAY**: Moderate dusky brown; dry; low plasticity; fine sand; fine gravel.	9.0	
0.7	MW-14 -10	10	SM	**FILL - Silty SAND with gravel**: Blackish brown; dry; compact; fine to medium sand; very coarse gravel up to 2"-diam., subangular to subrounded.	13.5	Portland Type I/II
2.0	MW-14 -15	15		**SANDSTONE**: Blackish brown; dry; hard; fine to medium sand; coarse gravel to 3/4"-diam., subrounded to subangular; moderately weathered; lithified.		
18.6	MW-14 -20	20		@ 18 fbg: Brownish black/gray; moist; soft hardness; moderately to highly weathered.		Bentonite Seal
						Monterey Sand #2/16
543	MW-14 -25	25		@ 25 fbg: Soft hardness; moderate to intense fracturing observed.		
				@ 27 fbg: Wet; little to no recovery to 34 fbg; highly saturated sandstone. ▽		2"-diam., 0.010" Slotted Schedule 40 PVC
		30				

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63----\6316--\631656\634676~1\631656-GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-14
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	24-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
18.2		MW-14 -35		35			@ 34 fbg: Same soil matrix as above; brownish black/gray; wet; hard; fine to medium sand; medium gravel up to 2/3"-diam., subrounded to angular; moderately to highly weathered.	37.0	Bottom of Boring @ 37 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-15
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	25-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	330.33 ft above msl
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	332.88 ft above msl
BORING DIAMETER	6"	SCREENED INTERVAL	25.5 to 35.5 fbg
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	29.0 fbg (25-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	31.3 fbg (26-Aug-11)
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**FILL - Silty SAND with gravel:** Pale brown; dry; loose; fine to medium sand; fine to medium gravel up to 1/2"-diam., subangular to subrounded.		Concrete
		MW-15 -5		5			@ 4 fbg: Yellowish brown; increasing gravel content; fine gravel up 1/3"-diam., rounded to subangluar.	7.5	
0.5		MW-15 -10		10			**SANDSTONE:** Dusky brown/gray; dry; hard, more competent sandstone; loose; fine to medium sand; very coarse gravel, fine cobble up to 3"-diam., subrounded to subangular; mafic minerals, minor calcium carbonate observed; moderately weathered; oxidized staining.		Portland Type I/II
6.2		MW-15 -15		15			@ 15 fbg: Hard; highly cemented.		
5.1		MW-15 -20		20			@ 18 fbg: Blackish dusky brown; dry/moist; loose; soft hardness; fine to medium sand; fine gravel up to 1/5"-diam., moderately to highly weathered.		Bentonite Seal
67.6		MW-15 -25		25			@ 25 fbg: Intense fracturing; very coarse gravel up to 1 1/2"-diam., subrounded to subangular.		Monterey Sand #2/16
195		MW-15 -30		30			@ 29 fbg: Wet; medium soft to hard; fine to medium sand; parting common at bedding planes. ▽		

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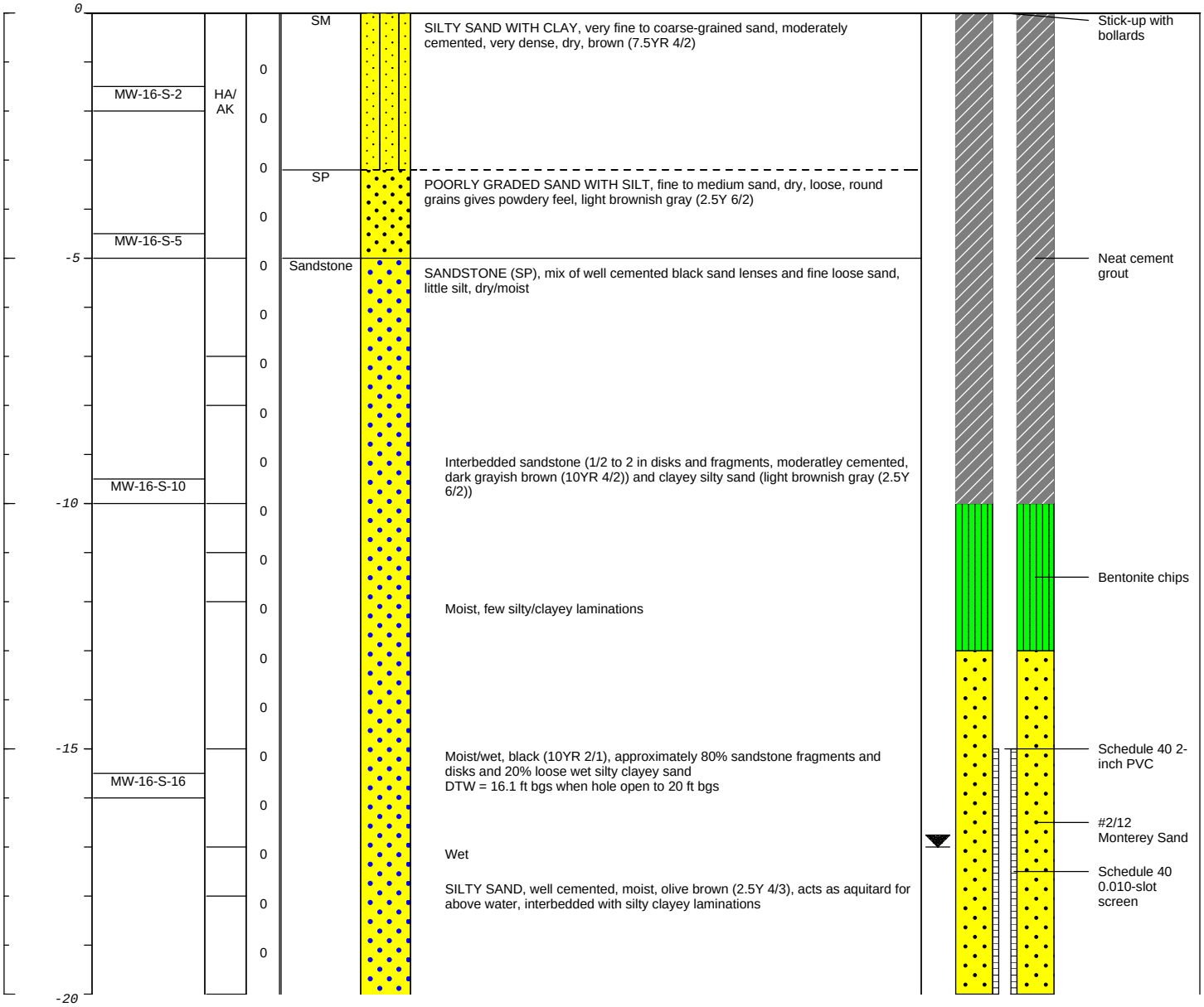
BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	**BORING/WELL NAME**	MW-15
JOB/SITE NAME	Former Chevron Service Station 9-7127	**DRILLING STARTED**	23-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	**DRILLING COMPLETED**	25-Aug-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
2.7		MW-15 -35		35			**SANDSTONE:** Same soil matrix as above; dusky black/brown; wet; loose; medium soft to hard; fine to medium sand; fine gravel up to 1/6"-diam.; parting at bedding planes (fractured); odor diminishes. ▼	38.0	2"-diam., 0.010" Slotted Schedule 40 PVC Bottom of Boring @ 38 fbg

Date Start/Finish: 7/14/14 **Drilling Company:** Cascade Drilling **Driller's Name:** Greg Schroth **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** 37.739622 **Longitude:** -121.585376 **Casing Elevation:** 318.20 ft amsl **Surface Elevation:** NA **Borehole Depth:** 30 ft bgs **First Water:** 17 ft bgs **Stable Water:** 16.1 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **MW-16** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**



Remarks: Abbreviations: ft amsl = feet above mean sea level, ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NA = not applicable, NR = no recovery

Longitude and latitude were measured using the North American Datum of 1983 (NAD 83). Top of casing was measured using the North American Vertical Datum of 1988 (NAVD 88).

Date Start/Finish: 7/14/14
Drilling Company: Cascade Drilling
Driller's Name: Greg Schroth
Drilling Method: Sonic
Barrel Size: 6 7/8 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude: 37.739622
Longitude: -121.585376
Casing Elevation: 318.20 ft amsl
Surface Elevation: NA
Borehole Depth: 30 ft bgs
First Water: 17 ft bgs
Stable Water: 16.1 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: MW-16
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-20			0			SAND WITH FINES, wet, little silt and clay, very dark grayish brown (2.5Y 3/2), moisture decreases with depth	
			0				
			0			SILTY SAND, well cemented, moist, dark grayish brown (2.5Y 4/2), acts as aquitard for above water, interbedded with loose silty laminations	
			0			SAND WITH FINES, wet, little silt and clay, very dark grayish brown (2.5Y 3/2), 80% sandstone, 20% loose silty sand	
			0			Trace to no fines, very fine to medium sand, 85% sandstone, 15% loose sand	
-25			0			50% sandstone, 50% loose silty clayey sand mud	#2/12 Monterey Sand; Schedule 40 0.010-slot screen
			0			SILTY SAND, well cemented, moist, very fine sand, very dark grayish brown (10YR 3/2)	
			0			POORLY GRADED SAND, wet, 20% sandstone, 80% loose sand, trace clay, very fine to medium grained sand	
			0			Silt increases, percentage of loose sand increases	
			0			80% sandstone disks	
-30			0			SILTY SAND, sandstone disks interbedded with silty clayey laminations of very fine to fine, loose sand, moist, dark grayish brown (10YR 4/2)	
						Total Depth = 30 feet bgs	
-35							
-40							

Remarks: Abbreviations: ft amsl = feet above mean sea level, ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NA = not applicable, NR = no recovery

Longitude and latitude were measured using the North American Datum of 1983 (NAD 83). Top of casing was measured using the North American Vertical Datum of 1988 (NAVD 88).

Date Start/Finish: 7/14/14
Drilling Company: Cascade Drilling
Driller's Name: Greg Schroth
Drilling Method: Sonic
Barrel Size: 6 7/8 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

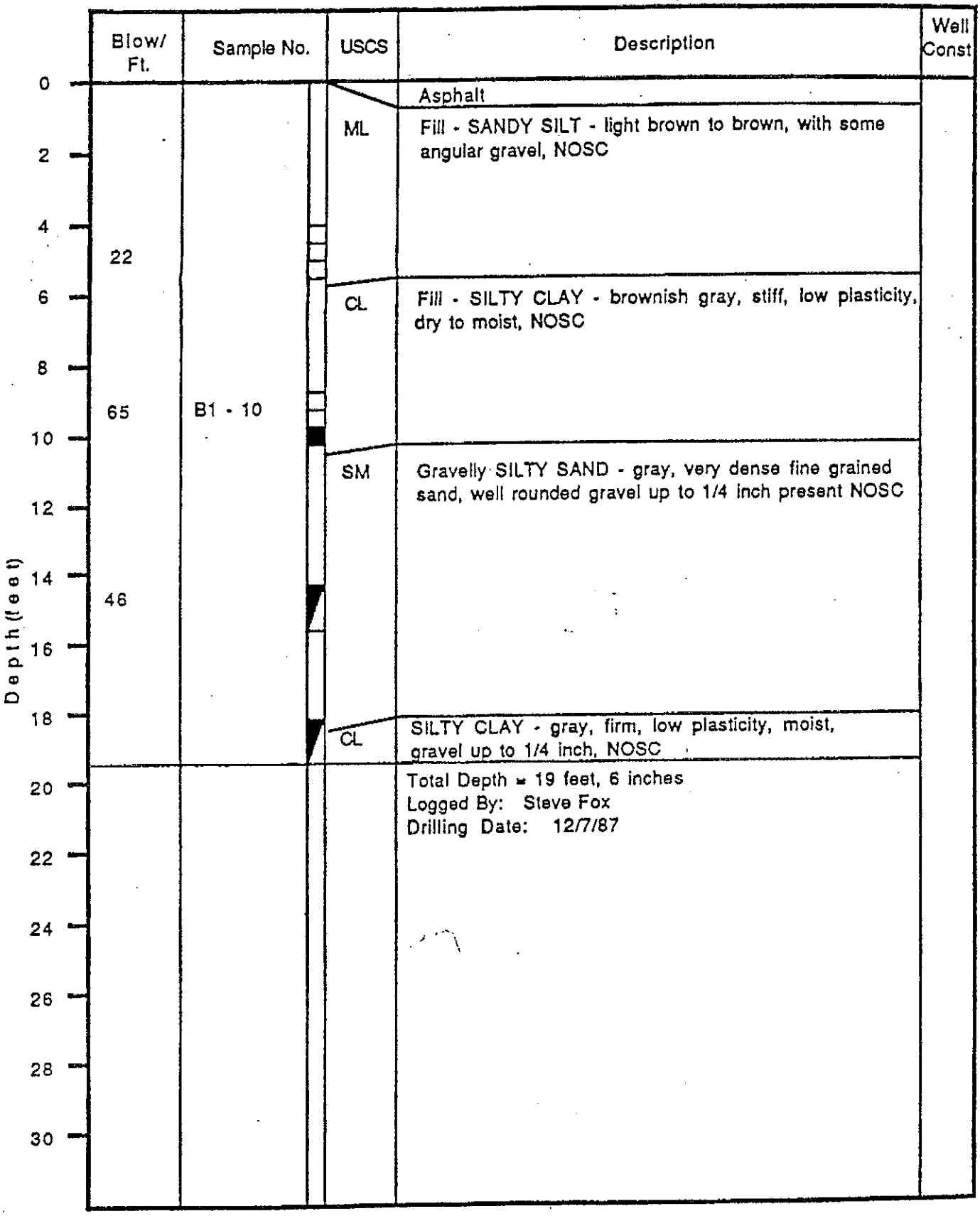
Latitude: 37.739622
Longitude: -121.585376
Casing Elevation: 318.20 ft amsl
Surface Elevation: NA
Borehole Depth: 30 ft bgs
First Water: 17 ft bgs
Stable Water: 16.1 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: **MW-16**
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction

Remarks: Abbreviations: ft amsl = feet above mean sea level, ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NA = not applicable, NR = no recovery

Longitude and latitude were measured using the North American Datum of 1983 (NAD 83). Top of casing was measured using the North American Vertical Datum of 1988 (NAVD 88).



B - 1

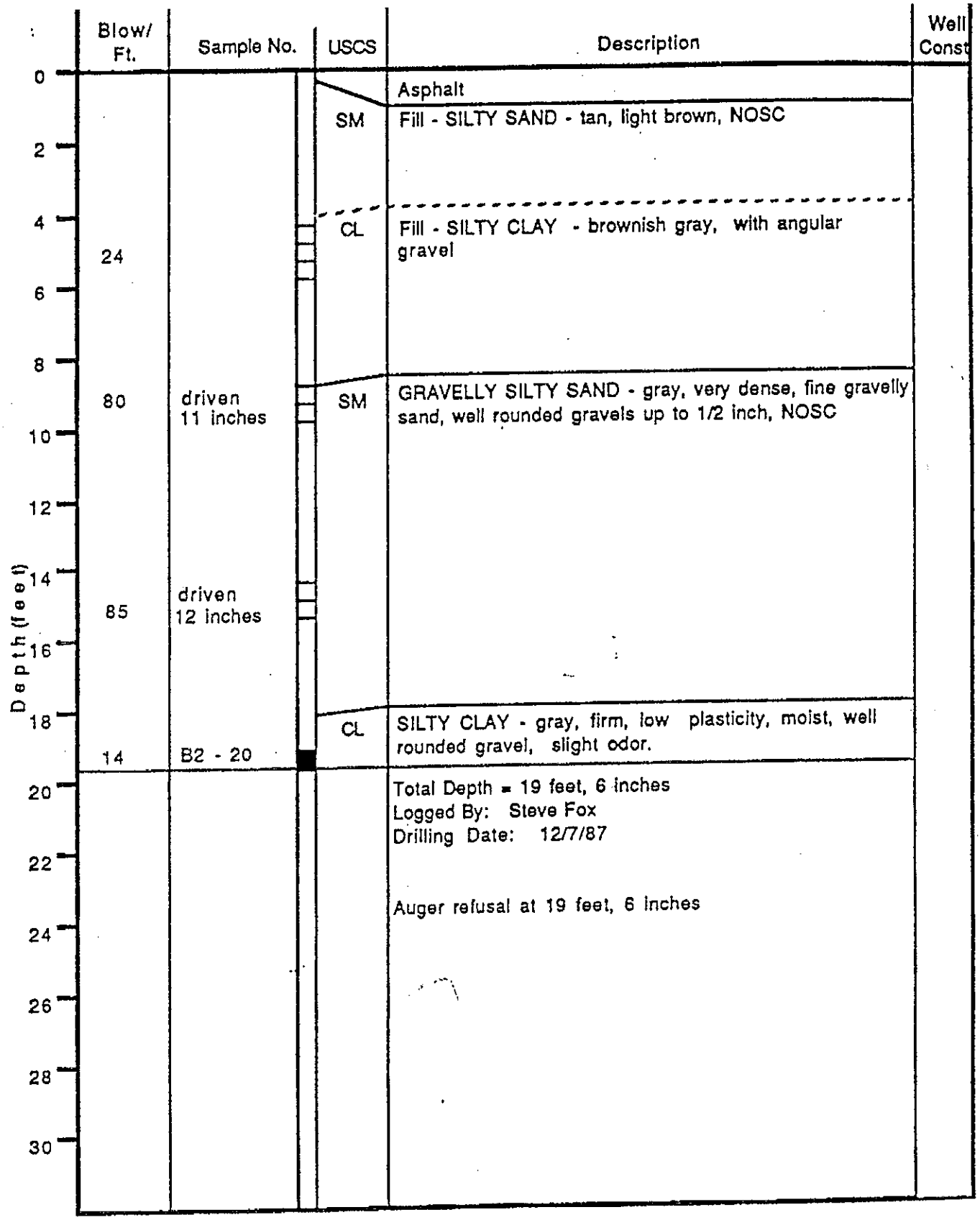
KLEINFELDER

PROJECT NO. 10-1782-01

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-1

PLATE
A2



B - 2

KLEINFELDER

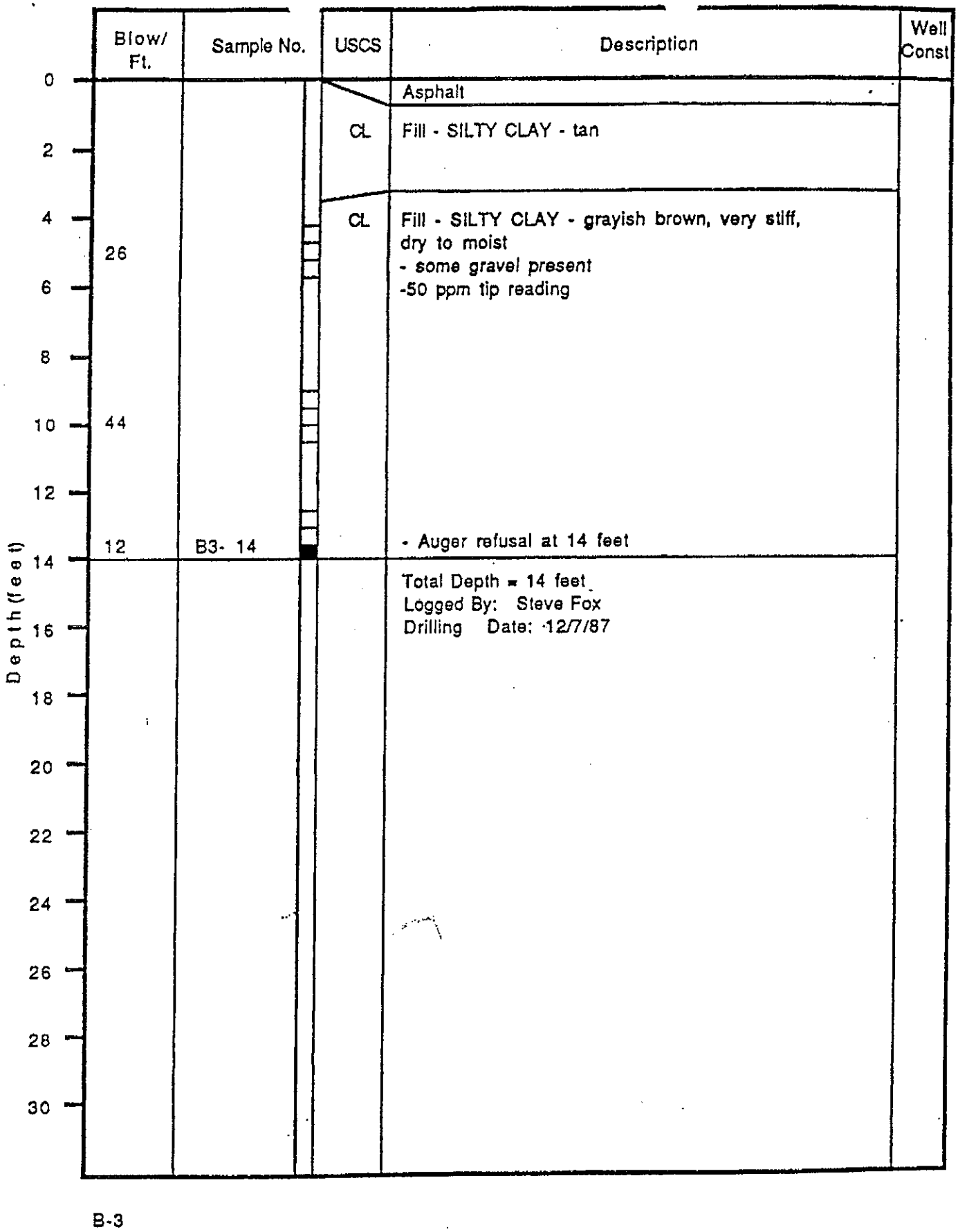
PROJECT NO. 10-1782-01

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-2

PLATE

A3



B-3

KLEINFELDER

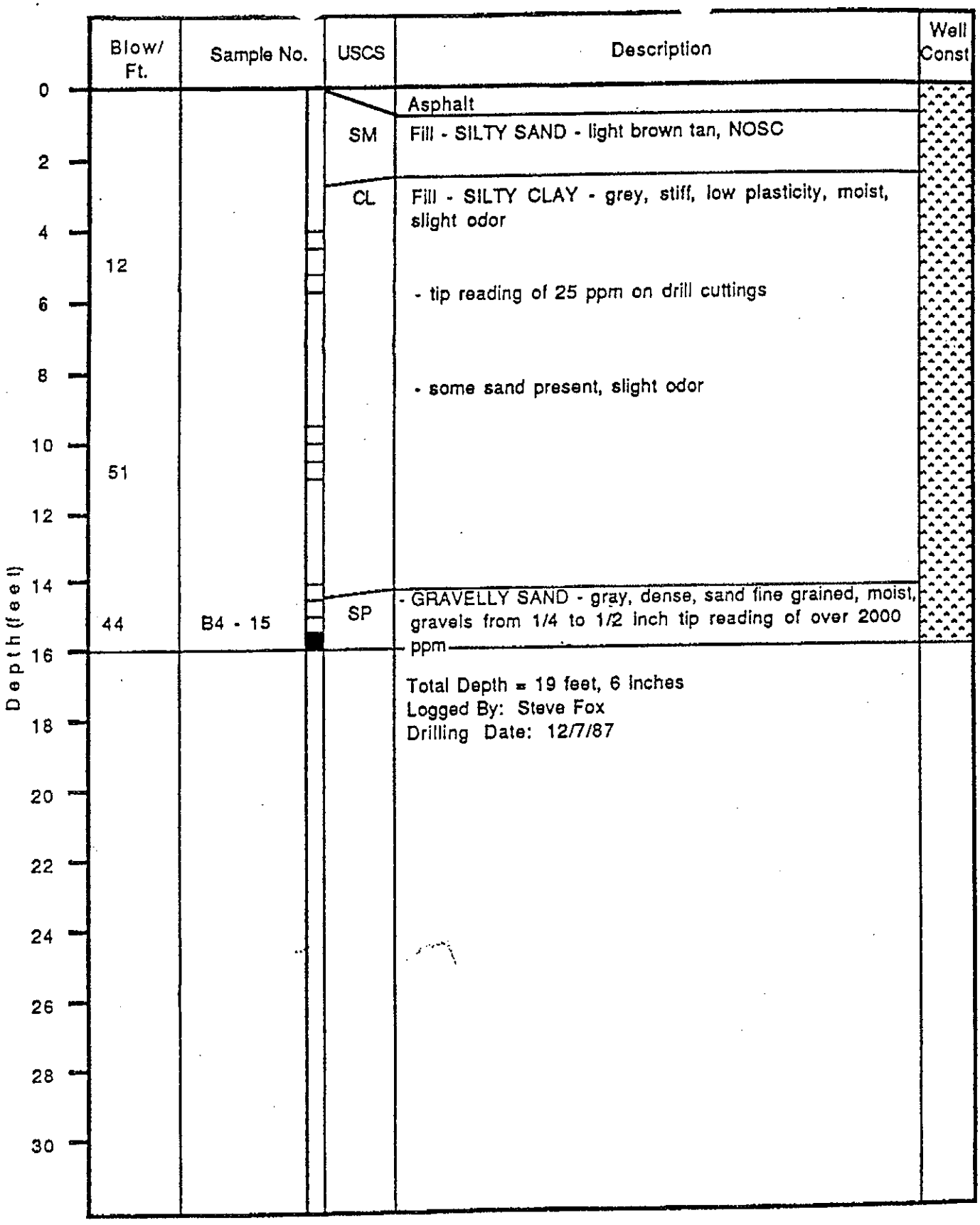
PROJECT NO. 10-1782-01

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-3

PLATE

A4



B - 4

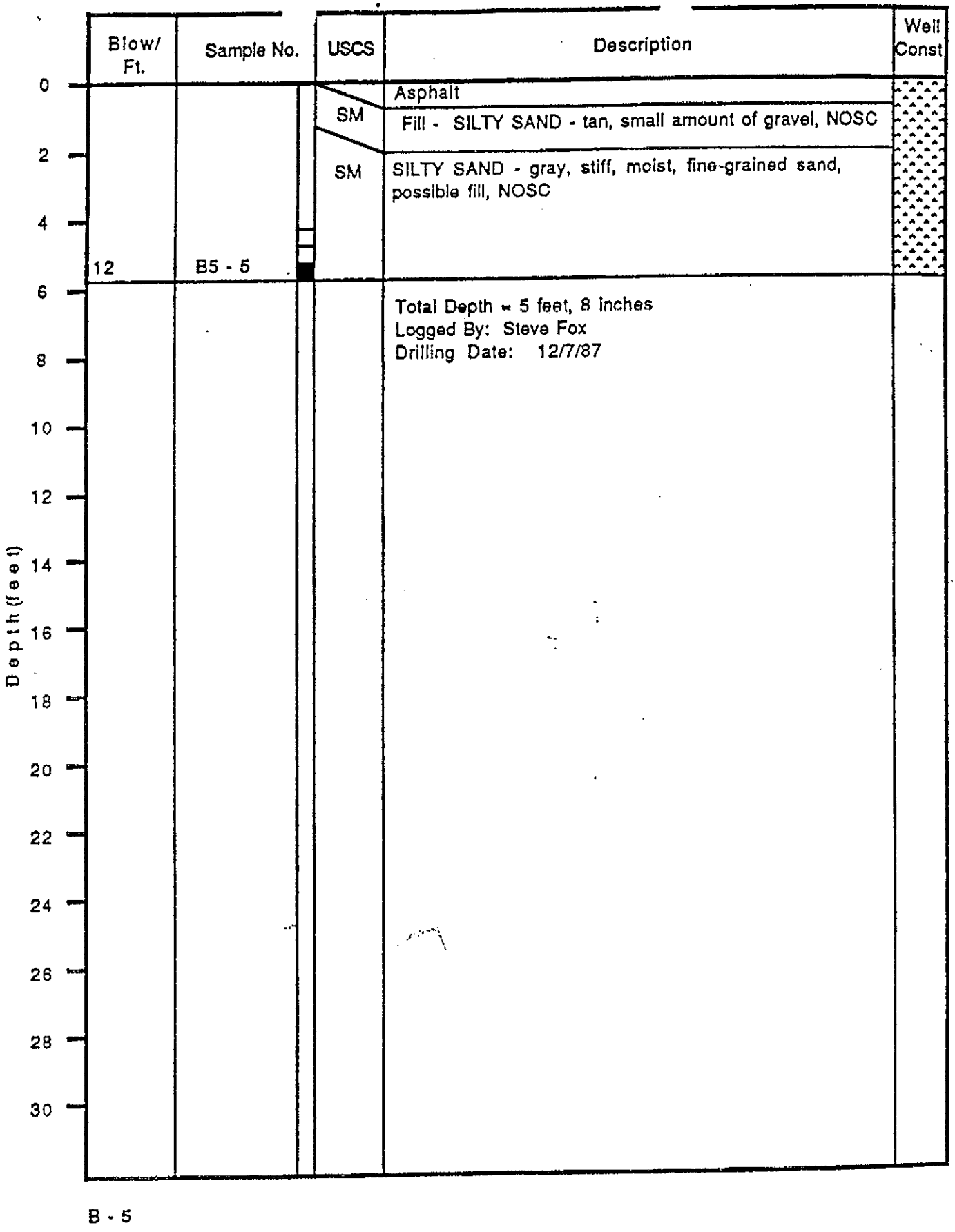
KLEINFELDER

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-4

PLATE
A5

PROJECT NO 10-1782-01



B - 5

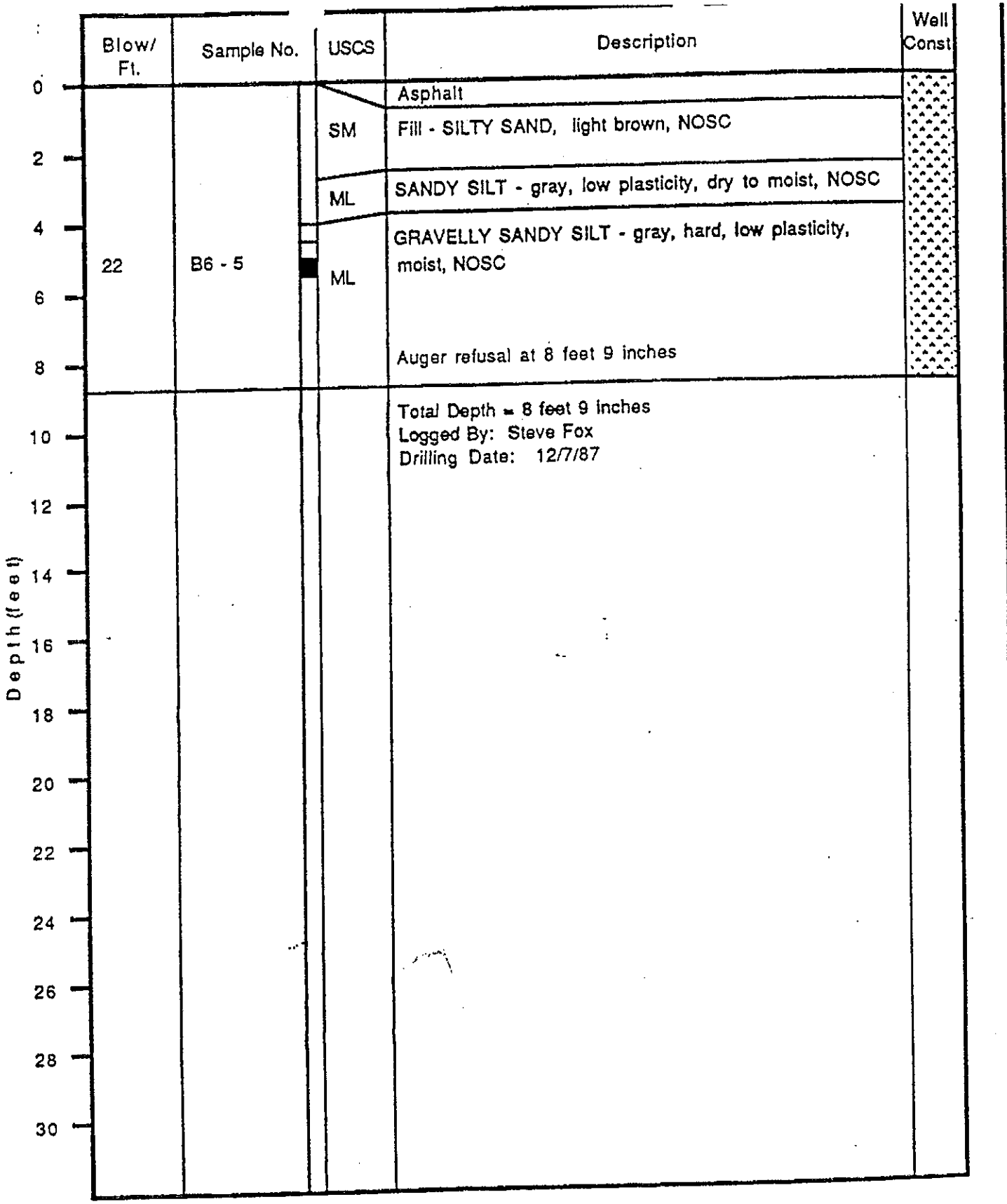
KLEINFELDER

PROJECT NO. 10-1782-01

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-5

PLATE
A6



B - 6

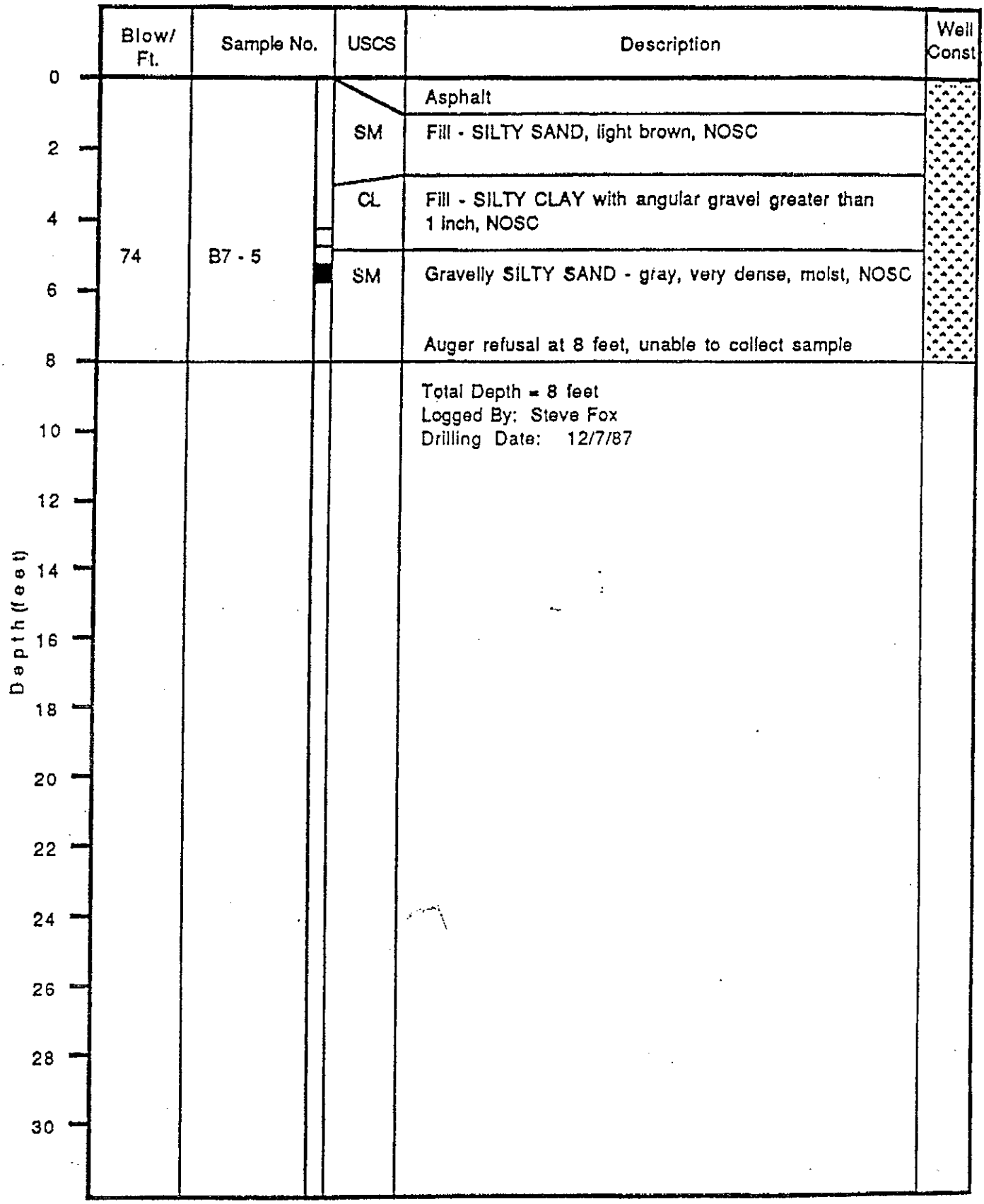
KLEINFELDER

PROJECT NO. 10-1782-01

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-6

PLATE
A7



B - 7

KLEINFELDER

CHEVRON, USA - STATION 7127
GRANT LINE ROAD
TRACY, CALIFORNIA

BORING LOG B-7

PLATE
A8

PROJECT NO 10-1782-01

Conestoga-Rovers & Associates
10969 Trade Center Drive, Suite 107
Rancho Cordova, CA
Telephone: 916-889-8900
Fax: 916-889-8999

BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	B-8
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	24-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	25-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	NA
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.0 fbg (25-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					SM		**FILL - Silty SAND with gravel:** Pale brown; dry; loose; fine sand; coarse gravel up to 3/4"-diam., subrounded to subangular	4.0	
		B-8-5		5	SC		**FILL - Clayey SAND with gravel:** Dark grayish brown; dry; low plasticity; fine to medium sand; coarse gravel up to 5/6"-diam., rounded to subangular.		
1.1		B-8-10		10				13.0	
1		B-8-15		15			**SANDSTONE:** Moderate grayish brown; dry; medium soft hardness; fine to medium sand, mafic minerals observed; very coarse gravel up to 1 1/2"-diam., rounded to subangular; moderately to highly weathered; parting common at bedding planes. laminated; oxidation staining conglomeritic; highly cemented sandstone.		Portland Type I/II
5.9		B-8-20		20			@ 20 fbg: Brownish black		
5.5		B-8-25		25			@ 25 fbg: Brownish black; moist; highly cemented, moderate hardness.		
		B-8-W					@ 28 fbg: Wet; highly fractured; loose; soft to medium soft hardness; moderately weathered.		
168		B-8-30		30				30.0	Bottom of Boring @ 30 fbg

WELL LOG (PID) I:\PROJECT-216-CHAR\63----\6316--\631656\634676--\1631656-GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	B-9
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	24-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	25-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	NA
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.0 fbg (25-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
		B-9-5		5	SC		FILL - Clayey SAND: Yellowish brown/moderate brown; dry; low to medium plasticity; fine sand; fine gravel; subrounded to subangular.	9.0	
5.6		B-9-10		10	SM		Silty SAND: Yellowish brown/gray; dry; loose; fine sand; fine to very coarse gravel up to 2 1/2"-diam., subrounded to subangular.	12.5	
9.1		B-9-15		15			SANDSTONE: Brownish gray; moist/dry; hard; fine to medium sand, mafic minerals observed; moderately weathered; parting common at bedding planes; highly cemented/fractured.		Portland Type I/II
157		B-9-20		20			@ 19 fbg: Mafic minerals observed; minor feldspars; fine to medium gravel up to 1/3"-diam., subrounded; hard; strong fracturing, moderately weathered.		
882		B-9-25		25					
1,459		B-9-27					@ 28 fbg: Wet; 1/4"-thick product observed in groundwater in bailer - no sample collected.		
323		B-9-30		30				30.0	Bottom of Boring @ 30 fbg

WELL LOG (PID) I:\PROJEC~2\6-CHARI63---\6316~1\631656\6346\6-1631656GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	B-10
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	24-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	25-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	NA
LOGGED BY	O. Yan	DEPTH TO WATER (First Encountered)	28.5 fbg (25-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		B-10-5		5	SM		FILL - Silty SAND: Pale brown; dry; loose; fine to medium sand; fine gravel, subrounded.		
0.0		B-10-10		10			@ 9.5 fbg: Dusky brown/gray; fine gravel up to 1/4"-diam., subrounded; fine cobble up to 3"-diam., rounded to subangular.	11.5	
0.0		B-10-15		15			SANDSTONE: Dusky brown/gray; dry; loose; hard; fine to medium sand, mafic minerals observed; fine to medium gravel up to 1/2"-diam., rounded to subangular; oxidized staining around gravels. @ 15 fbg: Parting common at bedding planes; soft hardness.		Portland Type I/II
0.0		B-10-20		20			@ 20 fbg: Brownish gray/black; hard; fine to medium sand; very coarse gravel up to 1 1/2"-diam., rounded.		
1.4		B-10-25		25			@ 24 fbg: Moist/dry		
8.0		B-10-30		30			@ 28 fbg: Wet; parting common at bedding planes; 1/10"-thick product observed in groundwater in bailer - no sample collected.	30.0	Bottom of Boring @ 30 fbg

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63----\6316--\631656\634676--11631656-GINT.GPJ DEFAULT.GDT 9/26/11

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	B-11
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	24-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	26-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	NA
LOGGED BY	O. Yan/J. Bostick	DEPTH TO WATER (First Encountered)	26.1 fbg (26-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
		B-11-5		5	SM		FILL - Silty SAND: Dark brown; dry; fine sand; fine gravel up to 1/6"-diam., subrounded to subangular; dense.		
8.0		B-11-10		10			@ 9 fbg: Light brown; dry; fine sand; fine to very coarse gravel up to 2 1/2"-diam., subrounded to subangular.	11.0	
0.0		B-11-15		15			SANDSTONE: Light brown; dry; hard; fine sand; fine to medium gravel up to 1/2"-diam., subangular. @ 15 fbg: Parting common at bedding planes.		Portland Type I/II
203		B-11-20		20					
394		B-11-25		25					
1,234		B-11-27					@ 26 fbg: Dark brown; wet; staining observed; fine to medium sand.		
1,282		B-11-30		30			@ 28 fbg: Wet; 3/10"-thick product observed in groundwater in bailer - no sample collected.	30.0	Bottom of Boring @ 30 fbg

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63----\6316-\631656\634676~1\631656-GINT.GPJ DEFAULT.GDT 9/26/11

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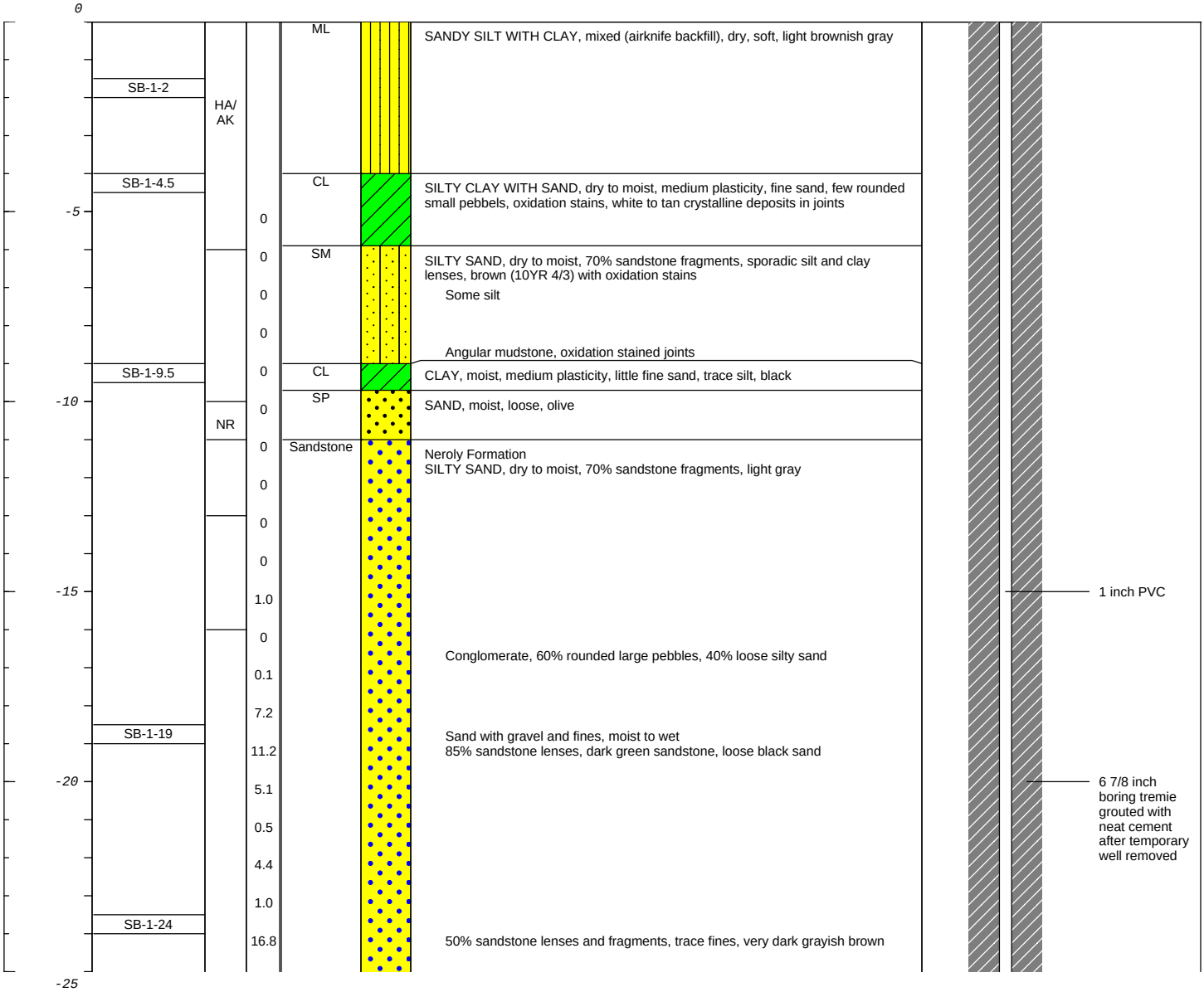
BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	B-12
JOB/SITE NAME	Former Chevron Service Station 9-7127	DRILLING STARTED	24-Aug-11
LOCATION	Grant Line Road and Interstate-580, Tracy, CA	DRILLING COMPLETED	26-Aug-11
PROJECT NUMBER	631656	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Boart Longyear	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Sonic	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	NA
LOGGED BY	O. Yan/J. Bostick	DEPTH TO WATER (First Encountered)	28.5 fbg (26-Aug-11)
REVIEWED BY	J. Kiernan, PE# C68498	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
		B-12-5		5	SM		FILL - Silty SAND with gravel: Grayish brown; dry; loose; fine to medium sand; coarse gravel up 1"-diam.	8.0	
543		B-12-10		10	SW SM		FILL - SAND with silt: Light brown; dry; fine to medium sand: fine to medium gravel up to 1/2"-diam.		
977		B-12-15		15				17.0	Portland Type I/II
2,523		B-12-20		20			SANDSTONE: Dark brown; moist; medium soft hardness; fine to medium sand; fine to coarse gravel up to 1 1/2"-diam., rounded to subangular; moderately weathered, highly fractured; parting common at bedding planes; product to 30 fbg.		
12.3		B-12-26		25					
54.7		B-12-30		30			@ 28.5 fbg: Wet; 1/5"-thick product observed in groundwater in bailer - no sample collected.	30.0	Bottom of Boring @ 30 fbg

WELL LOG (PID) I:\PROJEC~2\6-CHAR\63----\6316--\631656\634676~1\631656-GINT.GPJ DEFAULT.GDT 9/26/11

Date Start/Finish: 10/21/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 40 ft bgs **First Water:** 28.0 ft bgs **Stable Water:** 29.5 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-1** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/21/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 40 ft bgs **First Water:** 28.0 ft bgs **Stable Water:** 29.5 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-1** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			27.3				
			96.5			80% sandstone lenses	
	SB-1-27.5		52.6				
			164			20% sandstone lenses, 80% loose fine to medium grained sand, wet	
			175			Some liquid fines	
-30			71			85% sandstone lenses	
			1.4				
			0.8				
			0.2			4 inches of liquid fines	
			0				
-35	SB-1-40		0			Dry to moist, light gray sandstone	pre-packed temp well
			0			Wet, some silt, little clay, dark grayish brown (10YR 4/2)	
			0				
			0			SANDY SIlT WITH CLAY, dry to moist, hard, blocky, interbedded with few sandstone lenses, dark yellowish brown	
			0				
-40			0			Temporary pre-packed well screened from 30-40 ft bgs Depth to water 29.7 ft bgs after 20 min	
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/21/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 38 ft bgs **First Water:** 28.5 ft bgs **Stable Water:** 32.0 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-2** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				SM		SILTY SAND WITH CLAY, mixed (airknife backfill), dry, loose	
	SB-2-2						
	SB-2-4.5	HA/ AK					
-5							
						SILTY SAND WITH GRAVEL, dry to moist, loose, 1/4 to 1 inch rounded fine to course gravel, occational sandstone fragments to 2.5 inches	
	SB-2-9.5		0				
-10			0				
			0			Little clay, blocky Mottled black and greenish gray (GLEY1), some rounded gravel; fluvial pebbles and recycled sandstone, strong odor	
			0				
			2.6				1 inch PVC
-15			18	Sandstone		Neroly Formation SANDSTONE, conglomeritic, dark greenish grey (GLEY1), angular fragments and thin cemented lenses (80%), loose, dry to moist silty sand (20%), trace 1/2 inch silty clay lenses, strong odor	
			4.8			Slight moisture increase	
			7.0				
			4.0				
			1.8			Interbedded silt, dry, powdery	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
-20			246				
	SB-2-22		378			Interbedded loose silty sand, wet, fine to coarse grained, black	
			630				
			540			Fine grained, moist, grayish brown	
			150				
-25							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/21/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 38 ft bgs **First Water:** 28.5 ft bgs **Stable Water:** 32.0 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-2** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
	SB-2-27		100			Interbedded sand, wet, black	
			170				
			972			Fine to medium grained	
			570			Wet, trace fines, 30% sandstone fragments	
			60				
-30			1200			80% sandstone fragments	
			884				
			3.7			Interbedded sand is wet/flowing	
	SB-2-W-38		0.1				pre-packed temp well
			0				
-35			0			Little fines	
			0				
			0			Trace fines	
			0				
						Temporary pre-packed well screened from 28-38 ft bgs Depth to water 28.95 ft bgs after 20 min, 28.50 ft bgs after 90 min No visible product Oil in Soil test results positive (500 ppm detection limit)	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/18/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 36 ft bgs **First Water:** 29 ft bgs **Stable Water:** 30 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-3** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				SM		SILTY SAND WITH CLAY, (airknife backfill), trace gravels, dry, loose Some black clay, moist, low plasticity	
	SB-3-2	HA/ AK	0				
	SB-3-4.5		0			SILTY SAND, moist, dark brown 20% sandstone disks, trace fluvial pebbles	
-5			0				
	SB-3-9.5		0				
			0	ML		SANDY SILT WITH GRAVEL, dry, powdery, 1/4 to 1 inch subround to subangular fine to coarse gravel	
-10			0	SM		SILTY SAND WITH GRAVEL, dry, loose, 25% angular sandstone fragments to 3 inches 50% loose sand, 40% pebbles, 10% sandstone Little silt, blocky Little clay	1 inch PVC
			0.9				
			8.4				
			1.2				
-15			6.6				
			9.8				
		NR	2.5				6 7/8 inch boring tremie grouted with neat cement after temporary well removed
			3.7	GW		SANDY GRAVEL WITH SILT, subrounded dark green fluvial pebbles and sandstone, interbedded dark olive brown loose sand	
-20			7.5				
			9.0	Sandstone		Neroly Formation SANDSTONE, little silt, angular fragments and thin lenses (50%) to 4 inches	
			5.0				
			3.0			Very dark brown	
-25			9.1				

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/18/13
Drilling Company: Cascade Drilling
Driller's Name: Jeff Johnson
Drilling Method: Sonic
Barrel Size: 4 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude:
Longitude:
Casing Elevation:
Surface Elevation:
Borehole Depth: 36 ft bgs
First Water: 29 ft bgs
Stable Water: 30 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: SB-3
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			119			Black (GLEY1), 80% fragments	pre-packed temp well
			453				
			451				
			460				
	SB-3-29		1236			Trace silt, moist to wet, 50% fragments	
-30			79.1			Wet, 20% fragments	
	SB-3-W-36		77.0				
			42.3				
			23.7			5% fragments	
			49.8			20% fragments	
-35			21.7				
			0				
			0			Temporary pre-packed well screened from 26-36 ft bgs	
			0			Depth to water 29 ft bgs after 20 min Depth to water 28.94 ft bgs, depth to product 28.91 ft bgs (0.03 ft thick) after 60 min	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/18/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 35 ft bgs **First Water:** 28.0 ft bgs **Stable Water:** 32.0 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-4** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				SM		SILTY SAND WITH CLAY, air knife backfill, few sandstone fragments, dry, moist clay clasts to 3 inches, blocky	
	SB-4-2	HA/AK					
	SB-4-4.5						
-5		NR					
				CL		SILTY CLAY WITH GRAVEL, dry to moist, hard, angular to subround small fluvial pebbles, very dark grayish brown	
	SB-4-9.5		0	GW		WELL GRADED GRAVEL, dry to moist, angular to subround small fluvial pebbles, yellow staining	
-10			0				
			0	SM		SILTY SAND, some angular sandstone fragments to 3 inches, dark olive brown	
			0	Sandstone		Neroly Formation SILTY SAND, dry to moist, 85% sandstone disks and fragments, black (5Y)	1 inch PVC
			0.1				
-15			0				
			0			Strong odor, 1 inch silt lens	
			0				6 7/8 inch boring tremie grouted with neat cement after temporary well removed
			0				
			0.1				
-20			0.4				
			0.8				
			0.3				
			0.8				
			1.4			Very strong odor	
-25							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/18/13
Drilling Company: Cascade Drilling
Driller's Name: Jeff Johnson
Drilling Method: Sonic
Barrel Size: 4 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude:
Longitude:
Casing Elevation:
Surface Elevation:
Borehole Depth: 35 ft bgs
First Water: 28.0 ft bgs
Stable Water: 32.0 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: SB-4
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
			2.0			Poorly graded sand, loose, few sandstone fragments	
			46			Little silt, moist, dark, grayish brown (2.5Y 4/2)	
	SB-4-27		216				
			59			Wet, 80% sandstone fragments and disks	
			1.1				
-30	SB-4-35		2.1				pre-packed temp well
			15				
			5.4			20% liquid fines	
			57				
			10.2				
-35			7.0				
						Temporary pre-packed well screened from 25-35 ft bgs	
						Depth to water 29.1 ft bgs after 20 min	
						Oil In Soil test at 27.0 ft bgs = Negative at 500 ppm detection limit	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/21/13
Drilling Company: Cascade Drilling
Driller's Name: Jeff Johnson
Drilling Method: Sonic
Barrel Size: 4 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude:
Longitude:
Casing Elevation:
Surface Elevation:
Borehole Depth: 40 ft bgs
First Water: 29.5 ft bgs
Stable Water: 38.0 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: SB-5
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				SM		SILTY SAND, air knife backfill, dry, some weathered sandstone fragments, light olive brown	
	SB-4-2	HA/ AK		CL		SANDY CLAY WITH SILT, few rounded fine to coarse fluvial gravels, dry to moist, low plasticity, black with oxidation staining	
	SB-4-4.5			SM		SILTY SAND WITH CLAY, few rounded sandstone fragments to 2.5 inches, dry to moist, loose, olive brown	
-5				Sandstone		Neroly Formation SILTY SAND, dry to moist, 80% sandstone lenses and fragments	
	SB-4-9.5					Little silt, dark gray	
-10						30% sandstone fragments, fine to very coarse grained sand, little fine to coarse fluvial gravels, subround to subangular	
-15			0				1 inch PVC
			0			Fine grained sand only	
		NR	0				
			0				
-20			0				6 7/8 inch boring tremie grouted with neat cement after temporary well removed
			0.6				
			4.9			20% sandstone fragments, black	
			2.3				
			0.2				
-25							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/21/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 40 ft bgs **First Water:** 29.5 ft bgs **Stable Water:** 38.0 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-5** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
	SB-4-27		0.1			Clayey silt with sand, dry, fine grained sand 90% sandstone disks, 1 to 5 inches thick, greenish gray to olive brown	
			0				
			0				
			0				
-30	SB-4-35		0			Moist to wet Silty Clay, little fine sand, moist, medium plastic, hard	
			0				
			0.1			Sporadic sandy lenses to 1/2 inch	
			0				
			0				
-35						Silty sand, wet, loose	pre-packed temp well
			0			Sandy silt with clay, moist to wet, blocky Decrease in sand, dry to moist	
			0				
			0				
			0			80% angular sandstone fragments to 3 inches, wet	
			0				
-40						Temporary pre-packed well screened from 25-35 ft bgs Depth to water 29.1 ft bgs after 20 min Oil In Soil test at 27.0 ft bgs = Negative at 500 ppm detection limit	
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 24 ft bgs **Stable Water:** 29 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-6** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				CL		SILTY CLAY WITH SAND, light olive brown silt, moist, low plasticity, little siltstone fragments to 2 inches	
	SB-6-S-2	HA/ AK	0				
	SB-6-S-4.5		0	SM		SAND, and sandstone (50%), little silt, fine sand, moist	
-5			0.3			Dark greenish gray (Gley1 4/5GY), rounded fluvial gravels and sandstone fragments, little grayish brown silt (20%) Trace silt lenses, dry	
	SB-6-S-9.5		0.1	Sandstone		Neroly Formation SANDSTONE, interbedded with thin silt laminations, yellow stains in sandstone Interbedded with silty sand laminations, brown (10YR 4/3)	
-10			0				
			0.1			Trace chlorite(?) nodules, fibrous to 1 inch, yellow to green	
			0				
			0.1				1 inch PVC
			0.1				
-15			0.1			Black sandstone, no nodules Dark olive gray (5Y 3/2) sandstone	
			0.1				
			0			Trace chlorite(?) nodules	
			0.3				
			0.3			Black sandstone	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
-20			0				
			0.1			3 inches of sand and silt, moist/wet, loose	
			0.1				
			0			Dry/moist, trace clay lenses to 0.5 inch	
			0.2			Moist, black sandstone to 3 inches, no clay	
-25							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 24 ft bgs **Stable Water:** 29 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-6** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			1.0				
			1.8				
	SB-6-S-27.5		0.5			Silty sand, loose, fine grain, moist/wet, little clay, low plasticity, soft, very dark grayish brown (2.5Y 3/2)	
			1.2				
			1.2			Sandstone disks (90%) interbedded with silty sand, trace clayey lenses, wet, black	
-30			0				
			0				
			0				
	SB-6-W-38		0				pre-packed temp well
			0			Sandstone fragments to 3 inches	
-35			0				
			0			Trace disks	
			0				
			0				
						Temporary pre-packed well screened from 28-38 ft bgs	
-40						Depth to water 30.65 ft bgs after 20 min, 28.50 ft bgs after 90 min	
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 27 ft bgs **Stable Water:** 30 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-7** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	SB-7-2	HA/AK	0	ML		SILT, little clay, little fine sand, and little rounded fluvial gravels, dry, very stiff, some sections pulverized	
-5	SB-7-4.5		0			Some gravels, rounded lacustrine pebbles and angular conglomeratic sandstone, some loose sand, moist, dark olive gray, yellow staining in sandstone Weathered Neroly Formation	
	SB-7-7.5		0	Sandstone		Neroly Formation SILTY SAND, interbedded with sandstone, trace fluvial gravels, rounded, loose fine to medium sand, moist, very dark gray sandstone to 9 in thick, very dark grayish brown sand/silt	
-10	SB-7-9.5		0			20% sandstone disks 1-4 in, 60% angular sandstone fragments 1/4 to 3 in, 20% loose sand	
			0.1				1 inch PVC
-15		NR	0			30% sandstone disks, 50% sandstone fragments, 20% loose sand	
			0			Siltstone and sandstone, very hard per driller, pulverized, dry	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
-20			0			40% loose and powdery, 60% fine-coarse sandstone gravels, subround Siltstone, very hard per driller, pulverized 40% loose, powdery, 60% fine-coarse sandstone gravels, subround Siltstone, very hard per driller, pulverized	
			0.6			40% loose, powdery, 60% fine-coarse sandstone gravels, subround	
-25			0.2				

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

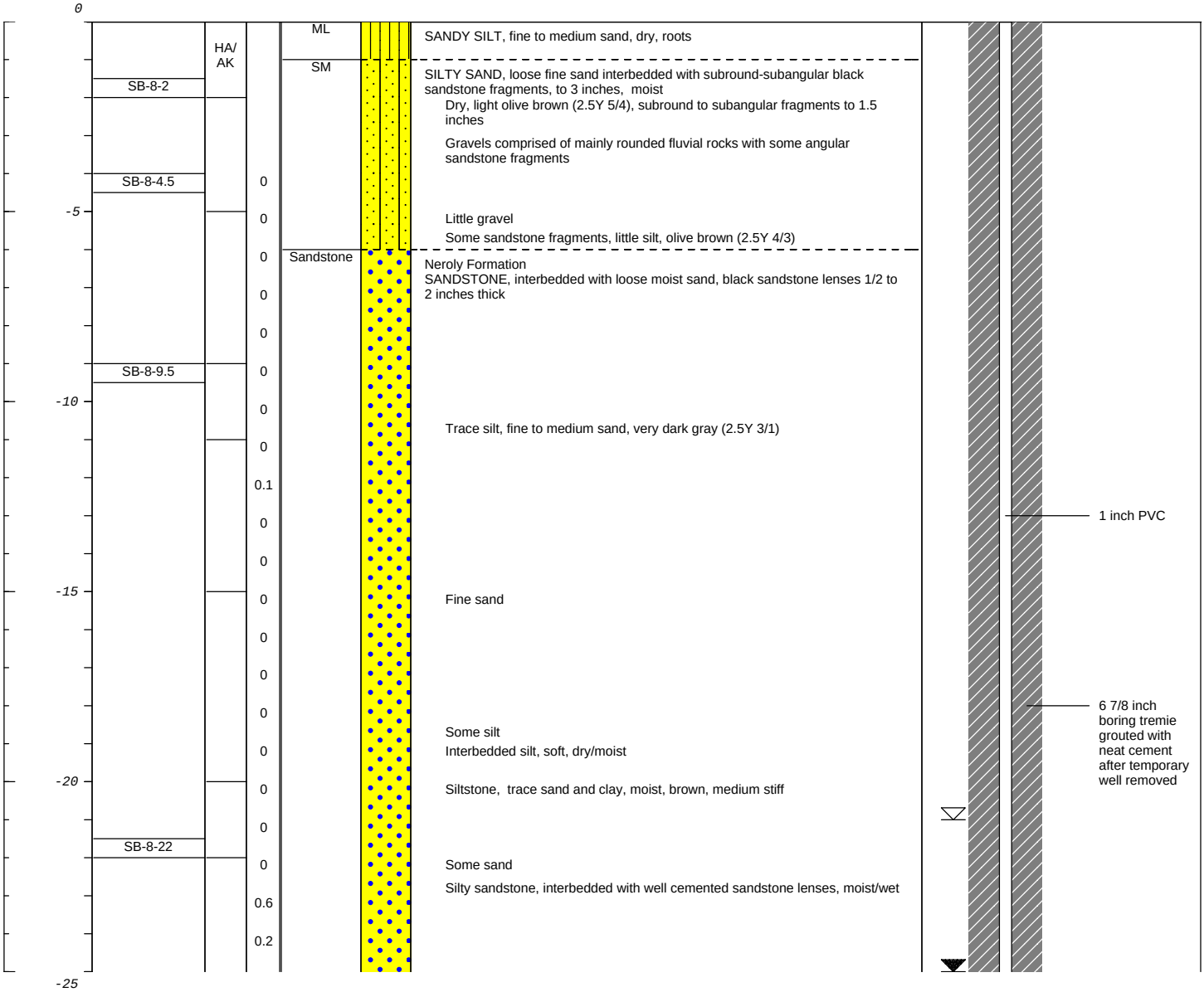
Date Start/Finish: 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 27 ft bgs **Stable Water:** 30 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-7** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
			0			little silt, moist	
			0.1				
			0			Moist/wet, 80% disks/fragments, 20% loose sand, sporadic silty lenses to 1/2 in	
	SB-7-29		0				
-30			0			wet	
			0				
			0				
	SB-7-W-39		0				pre-packed temp well
-35			0				
			0				
			0				
			0				
			0			little clay	
-40						Temporary pre-packed well screened from 29-39 ft bgs	
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

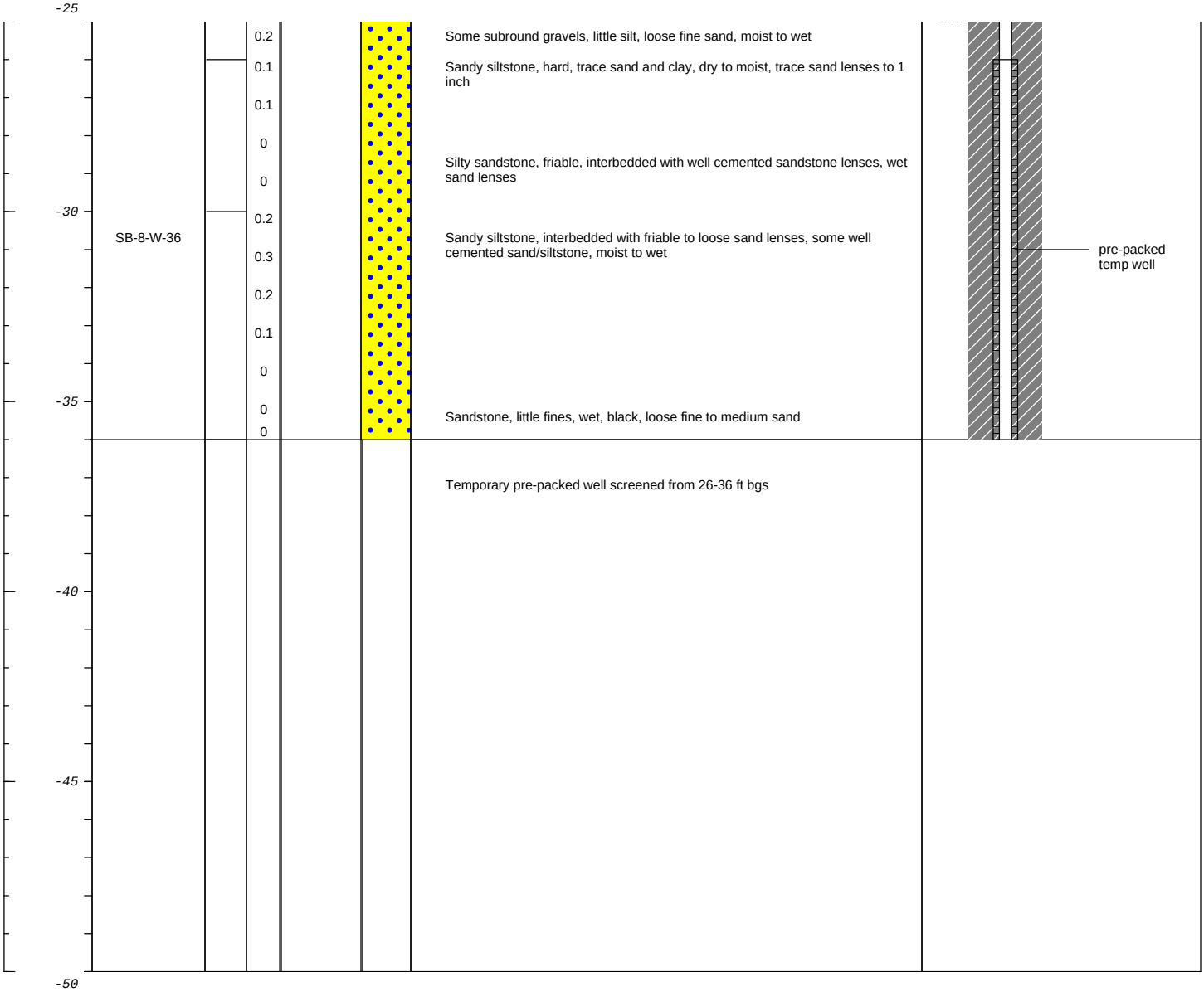
Date Start/Finish: 10/15/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 36 ft bgs **First Water:** 21 ft bgs **Stable Water:** 25 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-8** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

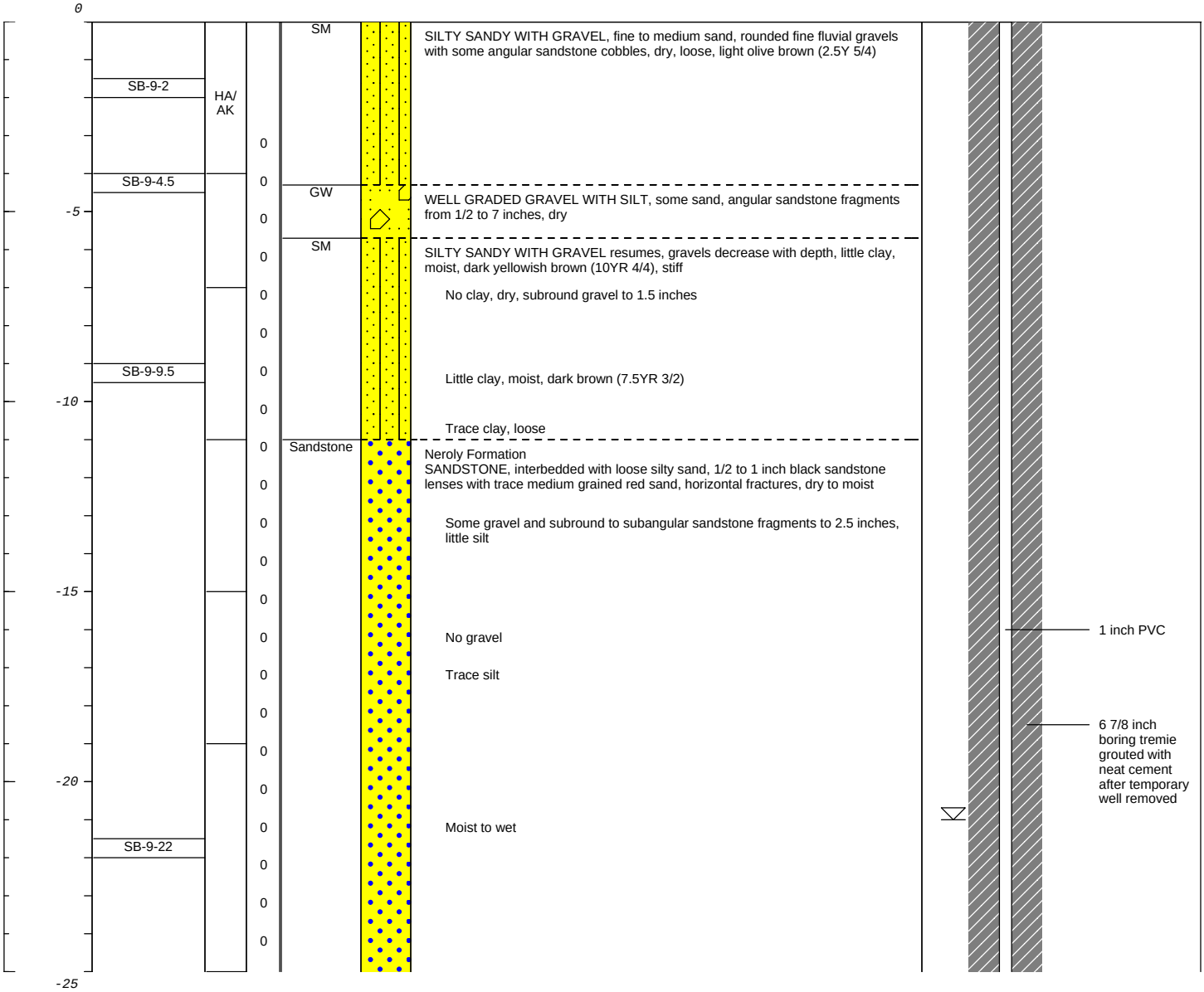
Date Start/Finish: 10/15/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 36 ft bgs **First Water:** 21 ft bgs **Stable Water:** 25 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-8** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/15/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 37 ft bgs **First Water:** 21 ft bgs **Stable Water:** 26 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-9** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/15/13
Drilling Company: Cascade Drilling
Driller's Name: Jeff Johnson
Drilling Method: Sonic
Barrel Size: 6 7/8 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude:
Longitude:
Casing Elevation:
Surface Elevation:
Borehole Depth: 37 ft bgs
First Water: 21 ft bgs
Stable Water: 26 ft bgs
Descriptions By: Rob Moniz

Well/Boring ID: SB-9
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			0			Wet, liquid sand and fines interbedded with sandstone, dark grayish brown (10YR 4/2)	
			0				
			0				
-30			0			Siltstone, interbedded with loose sand, moist, dark grayish brown (10YR 4/2)	
			0			Sandstone resumes, very dark gray (2.5Y 3/1)	
			0			Siltstone resumes, little clay	
			0			Sandstone, some well cemented conglomeritic sandstone, little silt, moist, loose	
			0			Moderate cementation, wet, friable	
-35	SB-9-W-37		0				pre-packed temp well
			0			Conglomerate, little sand and fines, wet, subround fluvial gravels to 3 inches, dark brown (7.5YR 3/2)	
						Temporary pre-packed well screened from 32-37 ft bgs Depth to water instantly filled to 23 ft bgs	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16 - 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 34 ft bgs **First Water:** 26 ft bgs **Stable Water:** 30ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-10** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0				ML/CL		SANDY SILT, some black moist clay, fine sand, dry, blocky	
	SB-10-S-2	HA/ AK					
	SB-10-S-4.5						
-5			0.3	SP		POORLY GRADED SAND AND GRAVEL, trace fines, fine to medium sand, gravel comprised of sandstone and rounded fluvial rocks, moist, loose	
	SB-10-S-9.5		0	SM		SILTY SAND WITH GRAVEL, coarse gravel comprised of sandstone	
-10			0	SP		POORLY GRADED SANDAND GRAVELS, trace silt, dry/moist Little silt and clay, little subround fluvial gravels, moist, sporadic 1 inch clay lenses	1 inch PVC
			0	Sandstone		Neroly Formation SANDSTONE, 85% well cemented black sandstone lenses, 15% fine loose sand, some silt	
-15			0			Loose sand with little angular sandstone gravels, black, trace silt	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
			0			80% sandstone, 20% loose fine to medium sand	
-20			0				
			0			Some silt, dry Little silt, dry to moist, slight odor	
-25			0				

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16 - 10/17/13
Drilling Company: Cascade Drilling
Driller's Name: Jeff Johnson
Drilling Method: Sonic
Barrel Size: 6 7/8 in
Rig Type: Geoprobe 8140LS
Sampling Method: Core Barrel
OVA Equipment: PID

Latitude:
Longitude:
Casing Elevation:
Surface Elevation:
Borehole Depth: 34 ft bgs
First Water: 26 ft bgs
Stable Water: 30ft bgs
Descriptions By: Rob Moniz

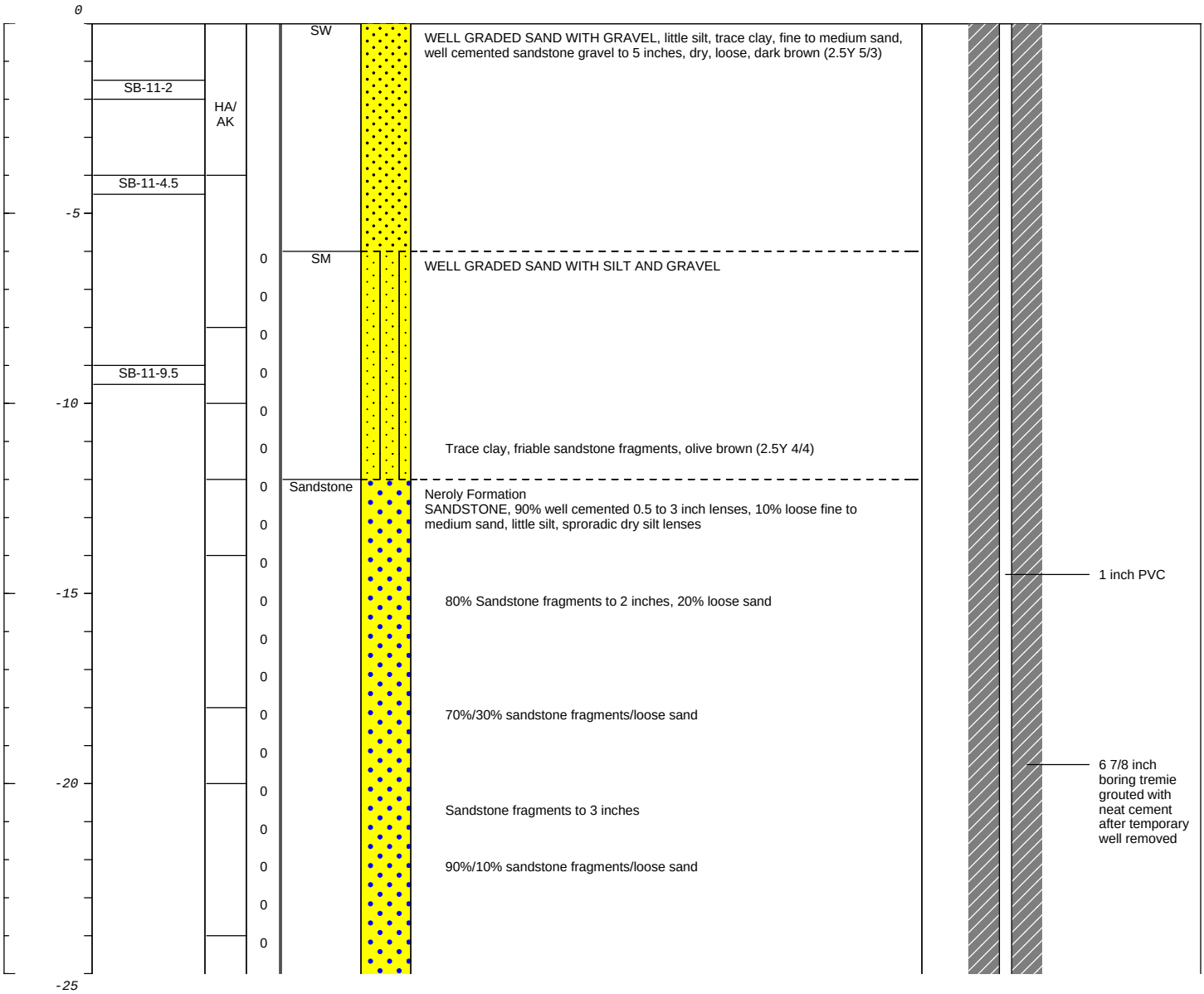
Well/Boring ID: SB-10
Client: Chevron 9-7217
Location: Grant Line Rd. at Interstate 580 - Tracy, CA
Reviewed By: Jacob Henry, P.G.

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			0.2				
	SB-10-S-27		0.2			90% sandstone, moist/wet	
			0.1				
	SB-10-W-39		0.2				pre-packed temp well
			0				
-30			0.3			Wet	
			0.1				
			0			1 foot of mud and sand, some rounded fluvial gravels to 3 inches	
			0				
			0				
			0				
-35						Temporary pre-packed well screened from 24-34 ft bgs Depth to water after 20 minutes = 28.2 ft bgs	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16 - 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 26 ft bgs **Stable Water:** 30ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-11** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16 - 10/17/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 39 ft bgs **First Water:** 26 ft bgs **Stable Water:** 30ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-11** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
	SB-11-27		0			Moist to wet	
			0				
			0				
			0				
-30			0.9			Slight moisture increase, sporadic 1 inch silt lenses, very faint odor	
			0.5				
			1.2				
			1.0				
	SB-11-W-39		0.9				
-35			0			Wet, 2 inch silt lenses, very soft	pre-packed temp well
			0				
			0				
			0				
			0				
-40						Temporary pre-packed well screened from 29-39 ft bgs Depth to water after 20 minutes = 28.6 ft bgs	
-45							
-50							

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Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 37 ft bgs **First Water:** 29 ft bgs **Stable Water:** 32ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-12** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	SB-12-S-2	HA/AK	0	ML		SANDY SILT WITH CLAY, backfilled air knife material, dry, soft, trace sandstone fragments and fluvial gravels	1 inch PVC
-5	SB-12-S-4.5					Moist, hard, sporadic clayey lenses to 1 inch Little white, yellow, and green staining	
			0.2	CL		SILTY CLAY WITH SAND, moist, medium plasticity, hard, black	
			0.1				
	SB-12-S-9.5		0	SM		SILTY SAND, moist, some anular sandstone and siltstone fragments to 6 inches Weakly to strongly cemented sandstone, no siltstone, dark olive brown	
-10			0				
			0				
			0.2			Litltle clay, little rounded small fluvial pebbles, dark brown (7.5 YR 3/2)	
			0				
-15			0			Small to large fluvial and recycled sandstone pebbles, black laminations	
			0				
			0				
			0			SANDY SILT WITH CLAY, 4 inch lens	
			0	ML SM		SILTY SAND, moist, some angular sandstone fragments to 6 inches, some clay lenses, rounded fine to coarse fluvial gravels	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
-20			0	Sandstone		Neroly Formation SANDSTONE, dry to moist, 80% well cemented sandstone disks, 20% loose sand, trace fines, dark grayish brown (10YR 4/2)	
			0				
			0				
			0				
			0				
-25			0				

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/16/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 37 ft bgs **First Water:** 29 ft bgs **Stable Water:** 32ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-12** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25			0			Moist, very dark grayish brown	pre-packed temp well
			0			Dry, some silt, light brownish gray	
			0			Moist, trace fines, black	
			0			Moist to wet	
-30	SB-12-S-30.5		0				
			0				
	SB-12-W-37		0			Wet	
			0				
			0				
-35			0				
			0			Medium stiff, 1 inch silt lens, moist to wet Silt	
			0			Temporary pre-packed well screened from 27-37 ft bgs Depth to water after 20 minutes = 32.5 ft bgs	
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/22/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 25 ft bgs **First Water:** 17.3 ft bgs **Stable Water:** 21 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-13** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0			0	ML		SANDY SILT WITH CLAY, dry, light yellowish brown (2.5 Y 6/4)	
	SB-13-S-2		0			Interbedded Sand and Silt	
			0				
	SB-13-S-4.5		0	CL		CLAY WITH SILT, dry to moist, very hard, low plasticty, blocky, black	
-5			0				
			0				
			0	SM		SILTY SAND WITH CLAY, dry to moist, loose, some rounded fluvial fine to coarse gravels, trace subangular sandstone fragments	1 inch PVC
			0			Little silt Trace gravel	
	SB-13-S-9.5		0				
-10			0	Siltstone		Neroly Formation SILTSTONE, dry to moist, 80% well cemented siltstone fragments to 3 inches, little clay	
			0				
			0			Siltstone displays waxy luster along fresh breaks	6 7/8 inch boring tremie grouted with neat cement after temporary well removed
			0				
			0				
-15			0	Sandstone		Neroly Formation SANDSTONE, well cemented, some silt, trace clay and rounded pebbles, horizontal and vertical filled veins (Chlorite?), sporadic silt interbeds, wet fractures	
			0				
			0			Silt, moist, little clay and fine sand, dark brow	
			0				
			0			Well cemented sandstone, chlorite laminations from 1/16 to 1/4 inch	
-20	SB-13-W-25		0				pre-packed temp well
			0.2				
			0				
			0				
			0				
			0				
-25							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/22/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 25 ft bgs **First Water:** 17.3 ft bgs **Stable Water:** 21 ft bgs **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-13** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25						Temporary pre-packed well screened from 15 - 25 ft bgs Depth to water after 20 minutes = 21.4 ft bgs Depth to water after 40 minutes = 20.15 ft bgs	
-30							
-35							
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/31/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 32 ft bgs **First Water:** 28.5 ft bgs (from SB-2) **Stable Water:** 32.0 ft bgs (from SB-2) **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-2A** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0		HA/AK		ML		SILT WITH SAND AND CLAY, dry, little angular sandstone to 3 inches = UST Excavation FILL	
-5				CL		SILTY CLAY WITH SAND, fine sand, moist, black, medium plasticity, trace sandstone to 4 inches = UST Excavation FILL Coarsens downward	
				SP		SILTY SAND WITH GRAVEL, reworked conglomeritic sandstone = UST Excavation FILL	
-10				ML		SANDY SILT WITH CLAY, fine sand, olive brown (2.5Y 4/3) with orange staining, trace blue-gray angular clay fragments, subround to subangular sandstone to 3 inches (25%) = UST Excavation FILL Increase in clay Very dark greenish gray (GLEY1 4/1), moist, strong odor Trace clay	
-15				Sandstone		Neroly Formation SANDSTONE, very dark brown (10YR 2/2), angular fragments and thin cemented lenses (80%), loose, wet, silty sand (20%) Black (10YR)	Boring tremie grouted with neat cement
-20						Note: Below samples collected/preserved in solid cores = not well logged At 20 ft - Collect 1 foot in 4 inch split barrel; black sandstone At 21 ft - Collect 2 feet in 4 inch split barrel; black sandstone At 23 ft - Collect 1.5 feet in 4 inch split barrel; black sandstone At 24.5 ft - Collect 2.5 feet in 4 inch split barrel; Core melted to sandstone at	
-25							

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Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/31/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 32 ft bgs **First Water:** 28.5 ft bgs (from SB-2) **Stable Water:** 32.0 ft bgs (from SB-2) **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-2A** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25							
						26.6 ft; black sandstone	
						At 27 ft - Collect 2 feet in 4 inch split barrel; Core sheared off at 28.66 ft - where shoe rotates; black sandstone	
						At 29 ft - Collect 3 feet in 4 inch split barrel; Wet black sandstone	
-30							
-35							
-40							
-45							
-50							

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Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/29/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 34 ft bgs **First Water:** 29 ft bgs (from SB-3) **Stable Water:** 30 ft bgs (from SB-3) **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-3A** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0		HA/AK		ML		SANDY SILT WITH CLAY, dry, little sandstone	
				CL		SILTY CLAY WITH SAND, fine sand, moist, black, medium plasticity	
-5				SM		SILTY SAND WITH GRAVEL, dry to moist, olive gray (5Y 5/2)	
				CL		SILTY CLAY WITH SAND, fine sand, moist, black, medium plasticity	
				SM		SILTY SAND WITH GRAVEL, fine to medium sand, rounded fluvial gravels, black Very dark grayish brown (2.5Y 3/2) Sandstone lenses to 3 inches (30%), friable, dark brown (10YR 3/3) sand (70%), little silt and rounded fluvial gravels, moist	
-10						Sand, black, dry to moist, loose, trace silt Some silt, little rounded fluvial gravels, moist, dark reddish brown (5YR 2.5/2) Little silt, black Fine sand, slightly more consolidated, very dark gray (5YR 3/1) Trace clay	
				CL		SILTY CLAY WITH GRAVEL, trace fine sand, little wet sand pipes and lenses, moist, odor Little sand	
-15				Sandstone		Neroly Formation SANDSTONE, some rounded fluvial gravels, very dark greenish gray (GLEY1 4/1) sandstone, 15% loose olive brown interbedded sand Some rounded fluvial gravels (40%), loose sand (30%)	Boring tremie grouted with neat cement after temporary well removed
-20						Dark greenish gray (GLEY1 4/1) sandstone (85%), loose olive brown sand (15%) Well cemented, no loose interbeds	
						Black sandstone fragments and lenses (80%), loose black sand (20%), moist, strong odor	
-25						Dark greenish gray (GLEY1 4/1) sandstone (85%), loose olive brown sand (15%) resumes	

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/29/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 34 ft bgs **First Water:** 29 ft bgs (from SB-3) **Stable Water:** 30 ft bgs (from SB-3) **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-3A** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25						Sandstone lenses (25%), loose sand (75%) Sample solid cores = not well logged At 26 ft - Collect 2 feet in 4 inch split barrel; Wet, black sandstone At 28 ft - Collect 2 feet in 4 inch split barrel; Wet, black sandstone At 30 ft - Collect 4 feet in 4 inch split barrel; Wet, black sandstone	
-30							
-35							
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/30/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 32 ft bgs **First Water:** 14.2 ft bgs (from SB-2) **Stable Water:** Not Logged at depth **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-MW-1** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
0		HA		ML		SANDY SILT WITH CLAY, dry, soft Trace sandstone and cobbles	
-5				CL		CLAY WITH SILT AND SAND, fine sand, moist, hard, low plasticity Mottled black and olive brown silty clay, trace sand lenses Angular sandstone to 5 inches	
				GW		WELL GRADED GRAVEL WITH SAND, angular sandstone fragments and subrounded river pebbles, moist, very dark reddish brown Angular sandstone to 6 inches	
-10				SC		CLAYEY SAND WITH GRAVEL AND SILT, moist, blocky, plastic fines, very dark reddish brown Moist to wet, dark olive brown	
-15				GW		WELL GRADED GRAVEL WITH SAND, wet, black, strong odor	
				Sandstone		Neroly Formation SANDSTONE, dry to moist, dark green (GLEY1) sandstone (85%), loose olive (5Y very loose sand), strong odor Moist, dark greenish gray sandstone (GLEY1) Little clay Dry to moist, trace clay, black sandstone Mild odor Moist, trace clayey lenses to 1/2 inch, sandstone disks to 3/4 inch thick Moist to wet, strong odor Note: Below samples collected/preserved in solid cores = not well logged 2 foot run, hot core	Boring tremie grouted with neat cement
-20							
-25							

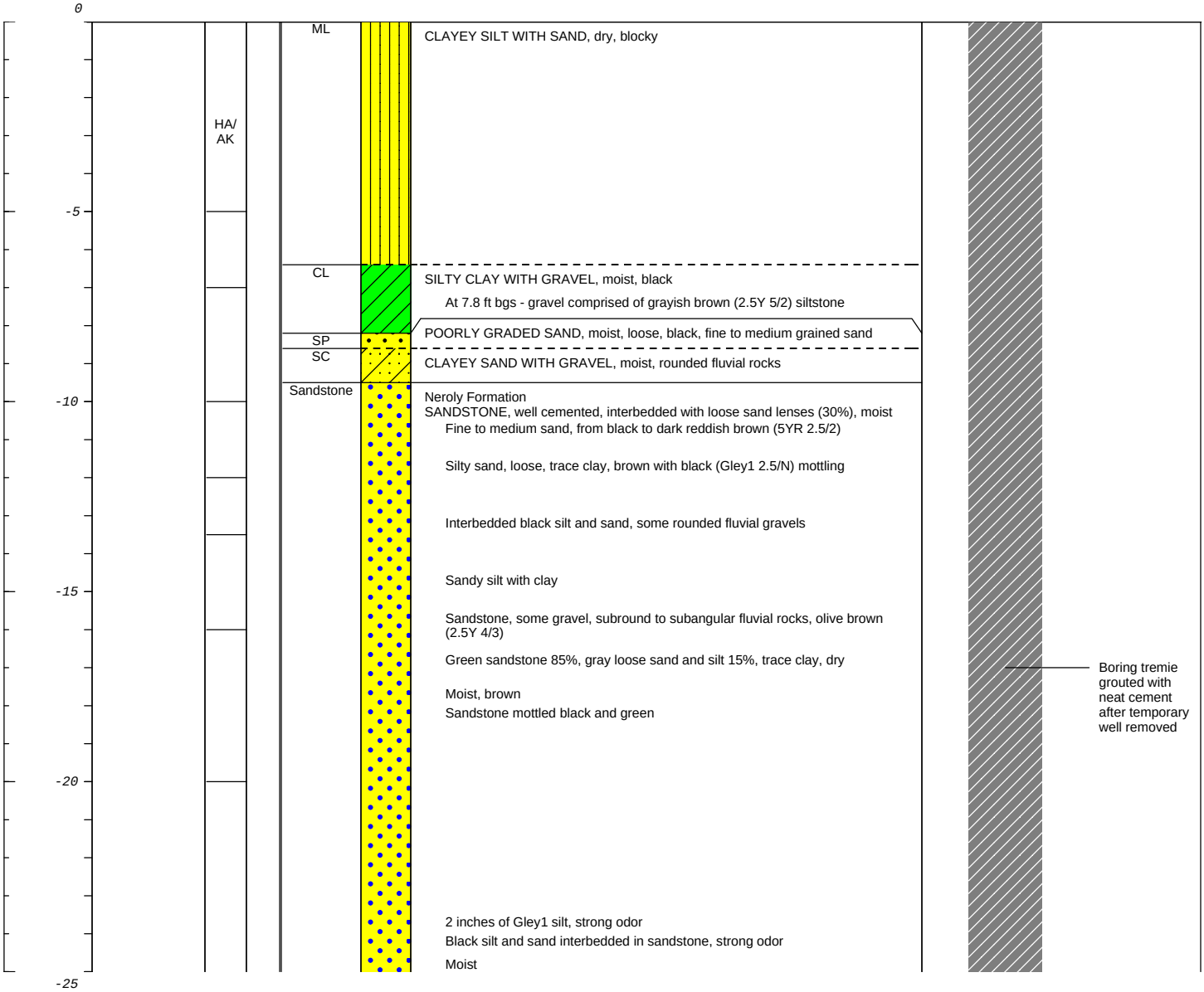
Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/30/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 4 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 32 ft bgs **First Water:** 14.2 ft bgs (from SB-2) **Stable Water:** Not Logged at depth **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-MW-1** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25	SB-MW-1_24-26					At 26 ft - Collect 2 feet in 4 inch split barrel; core hot from drilling activities, core split during drilling at 27.66 ft bgs	
	SB-MW-1_26-27.66						
	SB-MW-1_27.66-27.9					At 28 ft - Collect 1 foot core in 4 inch split barrel; core hot from drilling activities, core fractured during drilling	
	SB-MW-1_28-29					At 29 ft - Collect 3 feet in 4 inch split barrel; core hot from drilling activities, 1 gallon of liquid sand/mud came off top of section	
-30	SB-MW-1_29-31.6						
-35							
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/29/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 34 ft bgs **First Water:** Not evident in samples **Stable Water:** Not evident in samples **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-MW-3** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**



Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

Date Start/Finish: 10/29/13 **Drilling Company:** Cascade Drilling **Driller's Name:** Jeff Johnson **Drilling Method:** Sonic **Barrel Size:** 6 7/8 in **Rig Type:** Geoprobe 8140LS **Sampling Method:** Core Barrel **OVA Equipment:** PID	**Latitude:** **Longitude:** **Casing Elevation:** **Surface Elevation:** **Borehole Depth:** 34 ft bgs **First Water:** Not evident in samples **Stable Water:** Not evident in samples **Descriptions By:** Rob Moniz	**Well/Boring ID:** **SB-MW-3** **Client:** Chevron 9-7217 **Location:** Grant Line Rd. at Interstate 580 - Tracy, CA **Reviewed By:** **Jacob Henry, P.G.**

DEPTH ft bgs	Analytical Sample	Recovery Interval	PID Measurement (ppm)	Classification Symbol	Geologic Column	Stratigraphic Description	Well/Boring Construction
-25		NR				Note: Below samples collected/preserved in solid cores = not well logged At 25.5 ft - Attempt 18 inch split spoon. Too hard = damaged/bent sleeves and pulverized sample. At 27.0 ft - Use 4 inch split barrel, collect 1 foot At 28.0 ft - Collect 28-30 foot sample, bottom 5 inches fell out, core melted to remaining bottom 4 inches	
-30		NR				At 30.0 ft - Collect 30-34 foot sample. In-situ water helps lubricate core and allows for better recovery	
-35							
-40							
-45							
-50							

Remarks: Abbreviations: ft bgs = feet below ground surface, PID = photoionization detector; ppm = parts per million, HA/AK = hand auger/air knife, NR = no recovery

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Appendix C

Historical Groundwater Monitoring Data and Analytical Results, Ending February 21, 2012

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-1											
12/28/92[25]	329.17	299.73**	30.78	1.67	--	--	--	--	--	--	--
02/15/94	329.17	299.40	29.77	--	--	99,000	20,000	24,000	2000	9800	--
04/21/94	329.17	299.32	29.85	--	--	--	--	--	--	--	--
06/01/94	329.17	299.25	29.92	--	--	56,000	12,000	15,000	1100	5800	--
06/28/94	329.17	299.02	30.15	--	--	--	--	--	--	--	--
07/19/94	329.17	308.87	20.30	--	--	--	--	--	--	--	--
09/02/94	329.17	298.96	30.61	0.50	--	--	--	--	--	--	--
09/12/94	329.17	298.04	31.66	0.66	--	--	--	--	--	--	--
10/12/94	329.17	298.70	31.70	1.54	--	--	--	--	--	--	--
11/30/94	329.17	299.84	29.95	0.77	--	--	--	--	--	--	--
03/09/95	329.17	299.88	29.54	0.31	--	--	--	--	--	--	--
04/18/95	329.17	300.16	29.01	--	--	--	--	--	--	--	--
05/17/95	329.17	300.08	29.09	--	--	130,000	22,000	30,000	2000	10,000	--
06/07/95	329.17	299.93	29.24	--	--	--	--	--	--	--	--
07/21/95	329.17	299.51	29.66	--	--	--	--	--	--	--	--
08/15/95	329.17	299.30	29.87	--	--	41,000	9400	12,000	1400	7700	--
09/07/95	329.17	299.32	29.85	--	--	--	--	--	--	--	--
10/09/95	329.17	299.16	30.01	--	--	--	--	--	--	--	--
11/15/95	329.17	299.29	29.88	--	--	68,000	15,000	9600	1100	5500	<2000
12/30/95	329.17	299.18	29.99	--	--	--	--	--	--	--	--
01/29/96	329.17	299.85	29.32	--	--	--	--	--	--	--	--
02/27/96	329.17	300.66	28.51	--	--	520	48	71	<0.5	27	28
03/05/96	329.17	300.73	28.44	--	--	--	--	--	--	--	--
04/23/96	329.17	300.97	28.20	--	--	--	--	--	--	--	--
05/30/96	329.17	300.70	28.47	--	--	57,000	15,000	11,000	1100	4900	<250
06/19/96	329.17	300.74	28.43	--	--	--	--	--	--	--	--
07/15/96	329.17	300.51	28.66	--	--	--	--	--	--	--	--
08/27/96	329.17	300.44	28.73	--	--	74,000	11,000	9500	790	3600	<120
09/09/96	329.17	300.32	28.85	--	--	--	--	--	--	--	--
10/28/96	329.17	300.64	28.53	--	--	--	--	--	--	--	--
11/11/96	329.17	300.40	28.77	--	--	69,000	13,000	9100	810	3200	<250
05/06/97	329.17	301.05	28.12	--	--	98,000	23,000	17,000	1100	5200	<500
07/27/97	329.17	300.99	28.18	--	--	--	--	--	--	--	--
11/18/97	329.17	300.44	28.73	--	--	58,000	19,000	9700	1100	4000	<500
05/31/98	329.17	302.14	27.03	0.05	--	180,000	25,000	25,000	1700	9300	19,000

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-1 (cont)											
05/31/98[3]	329.17	302.14	27.03	0.05	--	--	--	--	--	--	<500
08/12/98[2]	329.17	301.99	27.18	--	--	--	--	--	--	--	--
11/23/98	329.17	301.63	27.54	--	--	131,000	14,600	23,700	1990	13,600	<200
05/11/99[2,7]	329.17	301.89	27.28	--	--	--	--	--	--	--	--
11/24/99	329.17	301.22[8]	28.11	>0.2	0.26	--	--	--	--	--	--
05/23/00[1]	329.17	302.34**	27.61	0.97	0.52[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
10/31/00	329.17	301.47**	28.35	0.81	0.26[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/18/01	329.17	301.27**	28.62	0.90	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/16/01[15]	329.17	300.63**	28.57	0.04	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
07/01/02[15]	329.17	300.38**	29.36	0.71	0.50[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/08/02[15]	329.17	300.07**	29.82	0.90	0.13[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
06/13/03[15]	329.17	300.59**	28.83	0.31	1.85[18]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/20/03	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
05/18/04	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
11/19/04	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
05/03/05	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
11/28/05	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
05/25/06	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
11/21/06	329.17	INACCESSIBLE - ATTACHED TO A SOLAR POWERED BELT SKIMMER						--	--	--	--
05/09/07	329.17	299.78**	29.70	0.39	1.30[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/17/07	329.17	299.68**	30.83	1.67	1.69[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
04/30/08	329.17	298.29**	31.54	0.83	0.53[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/26/08	329.17	298.73**	31.90	1.82	0.79[23]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/22/09[24]	329.17	298.00**	31.95	0.97	1.29[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/24/09	329.17	298.38**	32.06	1.59	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/25/10	329.17	299.19**	30.68	0.88	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/29/10	329.17	299.64**	31.67	2.68	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/02/11	329.17	299.70**	29.63	0.20	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/23/11	331.93	301.72**	31.43	1.53	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
02/21/12	**331.93**	**301.79****	**31.20**	**1.32**	**0.00**	**NOT SAMPLED DUE TO THE PRESENCE OF SPH**				--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-2											
12/28/92[25]	327.22	298.63	28.59	--	--	<50	<0.4	<0.3	<0.3	0.6	--
02/15/94	327.22	300.13	27.09	--	--	83	21	6.0	1.0	3.0	--
04/21/94	327.22	299.41	27.81	--	--	--	--	--	--	--	--
06/01/94	327.22	299.24	27.98	--	--	<50	1.3	0.5	<0.5	<0.5	--
06/28/94	327.22	299.05	28.17	--	--	--	--	--	--	--	--
07/19/94	327.22	298.87	28.35	--	--	--	--	--	--	--	--
09/02/94	327.22	298.70	28.52	--	--	82	13	16	3.6	14	--
09/12/94	327.22	298.66	28.56	--	--	--	--	--	--	--	--
10/12/94	327.22	298.60	28.62	--	--	--	--	--	--	--	--
11/30/94	327.22	298.84	28.38	--	--	<50	3.6	4.5	1.0	4.5	--
03/09/95	327.22	299.81	27.41	--	--	--	--	--	--	--	--
04/18/95	327.22	300.43	26.79	--	--	--	--	--	--	--	--
05/17/95	327.22	300.27	26.95	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/07/95	327.22	300.16	27.06	--	--	--	--	--	--	--	--
07/21/95	327.22	299.75	27.47	--	--	--	--	--	--	--	--
08/15/95	327.22	299.65	27.57	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/95	327.22	298.53	28.69	--	--	--	--	--	--	--	--
10/09/95	327.22	299.37	27.85	--	--	--	--	--	--	--	--
11/15/95	327.22	299.31	27.91	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/30/95	327.22	299.62	27.60	--	--	--	--	--	--	--	--
01/29/96	327.22	300.06	27.16	--	--	--	--	--	--	--	--
02/27/96	327.22	300.97	26.25	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
03/05/96	327.22	300.52	26.70	--	--	--	--	--	--	--	--
04/23/96	327.22	301.40	25.82	--	--	--	--	--	--	--	--
05/30/96	327.22	301.06	26.16	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
06/19/96	327.22	300.95	26.27	--	--	--	--	--	--	--	--
07/15/96	327.22	300.76	26.46	--	--	--	--	--	--	--	--
08/27/96	327.22	300.50	26.72	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
09/06/96	327.22	300.42	26.80	--	--	--	--	--	--	--	--
10/28/96	327.22	300.39	26.83	--	--	--	--	--	--	--	--
11/11/96	327.22	300.50	26.72	--	--	--	--	--	--	--	--
05/06/97	327.22	301.21	26.01	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
07/27/97	327.22	300.84	26.38	--	--	--	--	--	--	--	--
11/18/97	327.22	300.72	26.50	--	--	--	--	--	--	--	--
05/31/98	327.22	302.75	24.47	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-2 (cont)											
11/23/98	327.22	302.28	24.94	--	--	SAMPLED ANNUALLY		--	--	--	--
05/11/99	327.22	302.73	24.49	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	327.22	302.19	25.03	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/31/00	327.22	301.30	25.92	0.00	0.00	--	--	--	--	--	--
05/18/01	327.22	301.14	26.08	0.00	0.00	<50	0.52	2.6	<0.50	1.9	<2.5
11/16/01	327.22	300.41	26.81	0.00	0.00	--	--	--	--	--	--
07/01/02	327.22	300.25	26.97	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02	327.22	299.92	27.30	0.00	0.00	--	--	--	--	--	--
06/13/03[19]	327.22	300.49	26.73	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/20/03	327.22	300.74	26.48	0.00	0.00	--	--	--	--	--	--
05/18/04[19]	327.22	300.14	27.08	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/04	327.22	300.52	26.70	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/03/05[19]	327.22	299.97	27.25	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05	327.22	299.77	27.45	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/06[19]	327.22	300.62	26.60	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06	327.22	300.21	27.01	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/09/07[19]	327.22	299.68	27.54	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07	327.22	300.11	27.11	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
04/30/08[19]	327.22	299.35	27.87	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08	327.22	298.52	28.70	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/22/09[19]	327.22	299.02	28.20	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/24/09	327.22	298.44	28.78	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/10[19]	327.22	299.15	28.07	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/29/10	327.22	298.52	28.70	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/02/11[19]	327.22	299.69	27.53	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/23/11	329.98	301.58	28.40	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
02/21/12	**329.98**	**301.70**	**28.28**	**0.00**	**0.00**	**SAMPLED ANNUALLY**		--	--	--	--
MW-3											
12/28/92[25]	329.28	298.59	30.69	--	--	19,000	8,900	660	380	720	--
02/15/94	329.28	299.41	29.87	--	--	23,000	11,000	1700	540	1000	--
04/21/94	329.28	299.32	29.96	--	--	--	--	--	--	--	--
06/01/94	329.28	299.17	30.11	--	--	27,000	12,000	2600	600	2200	--
06/28/94	329.28	298.97	30.31	--	--	--	--	--	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-3 (cont)											
07/19/94	329.28	298.78	30.50	--	--	--	--	--	--	--	--
09/02/94	329.28	298.67	30.61	--	--	34,000	16,000	4100	770	3000	--
09/12/94	329.28	298.63	30.65	--	--	--	--	--	--	--	--
10/12/94	329.28	298.54	30.74	--	--	--	--	--	--	--	--
11/30/94	329.28	298.84	30.44	--	--	33,000	16,000	3000	740	2400	--
03/09/95	329.28	299.75	29.53	--	--	--	--	--	--	--	--
04/18/95	329.28	300.31	28.97	--	--	--	--	--	--	--	--
05/17/95	329.28	300.09	29.19	--	--	27,000	10,000	760	490	1000	--
06/07/95	329.28	300.04	29.24	--	--	--	--	--	--	--	--
07/21/95	329.28	299.58	29.70	--	--	--	--	--	--	--	--
08/15/95	329.28	299.50	29.78	--	--	39,000	13,000	2900	700	1700	--
09/07/95	329.28	299.42	29.86	--	--	--	--	--	--	--	--
10/09/95	329.28	299.26	30.02	--	--	--	--	--	--	--	--
11/15/95	329.28	299.22	30.06	--	--	21,000	8000	2900	430	1500	<1000
12/30/95	329.28	299.53	29.75	--	--	--	--	--	--	--	--
01/29/96	329.28	300.06	29.22	--	--	--	--	--	--	--	--
02/27/96	329.28	300.85	28.43	--	--	<2500	5000	500	220	130	710
03/05/96	329.28	300.93	28.35	--	--	--	--	--	--	--	--
04/23/96	329.28	301.18	28.10	--	--	--	--	--	--	--	--
05/30/96	329.28	300.86	28.42	--	--	37,000	13,000	7200	870	2900	<120
06/19/96	329.28	300.77	28.51	--	--	--	--	--	--	--	--
07/15/96	329.28	300.65	28.63	--	--	--	--	--	--	--	--
08/27/96	329.28	300.38	28.90	--	--	50,000	9500	6900	740	2900	<120
09/06/96	329.28	300.30	28.98	--	--	--	--	--	--	--	--
10/28/96	329.28	300.30	28.98	--	--	--	--	--	--	--	--
11/11/96	329.28	300.44	28.84	--	--	52,000	11,000	5500	780	3000	<250
05/06/97	329.28	301.06	28.22	--	--	93,000	23,000	15,000	1400	6200	<500
07/27/97	329.28	300.70	28.58	--	--	--	--	--	--	--	--
11/18/97	329.28	300.58	28.70	--	--	81,000	29,000	17,000	1600	6700	<500
05/31/98	329.28	302.60	26.68	--	--	78,000	24,000	12,000	1200	5800	1300
05/31/98[3]	329.28	302.60	26.68	--	--	--	--	--	--	--	<500
08/12/98[2]	329.28	302.25	27.03	--	--	--	--	--	--	--	--
11/23/98	329.28	302.19	27.09	--	--	97,200	17,900	12,800	1200	6950	<100
05/11/99[2]	329.28	302.60	26.68	--	--	51,000	18,000	7800	670	3600	<2.5
05/11/99[3]	329.28	302.60	26.68	--	--	--	--	--	--	--	<100

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-3 (cont)											
11/24/99	329.28	301.83	27.45	--	--	62,800	16,600	8300	900	4890	<500
05/23/00[1]	329.28	302.11	27.17	0.00	0.00	27,000[7]	14,000	12,000	940	4,600	770
10/31/00[1]	329.28	301.27	28.01	0.00	0.00	110,000[10]	25,700	21,300	1,300	7,320	1,680
05/18/01[1]	329.28	301.07	28.21	0.00	0.00	58,000[7]	19,000	16,000	1,400	7,000	2,300/11[14]
11/16/01[1]	329.28	300.41	28.87	0.00	0.00	100,000	23,000	16,000	1,400	6,800	<200
07/01/02[1]	329.28	300.20	29.08	0.00	0.00	75,000	16,000	8,800	980	4,000	140/<10[17]
11/08/02	329.28	299.89	29.39	0.00	0.00	45,000	9,800	5,800	590	2,400	<50
06/13/03[19,20]	329.28	300.46	28.82	0.00	0.00	42,000	9,100	4,100	580	1,800	5
11/20/03[19]	329.28	300.51	28.77	0.00	0.00	52,000	12,000	4,500	660	3,200	5
05/18/04[19]	329.28	300.07	29.21	0.00	0.00	57,000	15,000	5,700	840	3,400	9
11/19/04[19]	329.28	300.42	28.86	0.00	0.00	67,000	15,000	4,200	850	3,400	7
05/03/05[19]	329.28	299.88	29.40	0.00	0.00	54,000	13,000	3,400	690	2,600	<10
11/28/05[19]	329.28	299.72	29.56	0.00	0.00	56,000	16,000	1,800	950	3,500	<25
05/25/06[19]	329.28	300.47	28.81	0.00	0.00	38,000	9,400	1,800	680	2,100	<5
11/21/06[19]	329.28	300.06	29.22	0.00	0.00	27,000	10,000	420	650	1,600	<5
05/09/07[19]	329.28	299.55	29.73	0.00	0.00	40,000	9,200	660	590	1,300	<10
11/17/07[19]	329.28	298.90	30.38	0.00	0.00	22,000	9,200	86	610	560	3
04/30/08[19]	329.28	299.46	29.82	0.00	0.00	19,000	8,300	440	510	620	<5
11/26/08[19]	329.28	298.55	30.73	0.00	0.00	20,000	7,500	230	470	640	<10
05/22/09	329.28	299.28**	30.58	0.72	0.90[13]	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/24/09	329.28	298.90**	31.16	0.98	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/25/10	329.28	299.10**	30.38	0.25	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/29/10	329.28	299.05**	30.72	0.61	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
05/02/11	329.28	299.63**	29.68	0.04	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
11/23/11	332.03	301.52**	30.54	0.04	0.00	NOT SAMPLED DUE TO THE PRESENCE OF SPH				--	--
02/21/12	**332.03**	**301.66****	**30.38**	**0.01**	**0.00**	**NOT SAMPLED DUE TO THE PRESENCE OF SPH**				--	--
MW-4											
05/21/93	--	--	--	--	--	<50	12	2.0	<0.5	1.0	--
11/05/93	--	--	--	--	--	300	56	10	0.8	3.0	--
02/15/94	329.44	299.54	29.90	--	--	260	47	12	2.0	4.0	--
04/21/94	329.44	299.45	29.99	--	--	--	--	--	--	--	--
06/01/94	329.44	299.30	30.14	--	--	860	200	23	2.8	9.6	--
06/28/94	329.44	299.12	30.32	--	--	--	--	--	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-4 (cont)											
07/19/94	329.44	298.94	30.50	--	--	--	--	--	--	--	--
09/02/94	329.44	298.82	30.62	--	--	1700	250	27	6.4	15	--
09/12/94	329.44	298.75	30.69	--	--	--	--	--	--	--	--
10/12/94	329.44	298.69	30.75	--	--	--	--	--	--	--	--
11/30/94	329.44	298.93	30.51	--	--	830	350	29	8.1	22	--
03/09/95	329.44	299.83	29.61	--	--	--	--	--	--	--	--
04/18/95	329.44	300.36	29.08	--	--	--	--	--	--	--	--
05/17/95	329.44	300.22	29.22	--	--	470	200	2.2	0.9	2.1	--
06/07/95	329.44	300.17	29.27	--	--	--	--	--	--	--	--
07/21/95	329.44	299.72	29.72	--	--	--	--	--	--	--	--
08/15/95	329.44	299.67	29.77	--	--	100	4.2	0.8	<0.5	<0.5	--
09/07/95	329.44	299.59	29.85	--	--	--	--	--	--	--	--
10/09/95	329.44	299.42	30.02	--	--	--	--	--	--	--	--
11/15/95	329.44	299.39	30.05	--	--	270	94	9.4	0.77	4.3	27
12/30/95	329.44	299.65	29.79	--	--	--	--	--	--	--	--
01/29/96	329.44	300.13	29.31	--	--	--	--	--	--	--	--
02/27/96	329.44	300.86	28.58	--	--	690	100	15	<0.5	2.0	79
03/05/96	329.44	300.89	28.55	--	--	--	--	--	--	--	--
04/23/96	329.44	301.29	28.15	--	--	--	--	--	--	--	--
05/30/96	329.44	301.04	28.40	--	--	700	240	4.0	0.6	3.9	<5.0
06/19/96	329.44	300.97	28.47	--	--	--	--	--	--	--	--
07/15/96	329.44	300.82	28.62	--	--	--	--	--	--	--	--
08/27/96	329.44	300.59	28.85	--	--	<50	11	<0.5	<0.5	<0.5	<5.0
09/06/96	329.44	300.52	28.92	--	--	--	--	--	--	--	--
10/28/96	329.44	300.54	28.90	--	--	--	--	--	--	--	--
11/11/96	329.44	300.66	28.78	--	--	240	57	1.4	0.7	1.8	<5.0
05/06/97	329.44	301.33	28.11	--	--	240	74	2.7	<0.5	1.6	<5.0
07/27/97	329.44	301.01	28.43	--	--	--	--	--	--	--	--
11/18/97	329.44	300.86	28.58	--	--	270	230	3.5	1.0	1.6	<2.5
05/31/98	329.44	302.91	26.53	--	--	1000	450	3.4	4.5	<6.0	<20
08/12/98[2]	329.44	302.62	26.82	--	--	--	--	--	--	--	--
11/23/98[6]	329.44	305.52	23.92	--	--	--	--	--	--	--	--
12/23/98[6]	329.44	305.25	24.19	--	--	--	--	--	--	--	--
05/11/99[2]	329.44	306.24	23.20	--	--	470	260	2.6	<0.5	4.3	35
05/11/99[3]	329.44	306.24	23.20	--	--	--	--	--	--	--	<2.0

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-4 (cont)											
11/24/99	329.44	306.41	23.03	--	--	2400	562	<5.0	10.7	10.4	38.1
5/23/00[1]	329.44	305.30	24.14	0.00	0.00	370[8]	470[9]	1.1	9.7	5.9	84
10/31/00[1]	329.44	304.42	25.02	0.00	0.00	672[11]	224	<5.00	<5.00	<15.0	<25.0
05/18/01[1]	329.44	304.23	25.21	0.00	0.00	230[7]	37	<0.50	1.3	0.95	22/2.1[14]
11/16/01[16]	329.44	303.53	25.91	0.00	0.00	290	36	<0.50	<0.50	<1.5	<2.5
07/01/02	329.44	303.33	26.11	0.00	0.00	410	60	<0.50	2.1	<1.5	<2.5
11/08/02	329.44	303.01	26.43	0.00	0.00	64	7.0	<0.50	<0.50	<1.5	<2.5
06/13/03[19]	329.44	302.58	26.86	0.00	0.00	79	4	<0.5	<0.5	<0.5	<0.5
11/20/03[19]	329.44	302.81	26.63	0.00	0.00	350	36	<0.5	2	0.7	<0.5
05/18/04[19]	329.44	303.13	26.31	0.00	0.00	160	22	<0.5	2	1	<0.5
11/19/04[19]	329.44	302.56	26.88	0.00	0.00	480	93	2	4	4	<0.5
05/03/05[19]	329.44	302.96	26.48	0.00	0.00	180	40	0.8	1	1	<0.5
11/28/05[19]	329.44	302.76	26.68	0.00	0.00	630	96	2	5	5	<0.5
05/25/06[19]	329.44	303.59	25.85	0.00	0.00	2,400	490	11	33	21	<0.5
11/21/06[19]	329.44	303.16	26.28	0.00	0.00	<50	3	<0.5	<0.5	<0.5	<0.5
05/09/07[19]	329.44	302.69	26.75	0.00	0.00	940	170	5	9	11	<0.5
11/17/07[19]	329.44	302.03	27.41	0.00	0.00	580	150	5	4	7	<0.5
04/30/08[19]	329.44	302.44	27.00	0.00	0.00	73	15	0.6	0.7	0.9	<0.5
11/26/08[19]	329.44	301.52	27.92	0.00	0.00	530	63	6	5	10	<0.5
05/22/09[19]	329.44	301.95	27.49	0.00	0.00	400	56	6	4	16	<0.5
11/24/09[19]	329.44	301.30	28.14	0.00	0.00	1,400	160	18	10	38	<0.5
05/25/10[19]	329.44	302.04	27.40	0.00	0.00	1,100	93	19	15	32	<0.5
11/29/10[19]	329.44	301.39	28.05	0.00	0.00	520	130	9	3	24	<0.5
05/02/11[19]	329.44	302.56	26.88	0.00	0.00	420	59	7	5	16	<0.5
11/23/11[19]	320.22	292.54	27.68	0.00	0.00	1,400	140	32	20	47	<0.5
02/21/12	**320.22**	**292.60**	**27.62**	**0.00**	**0.00**	**SAMPLED SEMI-ANNUALLY**			--	--	--
MW-5											
05/25/93	--	--	--	--	--	<50	<0.5	<0.5	<0.5	0.9	--
11/05/93	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
02/15/94	312.88	287.78	25.10	--	--	<50	<0.5	1.0	<0.5	1.0	--
04/21/94	312.88	299.67	13.21	--	--	--	--	--	--	--	--
06/01/94	312.88	299.49	13.39	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/28/94	312.88	299.15	13.73	--	--	--	--	--	--	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-5 (cont)											
07/19/94	312.88	299.08	13.80	--	--	--	--	--	--	--	--
09/02/94	312.88	298.86	14.02	--	--	<50	3.2	1.8	<0.5	2.1	--
09/12/94	312.88	298.85	14.03	--	--	--	--	--	--	--	--
10/12/94	312.88	298.73	14.15	--	--	--	--	--	--	--	--
11/30/94	312.88	298.97	13.91	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/09/95	312.88	299.91	12.97	--	--	--	--	--	--	--	--
04/18/95	312.88	300.40	12.48	--	--	--	--	--	--	--	--
05/17/95	312.88	300.17	12.71	--	--	150	1.0	<0.5	<0.5	<0.5	--
06/07/95	312.88	300.03	12.85	--	--	--	--	--	--	--	--
07/21/95	312.88	299.58	13.30	--	--	--	--	--	--	--	--
08/15/95	312.88	299.47	13.41	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/95	312.88	299.46	13.42	--	--	--	--	--	--	--	--
10/09/95	312.88	299.27	13.61	--	--	--	--	--	--	--	--
11/15/95	312.88	299.25	13.63	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
12/30/95	312.88	299.58	13.30	--	--	--	--	--	--	--	--
01/29/96	312.88	300.13	12.75	--	--	--	--	--	--	--	--
02/27/96	312.88	300.86	12.02	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
03/05/96	312.88	300.92	11.96	--	--	--	--	--	--	--	--
04/23/96	312.88	301.11	11.77	--	--	--	--	--	--	--	--
05/30/96	312.88	300.71	12.17	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
06/19/96	312.88	300.63	12.25	--	--	--	--	--	--	--	--
07/15/96	312.88	300.49	12.39	--	--	--	--	--	--	--	--
08/27/96	312.88	300.23	12.65	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
09/06/96	312.88	300.20	12.68	--	--	--	--	--	--	--	--
10/28/96	312.88	300.16	12.72	--	--	--	--	--	--	--	--
11/11/96	312.88	300.27	12.61	--	--	--	--	--	--	--	--
05/06/97	312.88	300.82	12.06	--	--	<50	2.2	2.0	<0.5	1.7	<5.0
07/27/97	312.88	300.49	12.39	--	--	--	--	--	--	--	--
11/18/97	312.88	300.43	12.45	--	--	--	--	--	--	--	--
05/31/98	312.88	302.30	10.58	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10
11/23/98	312.88	301.96	10.92	--	--	SAMPLED ANNUALLY		--	--	--	--
05/11/99	312.88	302.39	10.49	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	312.88	301.79	11.09	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/31/00	312.88	300.97	11.91	0.00	0.00	--	--	--	--	--	--
05/18/01	312.88	300.82	12.06	0.00	0.00	<50	0.52	2.0	<0.50	1.0	<2.5

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE		TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-5 (cont)												
11/16/01		312.88	300.11	12.77	0.00	0.00	--	--	--	--	--	--
07/01/02		312.88	299.94	12.94	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02		312.88	299.61	13.27	0.00	0.00	--	--	--	--	--	--
06/13/03[19]		312.88	300.03	12.85	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/20/03		312.88	300.21	12.67	0.00	0.00	--	--	--	--	--	--
05/18/04[19]		312.88	299.98	12.90	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/04		312.88	300.05	12.83	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/03/05[19]		312.88	300.00	12.88	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05		312.88	299.39	13.49	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/06[19]	NP[21]	312.88	300.58	12.30	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06		312.88	300.12	12.76	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/09/07[19]	NP[21]	312.88	299.76	13.12	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07		312.88	299.23	13.65	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
04/30/08[19]	NP[21]	312.88	299.12	13.76	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08		312.88	298.23	14.65	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/22/09[19]	NP[21]	312.88	299.18	13.70	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/24/09		312.88	298.17	14.71	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/10[19]	NP[21]	312.88	298.60	14.28	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/29/10		312.88	298.31	14.57	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/02/11[19]	NP[21]	312.88	299.20	13.68	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/23/11		315.97	301.50	14.47	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
02/21/12		**315.97**	**301.59**	**14.38**	**0.00**	**0.00**	**SAMPLED ANNUALLY**		--	--	--	--
MW-6												
11/22/95[25]		312.20	299.00	13.20	--	--	<50	<0.50	<0.50	<0.50	<0.50	--
12/30/95		312.20	298.55	13.65	--	--	--	--	--	--	--	--
01/29/96		312.20	300.02	12.18	--	--	--	--	--	--	--	--
02/27/96		312.20	300.75	11.45	--	--	70	1.1	<0.5	<0.5	<0.5	<5.0
03/05/96		312.20	300.88	11.32	--	--	--	--	--	--	--	--
04/23/96		312.20	301.08	11.12	--	--	--	--	--	--	--	--
05/30/96		312.20	300.75	11.45	--	--	60	1.3	<0.5	<0.5	0.9	<5.0
06/19/96		312.20	300.66	11.54	--	--	--	--	--	--	--	--
07/15/96		312.20	300.44	11.76	--	--	--	--	--	--	--	--
08/27/96		312.20	300.25	11.95	--	--	90	1.6	<0.5	<0.5	<0.5	<5.0

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE		TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-6 (cont)												
09/06/96		312.20	300.18	12.02	--	--	--	--	--	--	--	--
10/28/96		312.20	300.19	12.01	--	--	--	--	--	--	--	--
11/11/96		312.20	300.30	11.90	--	--	110	<0.5	<0.5	<0.5	<0.5	<5.0
05/06/97		312.20	300.92	11.28	--	--	170	<0.5	<0.5	<0.5	<0.5	<5.0
07/27/97		312.20	300.52	11.68	--	--	--	--	--	--	--	--
11/18/97		312.20	300.43	11.77	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/31/98		312.20	302.39	9.81	--	--	<50	0.89	0.65	<0.3	<0.6	<10
11/23/98		312.20	UNABLE TO LOCATE		--	--	--	--	--	--	--	--
12/23/98		312.20	301.88	10.32	--	--	66	<0.5	<0.5	<0.5	<0.5	<2.5
05/11/99		312.20	302.40	9.80	--	--	<50	1.9	<0.5	<0.5	<0.5	2.9
11/24/99		312.20	301.55	10.65	--	--	77.2	13.5	<0.5	<0.5	<0.5	<2.5
05/23/00		312.20	301.85	10.35	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/31/00		312.20	301.83	10.37	0.00	0.00	<50.0	<0.500	<0.500	<0.500	<1.50	5.08
05/18/01		312.20	300.89	11.31	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/16/01		312.20	300.31	11.89	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
07/01/02		312.20	300.04	12.16	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02		312.20	299.70	12.50	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
06/13/03		312.20	UNABLE TO LOCATE		--	--	--	--	--	--	--	--
11/20/03		312.20	UNABLE TO LOCATE		--	--	--	--	--	--	--	--
05/18/04[19]		312.20	299.94	12.26	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/04[19]		312.20	300.16	12.04	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/03/05[19]		312.20	299.98	12.22	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05[19]		312.20	299.59	12.61	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/25/06[19]		312.20	300.37	11.83	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06[19]		312.20	300.10	12.10	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/09/07[19]	NP[21]	312.20	299.82	12.38	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07[19]	NP[21]	312.20	299.25	12.95	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
04/30/08[19]		312.20	298.56	13.64	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08[19]		312.20	298.40	13.80	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/22/09[19]		312.20	299.26	12.94	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/24/09[19]		312.20	298.16	14.04	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/25/10[19]		312.20	298.98	13.22	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/29/10[19]		312.20	298.34	13.86	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-6 (cont)											
05/02/11[19]	312.20	299.49	12.71	0.00	0.00	<50	1	<0.5	<0.5	<0.5	0.7
11/23/11[19]	314.91	301.38	13.53	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	0.8
02/21/12	**314.91**	**301.51**	**13.40**	**0.00**	**0.00**	**SAMPLED SEMI-ANNUALLY**			--	--	--
MW-7											
11/22/95[25]	313.36	299.21	14.15	--	--	<50	<0.50	<0.50	<0.50	<0.50	--
12/30/95	313.36	300.98	12.38	--	--	--	--	--	--	--	--
01/29/96	313.36	300.22	13.14	--	--	--	--	--	--	--	--
02/27/96	313.36	301.02	12.34	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
03/05/96	313.36	301.01	12.35	--	--	--	--	--	--	--	--
04/23/96	313.36	301.23	12.13	--	--	--	--	--	--	--	--
05/30/96	313.36	300.94	12.42	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
06/19/96	313.36	300.79	12.57	--	--	--	--	--	--	--	--
07/15/96	313.36	300.66	12.70	--	--	--	--	--	--	--	--
08/27/96	313.36	300.51	12.85	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
09/06/96	313.36	300.46	12.90	--	--	--	--	--	--	--	--
10/28/96	313.36	300.52	12.84	--	--	--	--	--	--	--	--
11/11/96	313.36	300.61	12.75	--	--	--	--	--	--	--	--
05/06/97	313.36	301.22	12.14	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
07/27/97	313.36	300.91	12.45	--	--	--	--	--	--	--	--
11/18/97	313.36	300.82	12.54	--	--	--	--	--	--	--	--
05/31/98	313.36	302.61	10.75	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10
11/23/98	313.36	302.52	10.84	--	--	SAMPLED ANNUALLY		--	--	--	--
05/11/99	313.36	302.96	10.40	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	313.36	302.39	10.97	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/31/00	313.36	301.51	11.85	0.00	0.00	--	--	--	--	--	--
05/18/01	313.36	301.34	12.02	0.00	0.00	<50	<0.50	1.7	<0.50	1.2	<2.5
11/16/01	313.36	300.53	12.83	0.00	0.00	--	--	--	--	--	--
07/01/02	313.36	300.42	12.94	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02	313.36	300.11	13.25	0.00	0.00	--	--	--	--	--	--
06/13/03[19]	313.36	300.55	12.81	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/20/03	313.36	300.77	12.59	0.00	0.00	--	--	--	--	--	--
05/18/04[19]	313.36	300.53	12.83	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE		TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-7 (cont)												
11/19/04		313.36	300.57	12.79	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/03/05[19]		313.36	300.55	12.81	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05		313.36	299.78	13.58	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/06[19]	NP[21]	313.36	301.07	12.29	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06		313.36	300.62	12.74	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/09/07[19]	NP[21]	313.36	300.31	13.05	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07		313.36	299.63	13.73	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
04/30/08[19]	NP[21]	313.36	299.43	13.93	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08		313.36	298.50	14.86	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/22/09[19]	NP[21]	313.36	299.75	13.61	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/24/09		313.36	298.50	15.01	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/10[19]	NP[21]	313.36	298.93	14.43	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/29/10		313.36	298.61	14.75	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/02/11[19]	NP[21]	313.36	299.41	13.95	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/23/11		316.39	301.64	14.75	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
02/21/12		**316.39**	**301.81**	**14.58**	**0.00**	**0.00**	**SAMPLED ANNUALLY**		**--**	**--**	**--**	**--**
MW-9												
11/18/11[26]		332.56	301.58	30.98	--	--	--	--	--	--	--	--
11/23/11[19]		332.56	301.58	30.98	--	--	2,500	480	81	55	52	<3
02/21/12[19]		**332.56**	**301.68**	**30.88**	**--**	**--**	**2,900**	**590**	**100**	**64**	**81**	**<5**
MW-10												
11/18/11[26]		331.77	301.59	30.18	--	--	--	--	--	--	--	--
11/23/11[19]		331.77	301.62	30.15	--	--	8,700	500	220	58	430	<3
02/21/12[19]		**331.77**	**301.69**	**30.08**	**--**	**--**	**1,300**	**260**	**90**	**25**	**130**	**<3**
MW-11												
11/18/11[26]		331.98	301.83	30.15	--	--	--	--	--	--	--	--
11/23/11[19]		331.98	301.56	30.42	--	--	61,000	5,500	11,000	1,300	6,400	<5
02/21/12[19]		**331.98**	**301.63**	**30.35**	**--**	**--**	**62,000**	**6,400**	**7,800**	**1,100**	**5,000**	**<25**

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Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-12											
11/18/11[26]	332.53	302.11	30.42	--	--	--	--	--	--	--	--
11/23/11[19]	332.53	301.50	31.03	--	--	4,100	880	190	160	150	<1
02/21/12[19]	**332.53**	**301.61**	**30.92**	**--**	**--**	**2,800**	**750**	**9**	**150**	**18**	**<5**
MW-13											
11/18/11[26]	331.60	301.47	30.13	--	--	--	--	--	--	--	--
11/23/11[19]	331.60	301.46	30.14	--	--	1,100	150	61	26	55	2
02/21/12[19]	**331.60**	**301.58**	**30.02**	**--**	**--**	**430**	**43**	**1**	**13**	**2**	**3**
MW-14											
11/18/11[26]	332.24	301.53	30.71	--	--	--	--	--	--	--	--
11/23/11[19]	332.24	301.52	30.72	--	--	68,000	19,000	9,400	1,400	4,900	<25
02/21/12[19]	**332.24**	**301.64**	**30.60**	**--**	**--**	**80,000**	**17,000**	**8,900**	**1,100**	**3,900**	**<10**
MW-15											
11/18/11[26]	332.88	301.56	31.32	--	--	--	--	--	--	--	--
11/23/11[19]	332.88	301.55	31.33	--	--	24,000	9,500	2,200	260	990	<10
02/21/12[19]	**332.88**	**301.66**	**31.22**	**--**	**--**	**110,000**	**25,000**	**8,800**	**1,000**	**3,800**	**<13**
MW-8											
11/22/95[25]	329.91	299.56	30.35	--	--	<50	<0.50	<0.50	<0.50	<0.50	--
12/30/95	329.91	299.61	30.30	--	--	--	--	--	--	--	--
01/29/96	329.91	300.35	29.56	--	--	--	--	--	--	--	--
02/27/96	329.91	301.23	28.68	--	--	<50	<0.5	<0.5	<0.5	<5.0	<5.0
03/05/96	329.91	301.16	28.75	--	--	--	--	--	--	--	--
04/23/96	329.91	301.66	28.25	--	--	--	--	--	--	--	--
05/30/96	329.91	301.47	28.44	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
06/19/96	329.91	301.40	28.51	--	--	--	--	--	--	--	--
07/15/96	329.91	301.24	28.67	--	--	--	--	--	--	--	--
08/27/96	329.91	300.99	28.92	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
09/06/96	329.91	300.92	28.99	--	--	--	--	--	--	--	--

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MW-8 (cont)											
10/28/96	329.91	300.85	29.06	--	--	--	--	--	--	--	--
11/11/96	329.91	300.93	28.98	--	--	--	--	--	--	--	--
05/06/97	329.91	301.77	28.14	--	--	<50	3.6	3.1	0.7	2.5	<5.0
07/27/97	329.91	301.36	28.55	--	--	--	--	--	--	--	--
11/18/97	329.91	301.11	28.80	--	--	--	--	--	--	--	--
05/31/98	329.91	303.34	26.57	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10
11/23/98	329.91	302.95	26.96	--	--	SAMPLED ANNUALLY		--	--	--	--
05/11/99	329.91	303.43	26.48	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	329.91	302.82	27.09	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/31/00	329.91	318.78	11.13	0.00	0.00	--	--	--	--	--	--
05/18/01	329.91	301.67	28.24	0.00	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/16/01	329.91	300.84	29.07	0.00	0.00	--	--	--	--	--	--
07/01/02	329.91	300.74	29.17	0.00	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02	329.91	300.4	29.51	0.00	0.00	--	--	--	--	--	--
06/13/03[19]	329.91	300.77	29.14	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/20/03	329.91	300.97	28.94	0.00	0.00	--	--	--	--	--	--
05/18/04[19]	329.91	300.56	29.35	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/04	329.91	300.81	29.10	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/03/05[19]	329.91	300.40	29.51	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05	329.91	300.17	29.74	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/25/06[19]	329.91	300.96	28.95	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06	329.91	300.77	29.14	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
05/09/07[19]	329.91	300.19	29.72	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07	329.91	299.83	30.08	0.00	0.00	SAMPLED ANNUALLY		--	--	--	--
04/30/08[19]	--[22]	--[22]	28.97	0.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08	--[22]	WELL DAMAGED		--	--	--	--	--	--	--	--
05/22/09	--[22]	WELL DAMAGED		--	--	--	--	--	--	--	--
11/24/09	--[22]	WELL DAMAGED		--	--	--	--	--	--	--	--
MONITORING/SAMPLING DISCONTINUED											
SUPPLY WELL											
11/15/95	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/11/96	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
07/27/97	--	--	--	--	--	--	--	--	--	--	--
11/18/97	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5

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WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
SUPPLY WELL (cont)											
05/31/98	--	--	--	--	--	--	--	--	--	--	--
11/23/98	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0
05/11/99	--	--	--	--	--	--	--	--	--	--	--
11/24/99	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
10/30/00	--	--	--	--	--	--	--	--	--	--	--
05/18/01	--	--	--	--	--	--	--	--	--	--	--
11/16/01	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
07/01/02	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/20/03[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/18/04	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/19/04[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/03/05	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/28/05[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/25/06	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/21/06[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
04/30/08	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/26/08[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/24/09[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/25/10	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/29/10	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/02/11	--	--	--	--	--	SAMPLED ANNUALLY		--	--	--	--
11/23/11[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
02/21/12	--	--	--	--	--	**SAMPLED ANNUALLY**		--	--	--	--
BAILER BLANK											
02/15/94	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
TRIP BLANK											
02/15/94	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/01/94	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/02/94	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
11/30/94	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
05/17/95	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
08/15/95	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
11/15/95	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
02/27/96	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
05/30/96	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
08/27/96	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
11/11/96	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
05/06/97	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
07/27/97	--	--	--	--	--	--	--	--	--	--	--
11/18/97	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/31/98	--	--	--	--	--	<50	<0.3	<0.3	<0.3	<0.6	<10
11/23/98	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0
05/11/99	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/23/00	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.5
10/31/00	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.50	49.0
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
07/01/02	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
11/08/02	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
06/13/03[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/20/03[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/18/04[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/19/04[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/03/05[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/28/05[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/25/06[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/06[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/09/07[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/17/07[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TOTAL SPH REMOVED (gallons)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
QA (cont)											
04/30/08[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
11/26/08[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
05/22/09[19]	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5
DISCONTINUED											

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to May 23, 2000, were compiled from reports prepared by Blaine Tech Services, Inc.

TOC = Top of Casing
(ft.) = Feet
GWE = Groundwater Elevation
(msl) = Mean sea level
DTW = Depth to Water
SPHT = Separate Phase Hydrocarbon Thickness
SPH = Separate Phase Hydrocarbons

TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl Tertiary Butyl Ether

-- = Not Measured/Not Analyzed
NP = No Purge
(µg/L) = Micrograms per liter
QA = Quality Assurance/Trip Blank

* 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.

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #9-7127

I-580 and Grant Line Road

Tracy, California

EXPLANATIONS:

[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 2
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	06/25/12	SPH	331.93	31.85	1.80	300.08	--	--	--	--	--	--	
	09/22/12	SPH	331.93	32.85	2.42	299.08	--	--	--	--	--	--	
	12/10/12	SPH	331.93	32.21	1.90	299.72	--	--	--	--	--	--	
	03/26/13	SPH	331.81	31.30	1.29	300.51	--	--	--	--	--	--	
	06/13/13	SPH	331.81	32.39	2.03	300.94	--	--	--	--	--	--	
	09/04/13	SPH	331.81	33.23	2.53	300.48	--	--	--	--	--	--	
	12/04/13	SPH	331.81	33.05	2.34	300.52	--	--	--	--	--	--	
MW-2	06/25/12		329.98	28.60	0.00	301.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		329.98	29.15	0.00	300.83	--	--	--	--	--	--	
	12/10/12		329.98	28.79	0.00	301.19	--	--	--	--	--	--	
	03/26/13		329.88	28.45	0.00	301.43	--	--	--	--	--	--	
	06/13/13		329.88	28.89	0.00	300.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		329.88	29.47	0.00	300.41	--	--	--	--	--	--	
	12/04/13		329.88	29.31	0.00	300.57	--	--	--	--	--	--	
MW-3	06/25/12	SPH	332.03	30.88	0.22	301.15	--	--	--	--	--	--	
	09/22/12	SPH	332.03	31.58	0.42	300.45	--	--	--	--	--	--	
	12/10/12	SPH	332.03	31.00	0.06	301.03	--	--	--	--	--	--	
	03/26/13	SPH	331.91	30.65	0.21	301.26	--	--	--	--	--	--	
	06/13/13	SPH	331.91	31.54	0.63	300.84	--	--	--	--	--	--	
	09/04/13	SPH	331.91	32.08	0.73	300.38	--	--	--	--	--	--	
	12/04/13	SPH	331.91	31.72	0.34	300.45	--	--	--	--	--	--	
MW-4	06/25/12		320.22	27.88	0.00	292.34	1,300	170	44	23		<0.5	
	09/22/12		329.44*	28.35	0.00	301.09	--	--	--	--	--	--	
	12/10/12		329.44*	28.11	0.00	301.33	490	<0.5	<0.5	<0.5	25	<0.5	
	03/26/13		329.25	27.73	0.00	301.52	--	--	--	--	--	--	
	06/13/13		329.25	28.16	0.00	301.09	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		329.25	28.75	0.00	300.50	--	--	--	--	--	--	
	12/04/13		329.25	28.62	0.00	300.63	1900	320	19	6	100	<0.5	

Table 2
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	06/25/12	INA	315.97	14.68	0.00	301.29	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		315.97	15.19	0.00	300.78	--	--	--	--	--	--	
	12/10/12		315.97	14.63	0.00	301.34	--	--	--	--	--	--	
	03/26/13	INA	315.84	--	0.00	--	--	--	--	--	--	--	
	06/13/13		315.84	14.96	0.00	300.88	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		315.84	15.52	0.00	300.32	--	--	--	--	--	--	
	12/04/13		315.84	15.33	0.00	300.51	--	--	--	--	--	--	
MW-6	06/25/12		314.91	13.79	0.00	301.12	<50	<0.5	<0.5	<0.5	<0.5	1	
	09/22/12		314.91	14.33	0.00	300.58	--	--	--	--	--	--	
	12/10/12		314.91	13.87	0.00	301.04	<50	<0.5	<0.5	<0.5	<0.5	1	
	03/26/13		314.92	13.56	0.00	301.36	--	--	--	--	--	--	
	06/13/13		314.92	14.08	0.00	300.84	<50	<0.5	<0.5	<0.5	<0.5	2	
	09/04/13		314.92	14.65	0.00	300.27	--	--	--	--	--	--	
	12/04/13		314.92	14.43	0.00	300.49	<50	<0.5	<0.5	<0.5	<0.5	2	
MW-7	06/25/12	INA	316.39	14.98	0.00	301.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/22/12		316.39	15.46	0.00	300.93	--	--	--	--	--	--	
	12/10/12		316.39	14.93	0.00	301.46	--	--	--	--	--	--	
	03/26/13		316.28	14.85	0.00	301.43	--	--	--	--	--	--	
	06/13/13		316.28	15.28	0.00	301.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		316.28	15.83	0.00	300.45	--	--	--	--	--	--	
	12/04/13		316.28	15.70	0.00	300.58	--	--	--	--	--	--	
MW-8	03/26/13		333.00	--	0.00	--	--	--	--	--	--	--	
	06/13/13		333.00	31.75	0.00	301.25	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		333.00	32.33	0.00	300.67	--	--	--	--	--	--	
	12/04/13		333.00	32.23	0.00	300.77	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-9	06/25/12		332.56	31.13	0.00	301.43	2,400	370	84	59	62	<0.5	
	09/22/12		332.56	31.65	0.00	300.91	5,200	1,100	950	110	300	<5	
	12/10/12		332.56	31.34	0.00	301.22	6,800	1,400	1,100	90	370	<5	
	03/26/13		332.45	31.00	0.00	301.45	4,400	700	110	57	120	<0.5	
	06/13/13		332.45	31.42	0.00	301.03	1,400	190	11	24	10	<0.5	
	09/04/13		332.45	31.99	0.00	300.46	5,900	930	350	30	230	<1	
	12/04/13		332.45	31.84	0.00	300.61	9,600	2300	1500	54	330	<3	

Table 2
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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-10	06/25/12		331.77	30.32	0.00	301.45	2,500	420	70	27	180	<5	
	09/22/12		331.77	30.85	0.00	300.92	2,900	620	470	30	160	<5	
	12/10/12		331.77	36.64	0.00	295.13	3,100	630	27	<5	37	<5	
	03/26/13		331.66	30.16	0.00	301.50	920	150	18	4	26	<0.5	
	06/13/13		331.66	30.63	0.00	301.03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	09/04/13		331.66	31.14	0.00	300.52	6,800	1,300	510	14	180	<1	
	12/04/13	SPH	331.66	31.34	0.28	300.53	--	--	--	--	--	--	
MW-11	06/25/12		331.98	30.63	0.00	301.35	47,000	9,800	7,900	880	3,900	<50	
	09/22/12		331.98	31.15	0.00	300.83	51,000	9,000	7,200	1,200	4,600	<50	
	12/10/12		331.98	30.88	0.00	301.10	41,000	8,400	6,800	720	3,600	<25	
	03/26/13	SPH	331.87	31.35	1.26	300.52	--	--	--	--	--	--	
	06/13/13	SPH	331.87	31.96	1.33	300.91	--	--	--	--	--	--	
	09/04/13	SPH	331.87	32.36	1.26	300.46	--	--	--	--	--	--	
	12/04/13	SPH	331.87	32.23	1.12	300.48	--	--	--	--	--	--	
MW-12	06/25/12		332.53	31.23	0.00	301.30	570	21	0.8	38	3	<0.5	
	09/22/12		332.53	31.78	0.00	300.75	350	2	<0.5	6	<0.5	<0.5	
	12/10/12		332.53	31.37	0.00	301.16	380	17	<0.5	1	0.9	<0.5	
	03/26/13		332.42	31.05	0.00	301.37	240	7	0.7	0.9	1	<0.5	
	06/13/13		332.42	31.51	0.00	300.91	180	7	0.6	0.6	0.5	<0.5	
	09/04/13		332.42	32.06	0.00	300.36	160	12	<0.5	<0.5	0.7	<0.5	
	12/04/13		332.42	31.90	0.00	300.52	470	140	1	<0.5	3	<0.5	
MW-13	06/25/12		331.60	30.34	0.00	301.26	290	22	0.7	2	1	2	
	09/22/12		331.60	30.89	0.00	300.71	290	11	0.6	4	0.7	2	
	12/10/12		331.60	30.47	0.00	301.13	240	16	<0.5	5	1	1	
	03/26/13		331.49	30.15	0.00	301.34	290	23	<0.5	2	<0.5	2	
	06/13/13		331.49	30.62	0.00	300.87	240	22	<0.5	<0.5	<0.5	2	
	09/04/13		331.49	31.19	0.00	300.30	210	40	<0.5	<0.5	<0.5	2	
	12/04/13		331.49	31.00	0.00	300.49	430	110	<0.5	1	<0.5	2	

Table 2
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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	
	09/22/12		332.24	31.45	0.00	300.79	83,000	25,000	9,900	1,800	6,600	<25	
	12/10/12		332.24	31.07	0.00	301.17	70,000	19,000	8,700	1,200	4,600	<50	
	03/26/13		332.12	30.74	0.00	301.38	92,000	23,000	6,200	1,200	4,700	<5	
	06/13/13		332.12	31.21	0.00	300.91	76,000	24,000	7,000	1,300	4,900	<10	
	09/04/13		332.12	31.77	0.00	300.35	100,000	23,000	8,200	1,400	5,500	<25	
	12/04/13		332.12	31.60	0.00	300.52	64,000	23,000	8,000	1,500	5,500	<50	
MW-15	06/25/12		332.88	31.51	0.00	301.37	88,000	28,000	8,400	1,100	4,300	<50	
	09/22/12		332.88	32.05	0.00	300.83	77,000	29,000	9,000	1,700	6,400	<25	
	12/10/12		332.88	31.70	0.00	301.18	71,000	22,000	5,900	1,200	4,800	<100	
	03/26/13		332.77	31.36	0.00	301.41	96,000	25,000	4,300	1,200	4,400	<5	
	06/13/13		332.77	31.81	0.00	300.96	58,000	24,000	4,500	1,100	3,900	12	
	09/04/13		332.77	32.37	0.00	300.40	95,000	24,000	4,400	1,200	4,400	<25	
	12/04/13		332.77	32.22	0.00	300.55	50,000	20,000	2,300	1,100	3,700	<50	
WSW-1	06/25/12		--	--	--	--	--	--	--	--	--	--	
	09/22/12		--	--	--	--	--	--	--	--	--	--	
	12/10/12		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	03/26/13		--	--	--	--	--	--	--	--	--	--	
	06/13/13		--	--	--	--	--	--	--	--	--	--	
	09/04/13		--	--	--	--	--	--	--	--	--	--	
	12/04/13		--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	

Table 2
Historical Groundwater Monitoring Data and Analytical Results, Beginning June 25, 2012
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580, Tracy, California

Well I.D.	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

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

J = Estimated value (less than the method reporting limit and greater than or equal to the method detection limit)

N = Identity of contaminant uncertain (hydrocarbon pattern atypical of indicated analyte); see lab report

R = Data rejected (data determined to be unreliable by laboratory)

INA = Well inaccessble due to steep terrain, grab samples collected

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., April 2013

Appendix D

Historical Soil Analytical Results

Table 1
Soil Analytical Results - October 2013
Total Petroleum Hydrocarbons and Volatile Organic Compounds

Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

Sample ID	Sample Date	Sample Depth (ft bgs)	USEPA Method 8015B	USEPA Method 8260B					
			TPH-GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 0 to 5 ft bgs[1]			NA	8.2	NA	89	NA	NA	45
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 5 to 10 ft bgs[1]			NA	12	NA	134	NA	NA	45
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	**0.002**	**0.005**	<0.001	**0.001**	<0.0006	<0.001
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

Table 1
Soil Analytical Results - October 2013
Total Petroleum Hydrocarbons and Volatile Organic Compounds

Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

Sample ID	Sample Date	Sample Depth (ft bgs)	USEPA Method 8015B	USEPA Method 8260B					
			TPH-GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 0 to 5 ft bgs[1]			NA	8.2	NA	89	NA	NA	45
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 5 to 10 ft bgs[1]			NA	12	NA	134	NA	NA	45
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
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	**0.0008**	<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	--
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	--

Table 1
Soil Analytical Results - October 2013
Total Petroleum Hydrocarbons and Volatile Organic Compounds

Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

Sample ID	Sample Date	Sample Depth (ft bgs)	USEPA Method 8015B	USEPA Method 8260B					
			TPH-GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 0 to 5 ft bgs[1]			NA	8.2	NA	89	NA	NA	45
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 5 to 10 ft bgs[1]			NA	12	NA	134	NA	NA	45

NOTES:
Concentrations are in milligrams per kilogram (mg/kg).
Bolded values indicate detected concentrations above the laboratory detection limit.
< = Less than the stated laboratory detection limit
ft bgs = feet below ground surface
MTBE = Methyl tert-butyl ether
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics
RWQCB = Regional Water Quality Control Board
USEPA = United States Environmental Protection Agency
[1] = Screening Levels from RWQCB Low-Threat Underground Storage Tank Case Closure Policy, Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health;
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Table 1
Soil Analytical Results
Total Petroleum Hydrocarbons and Volatile Organic Compounds

Offsite Well Installation Report
Grant Line Road and I-580
Tracy, California

Sample ID	Sample Date	Sample Depth (ft bgs)	USEPA Method 8015B	USEPA Method 8260B					
			TPH-GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 0 to 5 ft bgs[1]			NA	8.2	NA	89	NA	NA	45
RWQCB Direct Contact Screening Levels (Commercial/Industrial) for 5 to 10 ft bgs[1]			NA	12	NA	134	NA	NA	45
MW-16-S-2	07/14/14	2	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001
MW-16-S-5	07/15/14	5	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	<0.001
MW-16-S-10	07/15/14	10	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001
MW-16-S-16	07/15/14	16	<1.1	<0.0006	<0.001	<0.001	<0.001	<0.0006	--

NOTES:
Concentrations are in milligrams per kilogram (mg/kg).
-- = Not Analyzed
< = Less than the stated laboratory detection limit
ft bgs = feet below ground surface
MTBE = Methyl tert-butyl ether
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics
RWQCB = Regional Water Quality Control Board
USEPA = United States Environmental Protection Agency
[1] = Screening Levels from RWQCB Low-Threat Underground Storage Tank Case Closure Policy, Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health;
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

TABLE 2

HISTORICAL SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 9-7127
GRANT LINE ROAD AND INTERSTATE 580, TRACY, CALIFORNIA

Boring/Sample ID	*Date*	*Investigation Type*	*Depth (fbg)*	*TOG*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*TPPHg*	*Lead*[1]
				← *reported in milligrams per kilogram (mg/kg)* →								
B-1	12/7/1987	Subsurface Investigation	10	--	--	ND	ND	ND	ND	ND	--	--
B-2	12/7/1987	Subsurface Investigation	20	--	--	**0.8**	**0.001**	ND	**0.003**	**0.004**	--	--
B-3	12/7/1987	Subsurface Investigation	14	--	--	**76**	**1.2**	**0.68**	**0.80**	**2.0**	--	--
B-4	12/7/1987	Subsurface Investigation	15	--	--	**2,300**	**19**	**85**	**28**	**140**	--	--
B-5	12/7/1987	Subsurface Investigation	5	--	--	**0.50**	**0.076**	**0.007**	**0.002**	**0.03**	--	--
B-6	12/7/1987	Subsurface Investigation	5	--	--	ND	ND	ND	ND	ND	--	--
B-7	12/7/1987	Subsurface Investigation	5	--	--	**0.70**	**0.022**	**0.003**	**0.024**	**0.046**	--	--
B-1	12/9/1992	Subsurface Investigation	7	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--
B-1	12/9/1992	Subsurface Investigation	12.5	--	--	**4**	<0.005	<0.005	<0.005	**0.015**	--	--
B-1	12/9/1992	Subsurface Investigation	17.5	--	--	<1.0	<0.005	**0.014**	<0.005	**0.025**	--	--
B-1	12/9/1992	Subsurface Investigation	21.5	--	--	<1.0	<0.005	**0.013**	<0.005	**0.018**	--	--
AF	4/4/1991	UST Removal	14	--	--	**4,000**	<13	**41**	**66**	**310**	--	**13**
Aop	4/4/1991	UST Removal	13.5	--	--	**1.0**	**0.0070**	<0.0050	**0.005**	**0.03**	--	**9.1**
BF	4/4/1991	UST Removal	14	--	--	**5,700**	**20**	**220**	**110**	**560**	--	**80**
Bop	4/4/1991	UST Removal	14	--	--	ND	**0.0070**	**0.016**	**0.012**	**0.03**	--	**7.7**
CF	4/4/1991	UST Removal	12.5	--	--	**2.1**	**0.018**	**0.013**	**0.014**	**0.046**	--	**6.9**
Cop	4/4/1991	UST Removal	15	--	--	**2,900**	**30**	**180**	**60**	**350**	--	**14**
Cop	4/16/1991	UST Removal	13	--	--	**16**	**0.0090**	**0.014**	**0.021**	**0.17**	--	**3.6**
Cop	4/16/1991	UST Removal	15	--	--	**710**	**0.013**	**0.063**	**0.096**	**0.41**	--	**8.1**
#1	4/4/1991	Product Line/Dispenser Island Removal	2.5	--	--	**1,200**	**3.3**	**17**	**17**	**86**	--	**17**

TABLE 2

HISTORICAL SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 9-7127
GRANT LINE ROAD AND INTERSTATE 580, TRACY, CALIFORNIA

Boring/Sample ID	*Date*	*Investigation Type*	*Depth (fbg)*	*TOG*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*TPPHg*	*Lead*[1]
				← *reported in milligrams per kilogram (mg/kg)* →								
#10	4/4/1991	Product Line/Dispenser Island Removal	4	--	--	**3.3**	**0.20**	**0.043**	**0.06**	**0.16**	--	**7.7**
#11	4/4/1991	Product Line/Dispenser Island Removal	4	--	--	**750**	**12**	**33**	**19**	**110**	--	**9.5**
#12	4/4/1991	Product Line/Dispenser Island Removal	4	--	--	**15**	**0.23**	**0.19**	**0.26**	**1.3**	--	**6.9**
#5	4/16/1991	Product Line/Dispenser Island Removal	13	--	--	**220**	<0.25	**0.80**	**1.7**	**10**	--	**2.6**
#8	4/16/1991	Product Line/Dispenser Island Removal	14	--	--	**33**	**0.085**	**0.24**	**0.27**	**1.5**	--	**6.1**
#13	4/16/1991	Product Line/Dispenser Island Removal	15	--	--	**11**	<0.025	**0.047**	**0.044**	**0.31**	--	**6.1**
#14	4/16/1991	Product Line/Dispenser Island Removal	13	--	--	**9.2**	**0.0050**	**0.0060**	**0.03**	**0.13**	--	**3.6**
WoM	4/4/1991	Used-Oil Tank Removal	11	<30	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	**3.3**
FoM	4/4/1991	Heating-Oil Tank Removal	11	<30	<1.0	**170**	<0.50	<0.50	<0.50	**2.7**	--	**1.7**
MW-1	12/8/1992	Monitoring Well Installation	19	--	--	<1.0	<0.005	**0.0056**	<0.005	**0.0079**	--	--
MW-1	12/8/1992	Monitoring Well Installation	24	--	--	**2,600**	<5.0	**79**	**30**	**200**	--	--
MW-1	12/8/1992	Monitoring Well Installation	29	--	--	**8,100**	**21**	**560**	**150**	**840**	--	--
MW-1	12/8/1992	Monitoring Well Installation	30.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--
MW-1	12/8/1992	Monitoring Well Installation	38.5	--	--	<1.0	<0.005	**0.013**	<0.005	**0.024**	--	--
MW-5/B-4	5/25/1993	Monitoring Well Installation	10	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--
MW-5/B-4	5/25/1993	Monitoring Well Installation	15	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--

TABLE 2

HISTORICAL SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 9-7127
GRANT LINE ROAD AND INTERSTATE 580, TRACY, CALIFORNIA

Boring/Sample ID	*Date*	*Investigation Type*	*Depth (fbg)*	*TOG*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*TPPHg*	*Lead*[1]
				← *reported in milligrams per kilogram (mg/kg)* →								
MW-6	10/27/1995	Monitoring Well Installation	9.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-6	10/27/1995	Monitoring Well Installation	14.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-6	10/27/1995	Monitoring Well Installation	29.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-7	10/24/1995	Monitoring Well Installation	10.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-7	10/24/1995	Monitoring Well Installation	14.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-7	10/24/1995	Monitoring Well Installation	24.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-8	10/25/1995	Monitoring Well Installation	24.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-8	10/25/1995	Monitoring Well Installation	29.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-8	10/25/1995	Monitoring Well Installation	39.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--

Notes:

fbg	feet below grade
TOG	total oil and grease
TPHd	total petroleum hydrocarbons as diesel
TPHg	total petroleum hydrocarbons as gasoline
TPPHg	total purgeable petroleum hydrocarbons as gasoline
<x	not detected above laboratory reporting limit x
--	not analyzed for specific parameter
ND	not detected; reporting limits vary

TABLE 2.1

ADDITIONAL SOIL ANALYTICAL RESULTS FOR METALS AND VOCs

Sample ID	*Date*	*Depth*	*Cadmium*	*Chromium*	*Zinc*	*Nickel*	*Halogenated VOCs*
WoM	4/4/1991	11	**4.8**	**7.9**	**23**	**10**	ND
FoM	4/4/1991	11	**2.2**	**4.4**	**13**	**8.5**	ND

Appendix E

PIANO Analysis

Appendix E - Table 1
PIANO Concentrations

Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

Description		SB-9-W-37	SB-8-W-36	SB-10-W-34	SB-12-W-37	SB-11-W-39	SB-6-W-38	SB-7-W-39	SB-4-W-35	SB-3-W-36	SB-5-W-40	SB-2-W-38	SB-1-W-40	SB-13-W-25
Laboratory Number		43289-1	43289-2	43289-3	43289-4	43289-5	43289-6	43289-7	43289-8	43289-9	43289-10	43289-11	43289-12	43289-13
Date Sampled		10/15/2013	10/16/2013	10/16/2013	10/16/2013	10/17/2013	10/17/2013	10/18/2013	10/18/2013	10/21/2013	10/21/2013	10/21/2013	10/22/2013	10/22/2013
Unit		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Detection Limit		1	1	1	1	1	1	1	10	5	1	5	1	1
Butane	1P	ND	ND	99.1	2.3	173.3	188.5	1.4	1504.7	283.2	17.2	2040.9	79.5	ND
Pentane	1P	ND	ND	28.1	1.1	162.7	156.8	ND	2765.8	486.3	32.2	2601.7	181.0	ND
Hexane	1P	ND	ND	1.2	ND	24.2	17.5	ND	172.3	133.7	5.9	428.0	76.1	ND
Heptane	1P	ND	ND	ND	ND	1.6	3.3	ND	140.9	94.2	2.5	113.4	25.4	ND
Octane	1P	ND	ND	ND	ND	ND	1.0	ND	39.3	24.6	ND	25.7	6.7	ND
Nonane	1P	ND	ND	ND	ND	ND	ND	ND	11.9	ND	ND	5.8	1.1	ND
Decane	1P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Undecane	1P	ND	ND	1.1	ND	2.3	1.3	ND	12.2	16.5	ND	9.7	1.6	ND
Isobutane	2I	ND	ND	150.7	2.1	170.2	183.0	ND	838.8	164.9	10.5	1207.6	49.3	ND
Isopentane	2I	ND	ND	198.8	7.6	319.0	318.6	ND	5215.2	902.8	61.6	4591.7	327.8	ND
2,2-Dimethylbutane	2I	ND	ND	6.4	ND	6.6	8.5	ND	46.0	21.5	1.2	89.8	10.1	ND
2,3-Dimethylbutane	2I	ND	ND	23.7	3.9	25.6	41.5	ND	ND	87.2	4.7	390.7	36.9	ND
2-Methylpentane	2I	ND	ND	25.4	2.8	45.6	54.9	ND	549.5	274.8	16.5	1046.5	143.6	ND
3-Methylpentane	2I	ND	ND	24.1	3.7	32.1	38.6	ND	393.4	191.7	8.7	585.3	93.4	ND
2,2-Dimethylpentane	2I	ND	ND	ND	ND	ND	1.2	ND	ND	5.1	ND	10.7	2.7	ND
2,4-Dimethylpentane	2I	ND	ND	1.8	ND	6.6	4.5	ND	ND	39.1	1.8	62.7	13.6	ND
3,3-Dimethylpentane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND
2-Methylhexane	2I	ND	ND	ND	ND	3.1	1.0	ND	65.0	14.0	3.3	51.3	40.1	ND
2,3-Dimethylpentane	2I	ND	ND	3.5	ND	4.3	5.6	ND	86.3	53.9	1.8	20.5	22.4	ND
3-Methylhexane	2I	ND	ND	3.2	ND	5.1	8.0	ND	198.2	105.4	4.2	163.7	45.1	ND
2,2,4-Trimethylpentane	2I	ND	ND	ND	ND	ND	1.2	ND	24.7	13.6	ND	22.2	5.9	ND
2,5-Dimethylhexane	2I	ND	ND	ND	ND	ND	ND	ND	19.0	9.3	ND	14.1	4.7	ND
2,4-Dimethylhexane	2I	ND	ND	ND	ND	ND	ND	ND	23.0	14.3	ND	17.2	6.4	ND
2,3,4-Trimethylpentane	2I	ND	ND	ND	ND	ND	ND	ND	12.7	6.9	ND	10.3	2.8	ND
2,3-Dimethylhexane	2I	ND	ND	ND	ND	ND	ND	ND	19.2	23.8	ND	28.2	6.6	ND
2-Methylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.3	ND
4-Methylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.3	ND
2,3,3-Trimethylpentane	2I	ND	ND	ND	ND	ND	1.4	ND	21.5	14.4	ND	18.5	5.4	ND
3,4-Dimethylhexane	2I	ND	ND	ND	ND	ND	ND	ND	15.8	ND	ND	ND	9.0	ND
3-Ethyl-3-methylpentane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylheptane	2I	ND	ND	ND	ND	ND	ND	ND	14.4	ND	ND	ND	8.6	ND
2,2-Dimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,4-Trimethylhexane	2I	ND	ND	ND	ND	ND	ND	ND	21.7	ND	ND	9.4	3.0	ND
2,4-Dimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	10.8	ND	ND	5.5	1.4	ND
2,5-Dimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	20.1	9.0	ND	11.8	2.2	ND
3-Ethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND
3-Methyloctane	2I	ND	ND	ND	ND	ND	ND	ND	32.6	8.2	ND	12.7	5.7	ND
2,3-Dimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyloctane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	1.4	ND
2-Methyloctane	2I	ND	ND	ND	ND	ND	ND	ND	12.4	ND	ND	7.8	1.5	ND
3,3,5-Trimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dimethyloctane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylnonane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3-Dimethyloctane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3,4-Trimethylheptane	2I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	3A	ND	ND	7.8	ND	22.9	645.2	4.9	10303.8	848.9	150.8	5879.4	106.4	1.9
Toluene	3A	ND	ND	ND	ND	2.2	10.6	ND	9556.4	1466.3	126.7	10339.6	146.4	1.9
Ethylbenzene	3A	ND	ND	17.5	ND	104.6	98.9	ND	1372.1	635.2	22.1	1214.4	46.9	ND
m,p-Xylenes	3A	ND	ND	1.0	ND	88.4	169.3	ND	5192.1	1726.6	102.1	4799.2	175.2	2.1
o-Xylene	3A	ND	ND	ND	ND	190.6	115.1	ND	2759.4	1126.5	43.8	2551.6	63.6	ND
Isopropylbenzene	3A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	3A	ND	ND	3.2	ND	25.3	22.4	ND	291.1	223.8	5.2	280.5	28.5	ND
1-Methyl-3-ethylbenzene	3A	ND	ND	ND	ND	70.3	33.1	ND	974.0	312.3	18.7	980.0	62.9	ND
1-Methyl-4-ethylbenzene	3A	ND	ND	ND	ND	26.3	19.0	ND	386.6	124.8	8.2	363.3	33.1	ND
1,3,5-Trimethylbenzene	3A	ND	ND	ND	ND	37.0	25.2	ND	512.5	228.6	8.1	484.5	43.7	ND
1-Methyl-2-ethylbenzene	3A	ND	ND	2.1	ND	56.4	26.3	ND	448.3	189.9	7.6	440.7	28.9	ND

Appendix E - Table 1
PIANO Concentrations

Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

Description		SB-9-W-37	SB-8-W-36	SB-10-W-34	SB-12-W-37	SB-11-W-39	SB-6-W-38	SB-7-W-39	SB-4-W-35	SB-3-W-36	SB-5-W-40	SB-2-W-38	SB-1-W-40	SB-13-W-25
Laboratory Number		43289-1	43289-2	43289-3	43289-4	43289-5	43289-6	43289-7	43289-8	43289-9	43289-10	43289-11	43289-12	43289-13
Date Sampled		10/15/2013	10/16/2013	10/16/2013	10/16/2013	10/17/2013	10/17/2013	10/18/2013	10/18/2013	10/21/2013	10/21/2013	10/21/2013	10/22/2013	10/22/2013
Unit		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Detection Limit		1	1	1	1	1	1	1	10	5	1	5	1	1
1,2,4-Trimethylbenzene	3A	ND	ND	ND	ND	47.8	80.6	ND	1525.2	451.8	27.2	1413.9	107.2	1.4
1-Methyl-3-isopropylbenzene	3A	ND	ND	ND	ND	4.3	2.1	ND	66.7	51.1	1.3	67.3	10.1	ND
sec-Butylbenzene	3A	ND	ND	1.2	ND	1.7	1.7	ND	15.2	13.0	ND	14.8	3.2	ND
1,2,3-Trimethylbenzene	3A	ND	ND	ND	ND	30.1	35.5	ND	566.5	250.6	6.8	541.6	21.3	ND
Indane	3A	ND	ND	52.6	2.3	115.3	65.3	ND	691.3	289.7	8.0	634.9	22.3	ND
1,3-Diethylbenzene	3A	ND	ND	2.0	ND	8.0	6.3	ND	78.3	56.7	1.4	73.4	14.0	ND
n-Butylbenzene	3A	ND	ND	ND	ND	1.1	ND	ND	15.3	13.9	ND	13.3	3.8	ND
1,3-Dimethyl-5-ethylbenzene	3A	ND	ND	ND	ND	12.1	8.3	ND	157.4	113.4	2.5	145.3	24.7	ND
1,4-Diethylbenzene	3A	ND	ND	2.0	ND	2.6	2.6	ND	32.9	24.3	ND	36.4	8.1	ND
1-Methyl-2-propylbenzene	3A	ND	ND	ND	ND	4.4	3.0	ND	47.2	39.9	ND	44.5	8.5	ND
1,4-Dimethyl-2-ethylbenzene	3A	ND	ND	ND	ND	2.2	5.4	ND	151.6	107.8	2.4	141.4	23.9	ND
1,3-Dimethyl-4-ethylbenzene	3A	ND	ND	9.4	ND	25.5	16.4	ND	245.2	151.2	4.0	218.4	38.9	ND
1,2-Dimethyl-4-ethylbenzene	3A	ND	ND	ND	ND	1.6	1.4	ND	25.3	19.2	ND	23.9	2.7	ND
1,3-Dimethyl-2-ethylbenzene	3A	ND	ND	ND	ND	4.0	3.1	ND	67.8	53.5	ND	65.5	7.7	ND
1,2,4,5-Tetramethylbenzene	3A	ND	ND	3.4	ND	12.0	6.6	ND	103.3	77.5	1.5	95.0	15.8	ND
1,2,3,5-Tetramethylbenzene	3A	ND	ND	ND	ND	9.2	7.3	ND	154.3	109.7	1.8	141.1	21.2	ND
1,2,3,4-Tetramethylbenzene	3A	ND	ND	1.3	ND	7.3	4.1	ND	58.6	42.4	ND	52.4	7.2	ND
Naphthalene	3A	ND	ND	ND	ND	3.6	26.2	ND	490.0	235.6	11.1	401.5	7.1	ND
2-Methylnaphthalene	3A	ND	ND	ND	ND	2.4	4.6	ND	58.8	46.0	2.9	81.8	4.1	ND
1-Methylnaphthalene	3A	ND	ND	ND	ND	2.1	2.6	ND	26.8	21.3	1.4	37.1	1.7	ND
n-Pentylbenzene	3A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND
Cyclopentane	4N	ND	ND	48.5	1.1	92.9	88.6	ND	458.2	219.1	8.1	823.2	37.5	ND
Methylcyclopentane	4N	ND	ND	36.6	1.8	163.8	102.8	ND	803.8	865.5	29.2	1149.9	150.0	ND
Cyclohexane	4N	ND	ND	43.2	ND	91.7	71.9	ND	580.2	484.7	12.0	411.0	66.9	ND
trans-1,3-Dimethylcyclopentan	4N	ND	ND	9.1	ND	12.2	13.6	ND	158.1	115.9	3.0	135.2	32.1	ND
cis-1,3-Dimethylcyclopentane	4N	ND	ND	8.0	ND	11.0	11.8	ND	136.8	102.7	2.6	117.6	26.6	ND
1,2-Dimethylcyclopentane	4N	ND	ND	8.2	ND	14.8	15.4	ND	183.7	146.4	3.7	148.9	37.8	ND
Methylcyclohexane	4N	ND	ND	11.6	ND	52.8	51.5	ND	626.7	417.5	12.1	490.0	104.7	ND
trans-1,4-Dimethylcyclohexane	4N	ND	ND	2.3	ND	2.8	5.0	ND	74.1	12.2	1.8	7.8	23.5	ND
trans-1,2-Dimethylcyclohexane	4N	ND	ND	1.9	ND	2.3	1.7	ND	53.0	52.9	1.0	34.7	14.1	ND
Ethylcyclohexane	4N	ND	ND	ND	ND	1.9	ND	ND	52.8	49.8	1.1	34.0	15.5	ND
1,2,4-Trimethylcyclohexane	4N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trimethylcyclohexane	4N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND
Isopropylcyclohexane	4N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND
Isobutene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methyl-1-butene	5O	ND	ND	ND	ND	18.3	15.3	ND	148.1	45.0	1.3	185.9	6.8	ND
1-Pentene	5O	ND	ND	ND	ND	4.3	13.1	ND	524.4	198.0	4.2	638.4	19.3	ND
2-Methyl-1-butene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-2-Pentene	5O	ND	ND	ND	ND	10.1	60.6	ND	1082.6	634.8	12.6	2342.2	77.8	ND
cis-2-Pentene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl-2-butene	5O	ND	ND	2.0	ND	5.0	26.6	ND	934.5	334.3	8.6	1871.6	8.8	ND
Cyclopentene	5O	ND	ND	6.6	ND	12.9	ND	ND	ND	ND	1.1	ND	5.1	ND
4-Methyl-1-pentene	5O	ND	ND	ND	ND	ND	ND	ND	54.9	24.9	ND	164.6	9.5	ND
trans-2-Hexene	5O	ND	ND	ND	ND	2.4	6.9	ND	93.0	7.6	1.8	162.7	ND	ND
2-Methyl-2-pentene	5O	ND	ND	1.4	ND	11.3	8.1	ND	66.7	48.7	ND	196.8	ND	ND
3-Methylcyclopentene	5O	ND	ND	ND	ND	31.5	15.0	ND	94.4	103.8	1.4	203.3	6.4	ND
3-Methyl-2-pentene	5O	ND	ND	ND	ND	3.7	4.4	ND	149.7	85.4	ND	249.2	ND	ND
cis-2-Hexene	5O	ND	ND	ND	ND	4.0	4.4	ND	62.2	64.8	ND	114.0	11.3	ND
1-Methylcyclopentene	5O	ND	ND	6.9	1.7	13.1	8.1	ND	250.6	57.0	ND	212.2	ND	ND
5-Methyl-1-hexene	5O	ND	ND	ND	ND	ND	ND	ND	10.9	12.0	ND	8.7	2.3	ND
4,4-Dimethyl-2-pentene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,3-Trimethylpentane	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.9	ND
trans-2-Heptene	5O	ND	ND	ND	ND	ND	1.3	ND	23.8	23.4	ND	20.7	4.7	ND
2-Methyl-1-heptene	5O	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	6.4	ND	ND
1-Octene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30.2	ND	ND
Styrene	5O	ND	ND	ND	ND	1.4	ND	ND	13.7	5.4	ND	ND	ND	ND
1-Nonene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Appendix E - Table 1
PIANO Concentrations

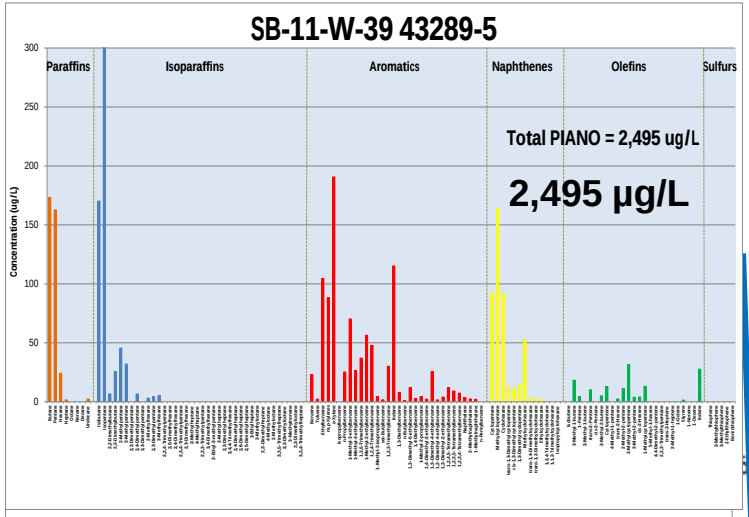
Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

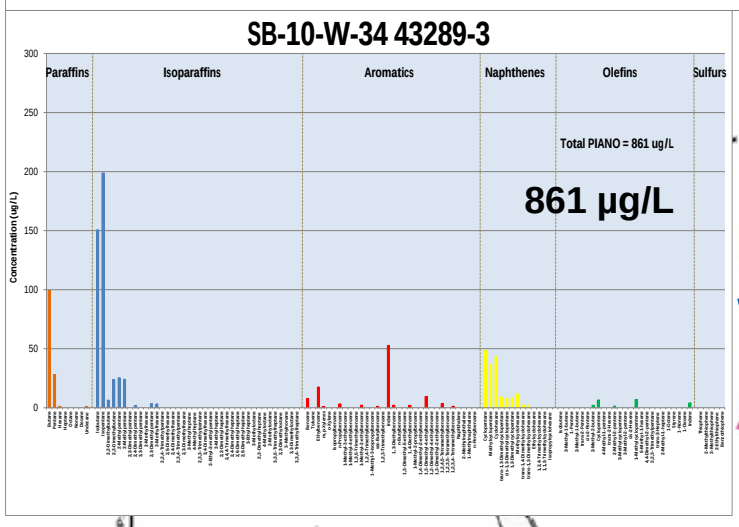
Description		SB-9-W-37	SB-8-W-36	SB-10-W-34	SB-12-W-37	SB-11-W-39	SB-6-W-38	SB-7-W-39	SB-4-W-35	SB-3-W-36	SB-5-W-40	SB-2-W-38	SB-1-W-40	SB-13-W-25
Laboratory Number		**43289-1**	**43289-2**	**43289-3**	**43289-4**	**43289-5**	**43289-6**	**43289-7**	**43289-8**	**43289-9**	**43289-10**	**43289-11**	**43289-12**	**43289-13**
Date Sampled		**10/15/2013**	**10/16/2013**	**10/16/2013**	**10/16/2013**	**10/17/2013**	**10/17/2013**	**10/18/2013**	**10/18/2013**	**10/21/2013**	**10/21/2013**	**10/21/2013**	**10/22/2013**	**10/22/2013**
Unit		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Detection Limit		**1**	**1**	**1**	**1**	**1**	**1**	**1**	**10**	**5**	**1**	**5**	**1**	**1**
1-Decene	5O	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indene	5O	ND	ND	4.1	ND	27.6	13.4	ND	143.5	99.8	ND	141.7	2.5	ND
Thiophene	6S	ND	ND	ND	ND	ND	ND	ND	24.7	10.1	ND	12.2	ND	ND
2-Methylthiophene	6S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylthiophene	6S	ND	ND	ND	ND	ND	ND	ND	26.0	21.0	ND	12.4	ND	ND
2-Ethylthiophene	6S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzothiophene	6S	ND	ND	ND	ND	ND	ND	ND	13.2	14.6	ND	10.4	ND	ND
1,2-Dichloroethane (EDC)	7Z	ND	ND	4.8	ND	127.7	ND	ND	ND	ND	5.6	ND	ND	ND
1,2-Dibromoethane (EDB)	7Z	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.6	ND	ND
Total PIANOS		0	0	861	30	2,495	3,027	6	55,506	16,307	843	55,122	2,998	7

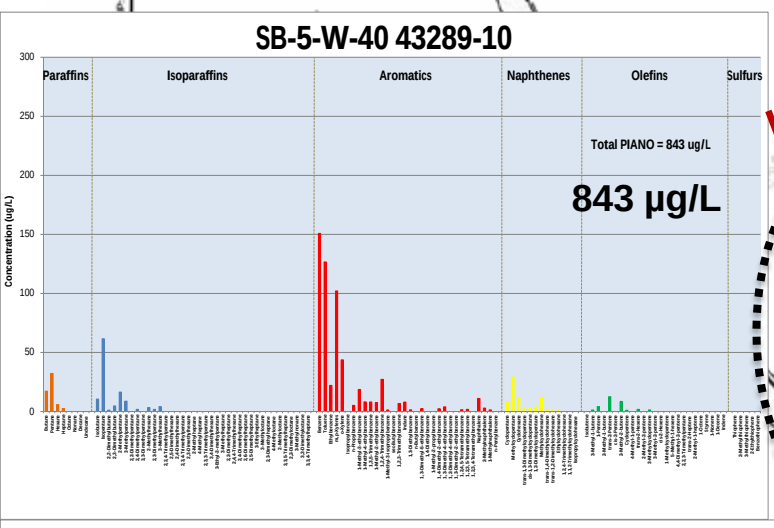
Appendix E - Table 1
PIANO Diagnostic Ratios

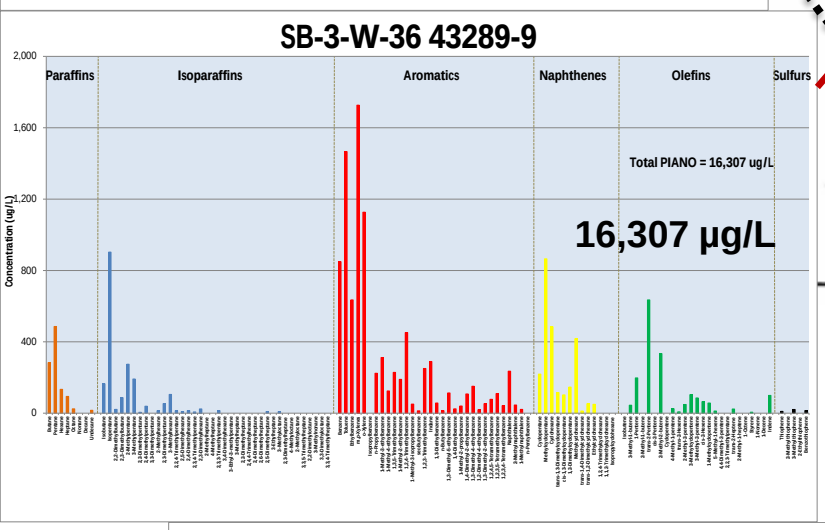
Additional Site Investigation Report
Grant Line Road and I-580
Tracy, California

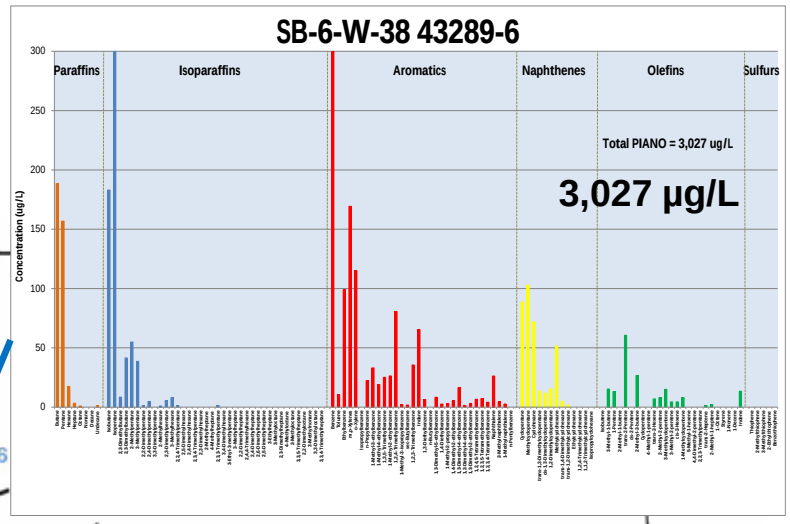
Description		SB-9-W-37	SB-8-W-36	SB-10-W-34	SB-12-W-37	SB-11-W-39	SB-6-W-38	SB-4-W-35	SB-3-W-36	SB-5-W-40	SB-2-W-38	SB-1-W-40	SB-7-W-39	SB-13-W-25
Laboratory Number		**43289-1**	**43289-2**	**43289-3**	**43289-4**	**43289-5**	**43289-6**	**43289-8**	**43289-9**	**43289-10**	**43289-11**	**43289-12**	**43289-7**	**43289-13**
Diagnostic Ratios														
trans-1,3-methylcyclopentane/ cis-1,3-methylcyclopentane		--	--	1.14	--	1.10	1.15	1.16	1.13	1.16	1.15	1.21	--	--
1,2,4-trimethylbz/ 1,3,5-trimethylbz		--	--	--	--	1.29	2.20	2.98	1.98	3.36	2.92	2.45	--	--
1,3-methyl-4-ethylbz/ 1,3-methyl-5-ethylbz		--	--	--	--	2.11	1.98	1.56	1.33	1.57	1.50	1.57	--	--
indane/1,2,3-trimethylbz		--	--	--	--	3.83	1.84	1.22	1.16	1.18	1.17	1.05	--	--
trans-1,3-methylcyclopentane/ n-heptane		--	--	--	--	7.56	4.15	1.12	1.23	1.22	1.19	1.26	--	--
% Paraffins		0	0	15	11	15	12	8	6	7	9	12	22	0
% Isoparaffins		0	0	51	66	25	22	14	12	14	15	29	0	0
% Aromatics		0	0	12	8	37	48	66	56	67	57	36	78	100
% Naphthenes		0	0	20	10	18	12	6	15	9	6	17	0	0
% Olefins		0	0	2	6	6	6	7	11	4	12	5	0	0
% Sulfur Cmpds		0	0	0	0	0	0	0	0	0	0	0	0	0

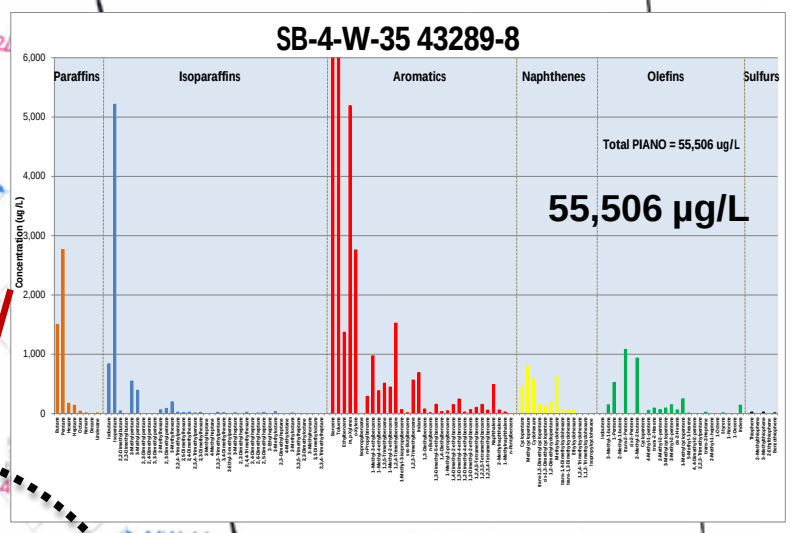


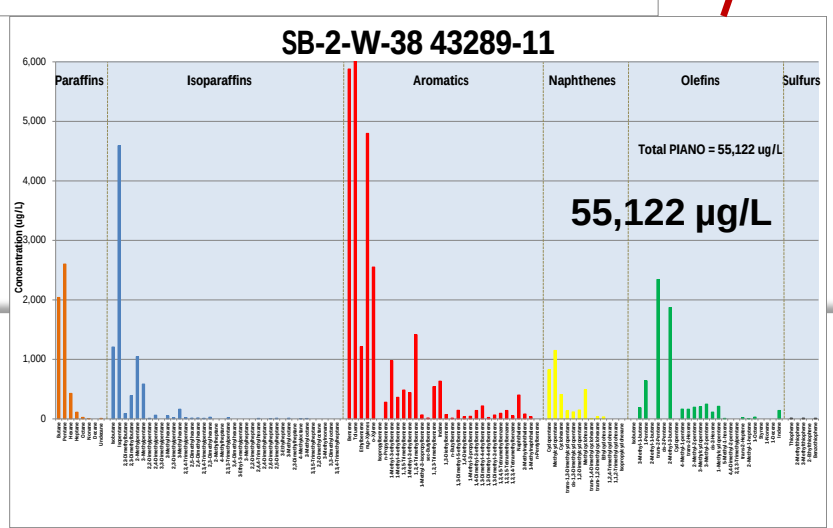


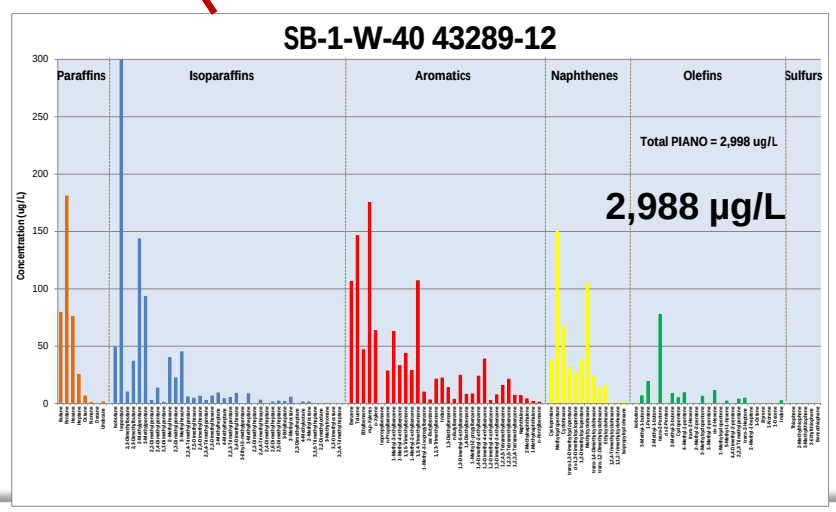












Trace PIANOS:

SB-7
SB-8
SB-9
SB-12
SB-13

Appendix E - Figure 1

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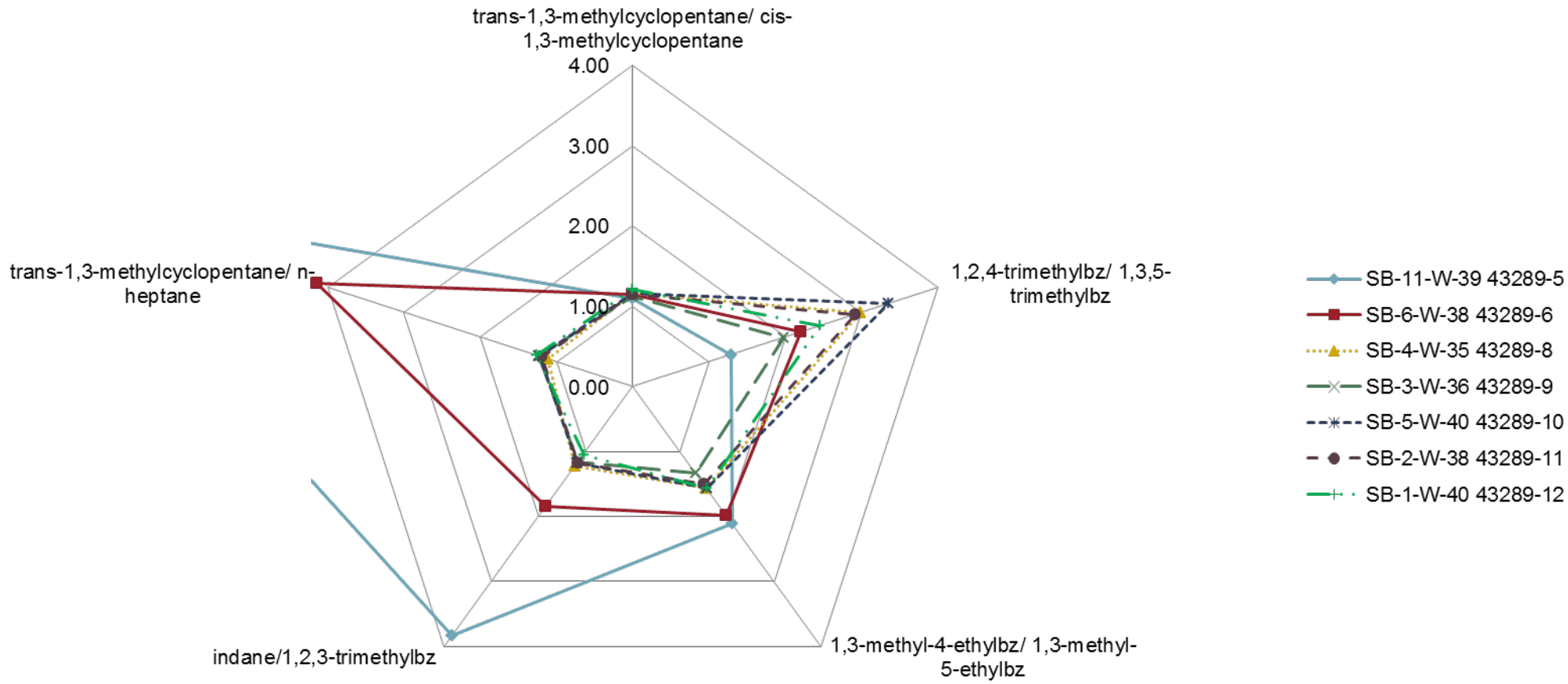
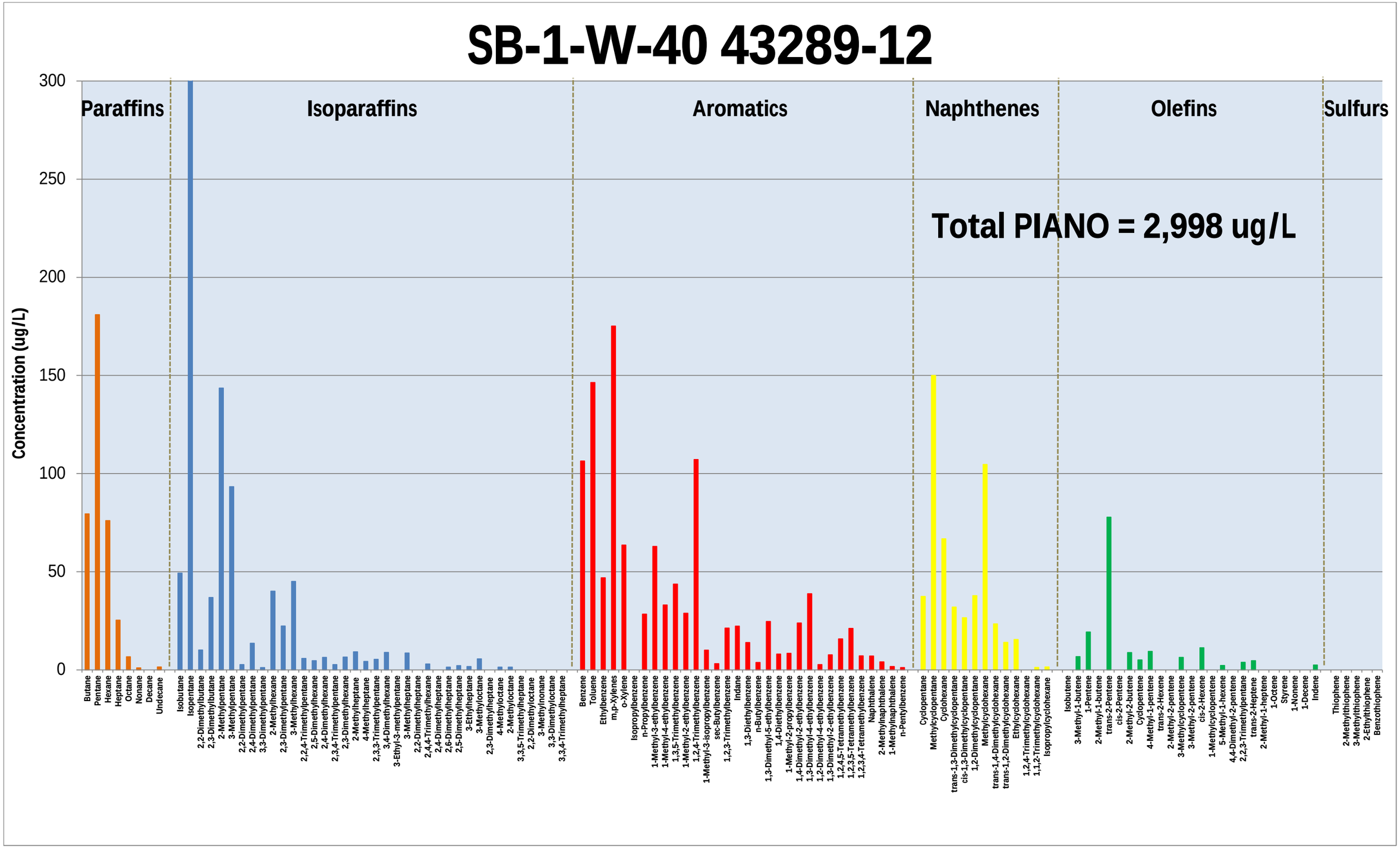
Figure 2. PIANO Diagnostic Ratio STAR Plot
CVX Tracy CA Site (#97127)



SB-1-W-40 43289-12



SB-2-W-38 43289-11

Paraffins | Isoparaffins | Aromatics | Naphthenes | Olefins | Sulfurs

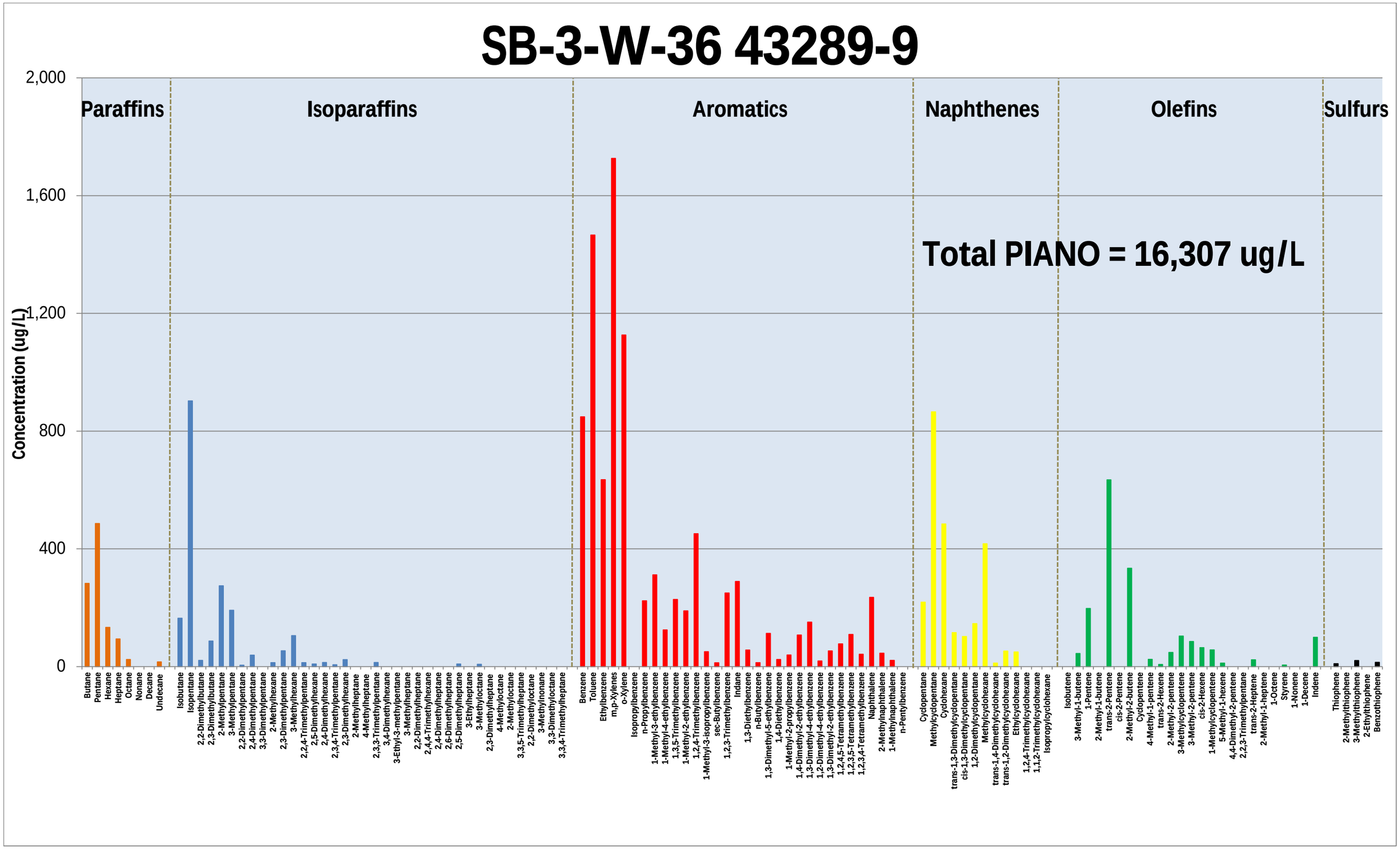
Total PIANO = 55,122 ug/L

Concentration (ug/L)

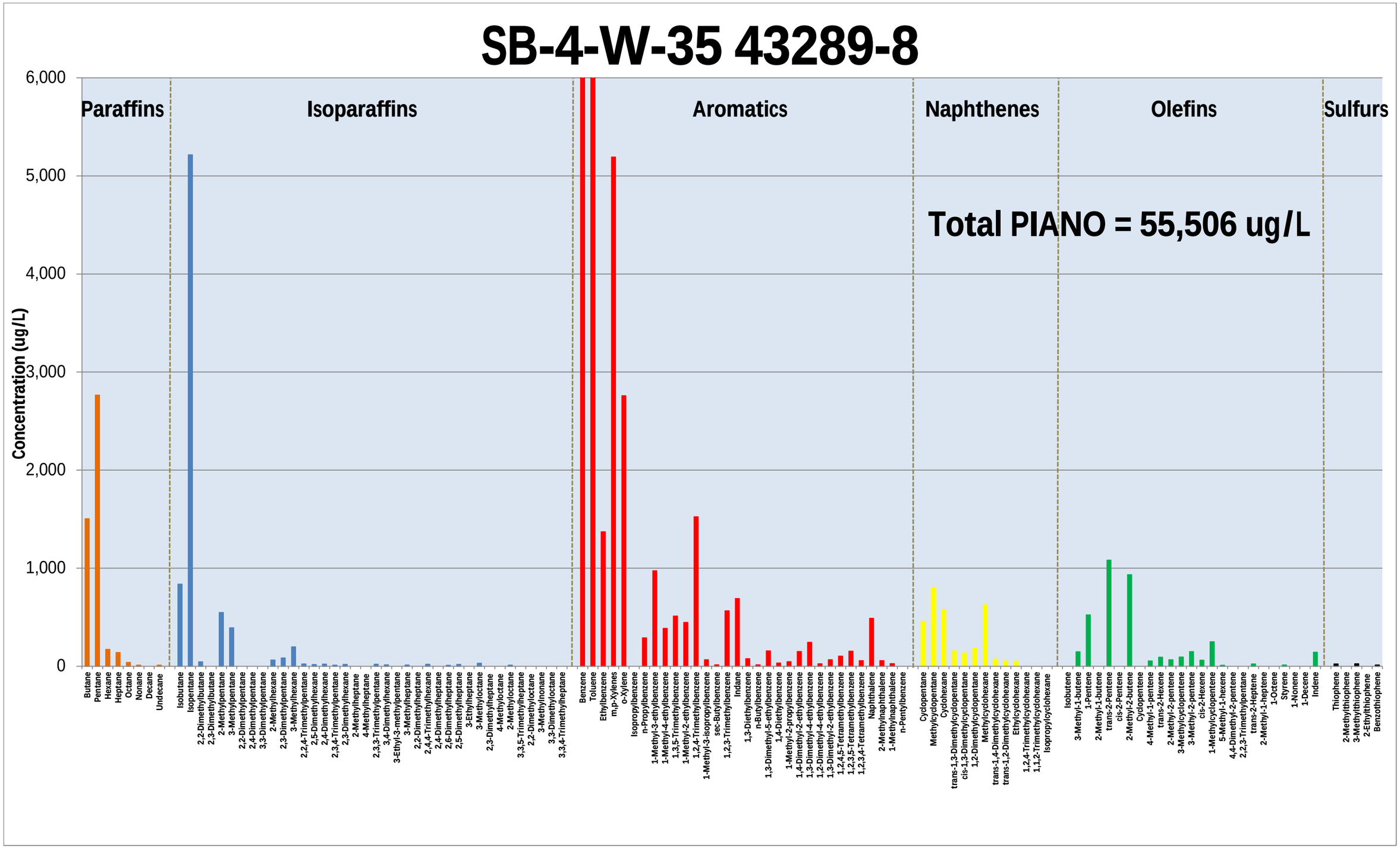
6,000
5,000
4,000
3,000
2,000
1,000
0

Butane
Pentane
Hexane
Heptane
Octane
Nonane
Decane
Undecane
Isobutane
Isopentane
2,2-Dimethylbutane
2,3-Dimethylbutane
2-Methylpentane
3-Methylpentane
2,2-Dimethylpentane
2,4-Dimethylpentane
3,3-Dimethylpentane
2-Methylhexane
2,3-Dimethylpentane
3-Methylhexane
2,2,4-Trimethylpentane
2,5-Dimethylhexane
2,4-Dimethylhexane
2,3,4-Trimethylpentane
2,3-Dimethylhexane
2-Methylheptane
4-Methylheptane
2,3,3-Trimethylpentane
3,4-Dimethylhexane
3-Ethyl-3-methylpentane
3-Methylheptane
2,2-Dimethylheptane
2,4,4-Trimethylhexane
2,4-Dimethylheptane
2,6-Dimethylheptane
2,5-Dimethylheptane
3-Ethylheptane
3-Methyloctane
2,3-Dimethylheptane
4-Methyloctane
2-Methyloctane
3,3,5-Trimethylheptane
2,2-Dimethyloctane
3-Methylnonane
3,3-Dimethyloctane
3,3,4-Trimethylheptane
Benzene
Toluene
Ethylbenzene
m,p-Xylenes
o-Xylene
Isopropylbenzene
n-Propylbenzene
1-Methyl-3-ethylbenzene
1-Methyl-4-ethylbenzene
1,3,5-Trimethylbenzene
1-Methyl-2-ethylbenzene
1,2,4-Trimethylbenzene
1-Methyl-3-isopropylbenzene
sec-Butylbenzene
1,2,3-Trimethylbenzene
Indane
1,3-Diethylbenzene
n-Butylbenzene
1,3-Dimethyl-5-ethylbenzene
1,4-Diethylbenzene
1-Methyl-2-propylbenzene
1,4-Dimethyl-2-ethylbenzene
1,3-Dimethyl-4-ethylbenzene
1,2-Dimethyl-4-ethylbenzene
1,3-Dimethyl-2-ethylbenzene
1,2,4,5-Tetramethylbenzene
1,2,3,5-Tetramethylbenzene
1,2,3,4-Tetramethylbenzene
Naphthalene
2-Methylnaphthalene
1-Methylnaphthalene
n-Pentylbenzene
Cyclopentane
Methylcyclopentane
Cyclohexane
trans-1,3-Dimethylcyclopentane
cis-1,3-Dimethylcyclopentane
1,2-Dimethylcyclopentane
Methylcyclohexane
trans-1,4-Dimethylcyclohexane
trans-1,2-Dimethylcyclohexane
Ethylcyclohexane
1,2,4-Trimethylcyclohexane
1,1,2-Trimethylcyclohexane
Isopropylcyclohexane
Isobutene
3-Methyl-1-butene
1-Pentene
2-Methyl-1-butene
trans-2-Pentene
cis-2-Pentene
2-Methyl-2-butene
Cyclopentene
4-Methyl-1-pentene
trans-2-Hexene
2-Methyl-2-pentene
3-Methylcyclopentene
3-Methyl-2-pentene
cis-2-Hexene
1-Methylcyclopentene
5-Methyl-1-hexene
4,4-Dimethyl-2-pentene
2,2,3-Trimethylpentane
trans-2-Heptene
2-Methyl-1-heptene
1-Octene
Styrene
1-Nonene
1-Decene
Indene
Thiophene
2-Methylthiophene
3-Methylthiophene
2-Ethylthiophene
Benzothiophene

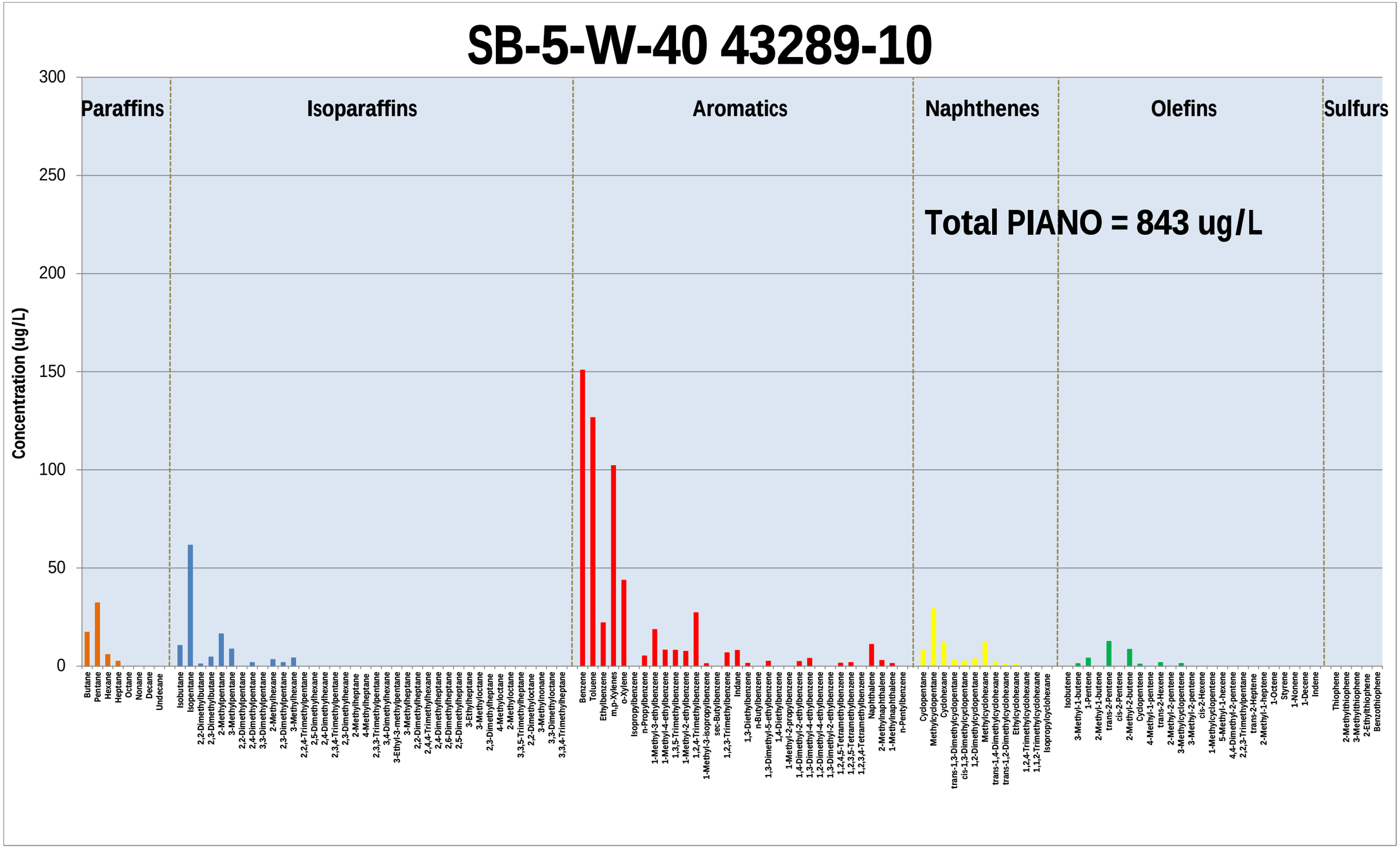
SB-3-W-36 43289-9



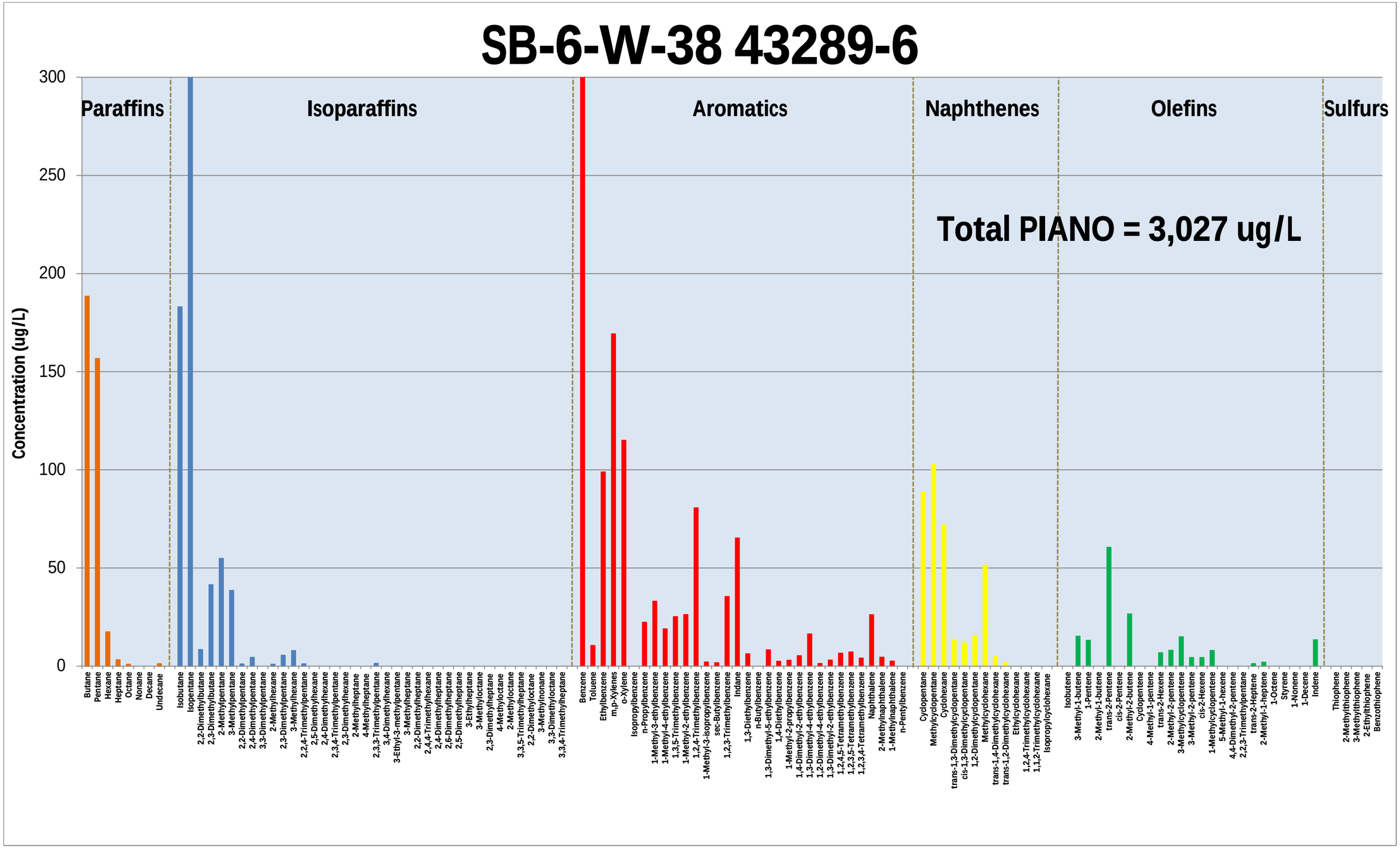
SB-4-W-35 43289-8



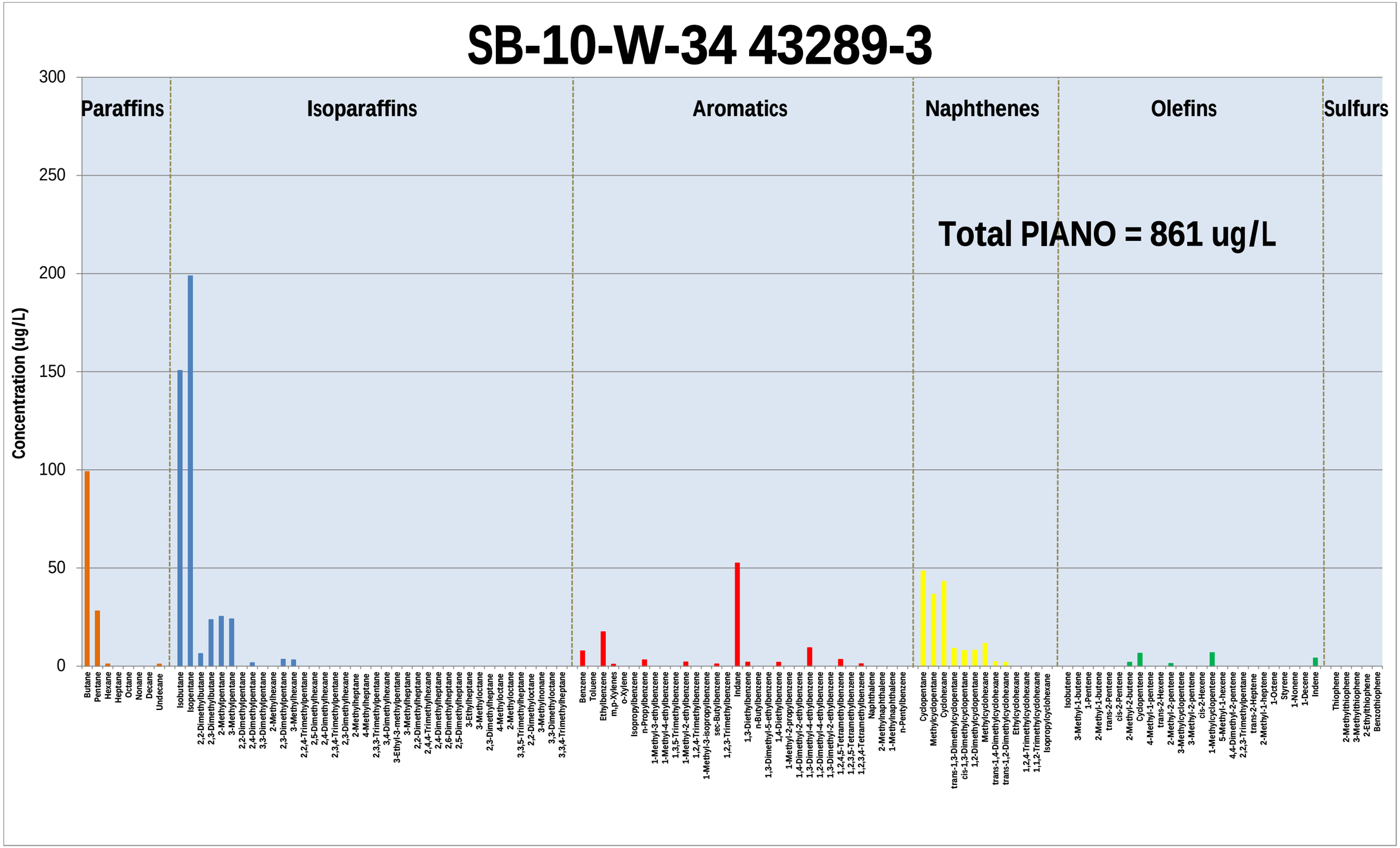
SB-5-W-40 43289-10



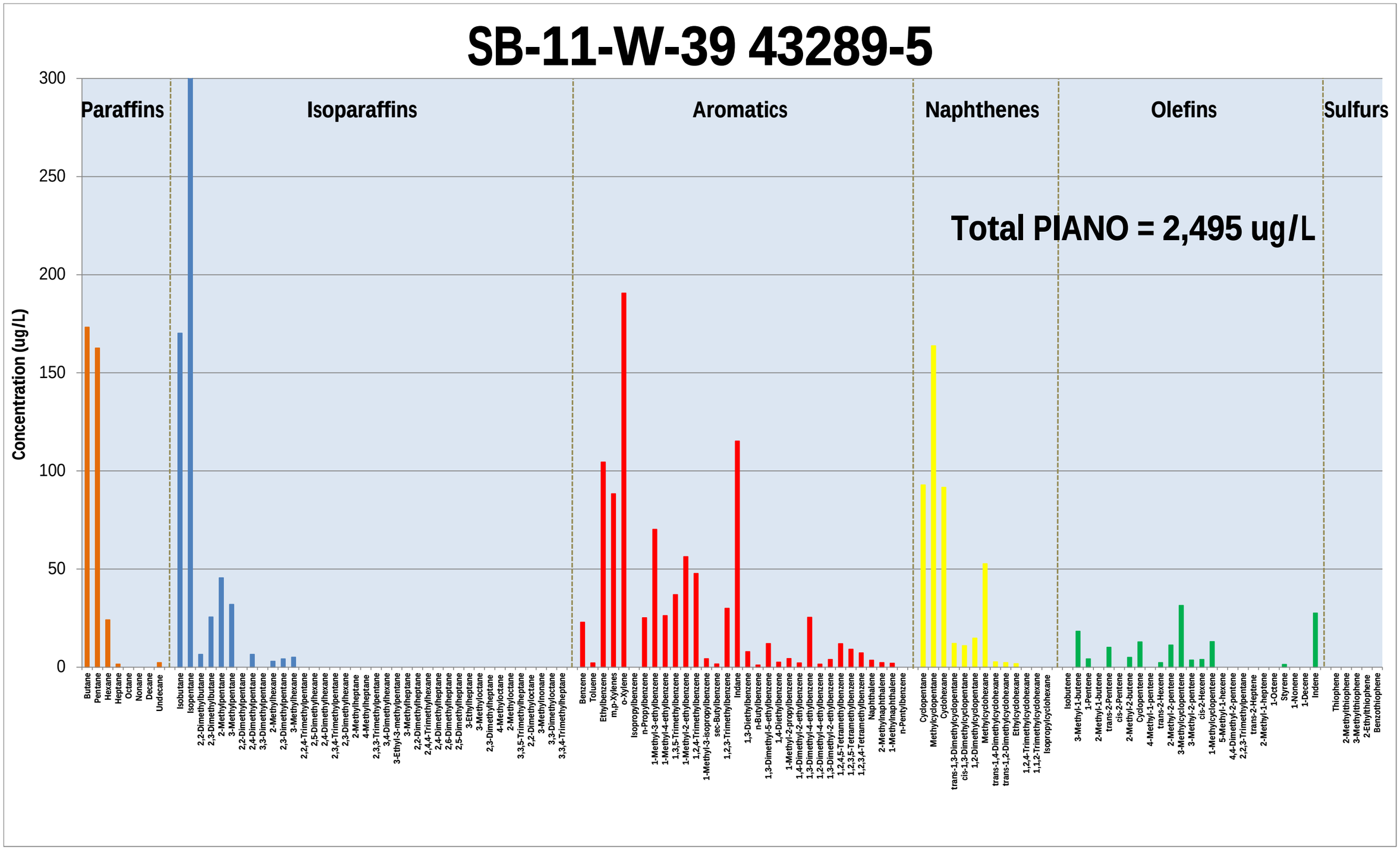
SB-6-W-38 43289-6



SB-10-W-34 43289-3



SB-11-W-39 43289-5



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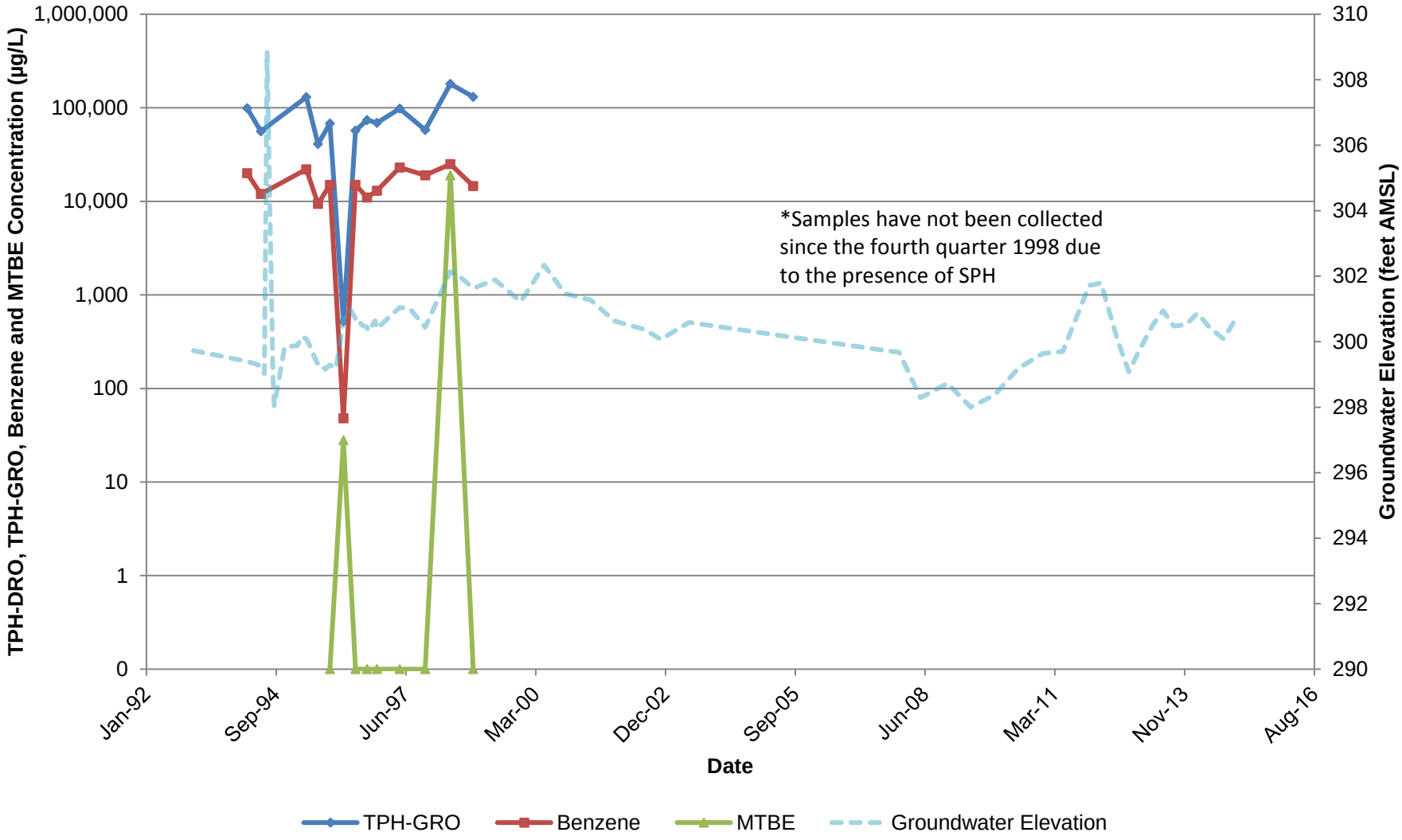
Appendix F

Concentration Trend Charts

APPENDIX F
FIGURE 1
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-1

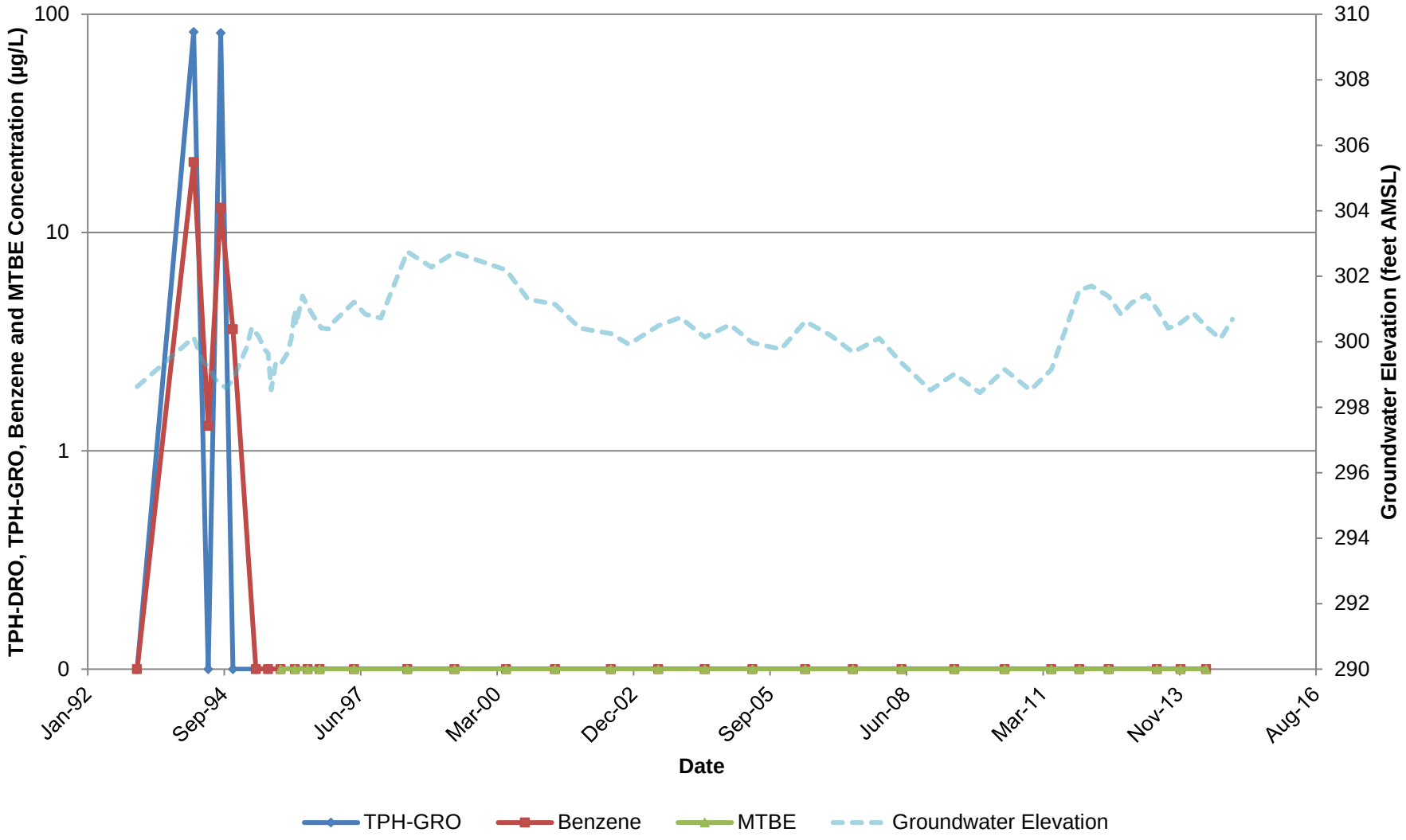
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 2
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-2

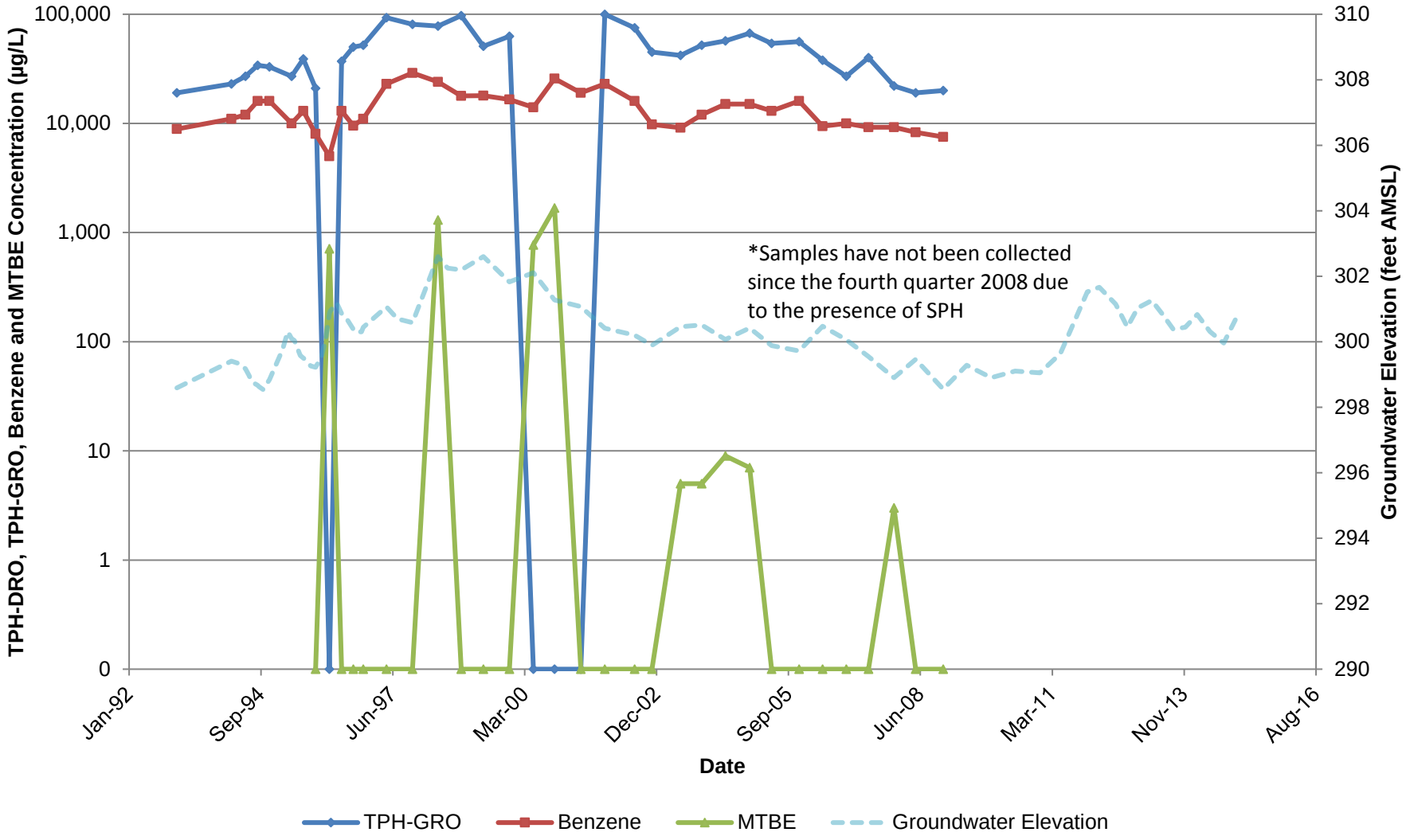
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 3
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-3

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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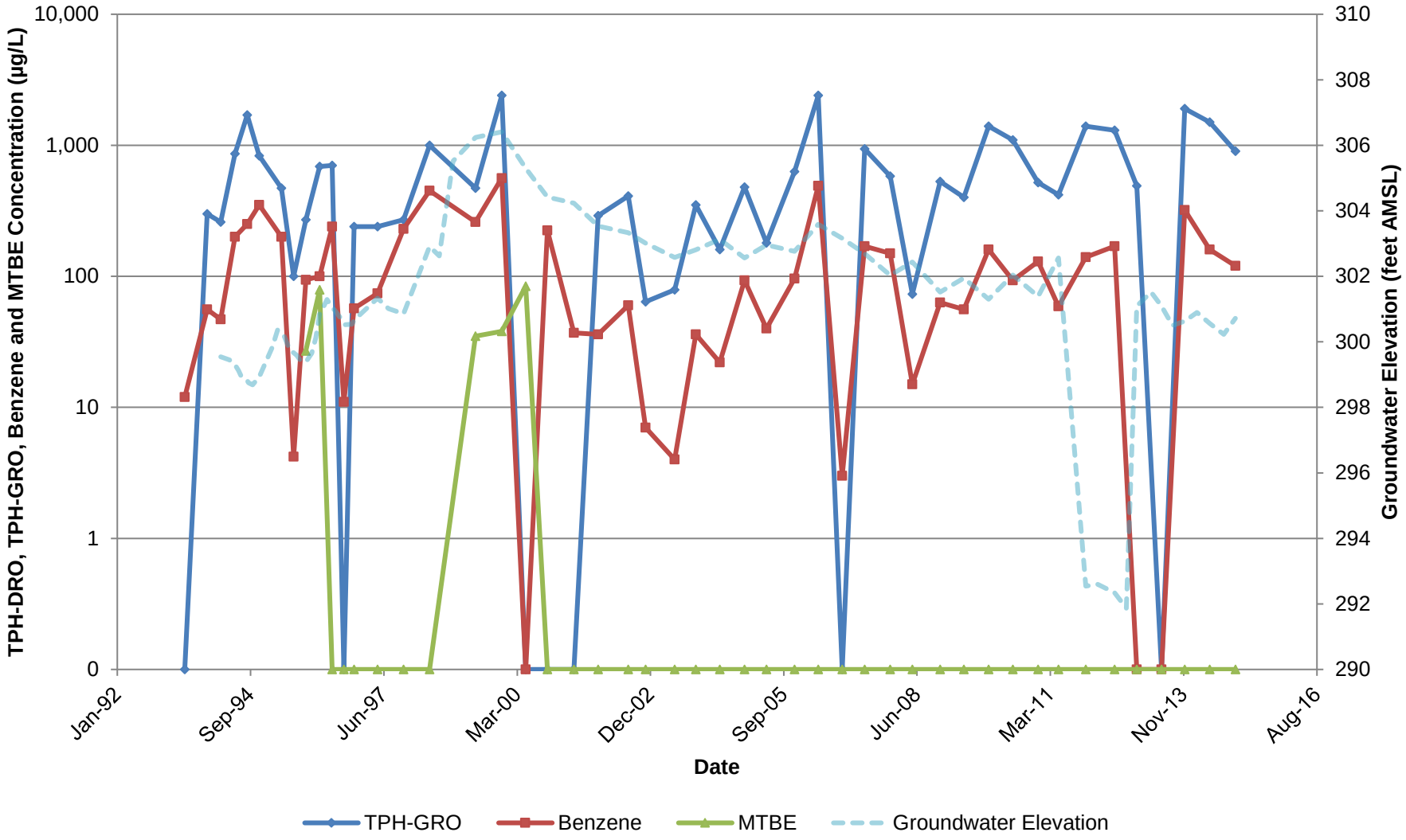
APPENDIX F
FIGURE 4
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-4

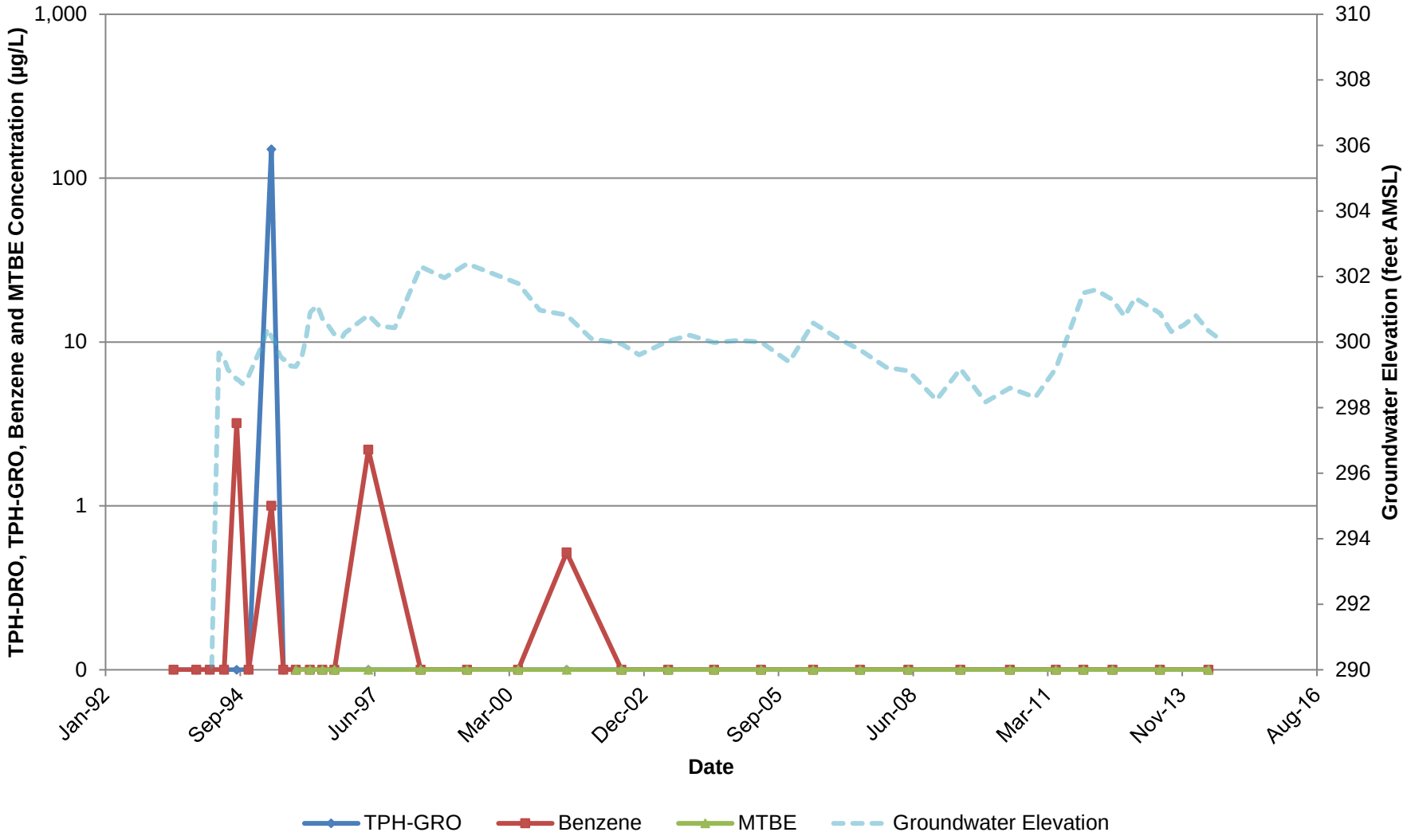
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

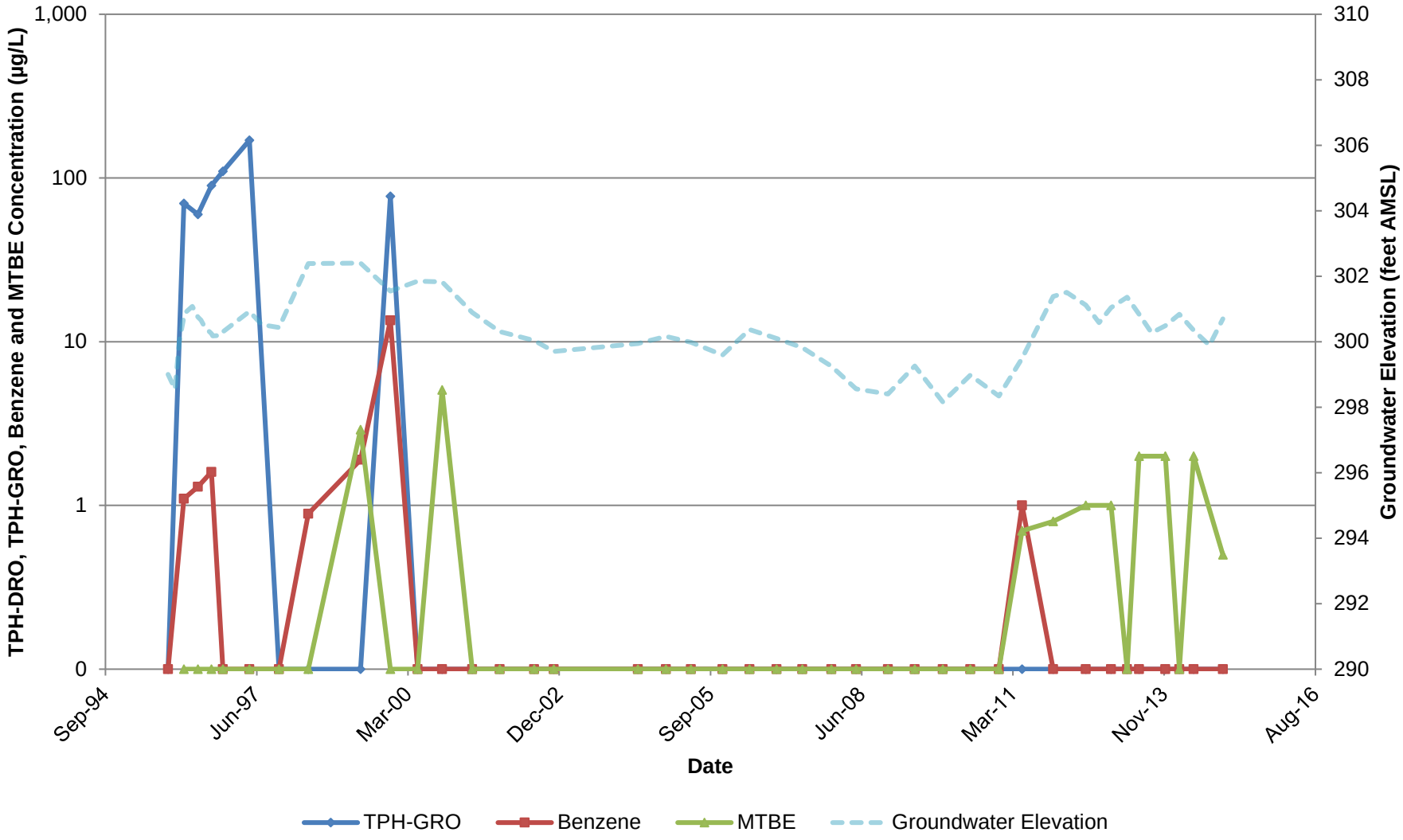
APPENDIX F
FIGURE 5
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-5

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



APPENDIX F
FIGURE 6
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-6

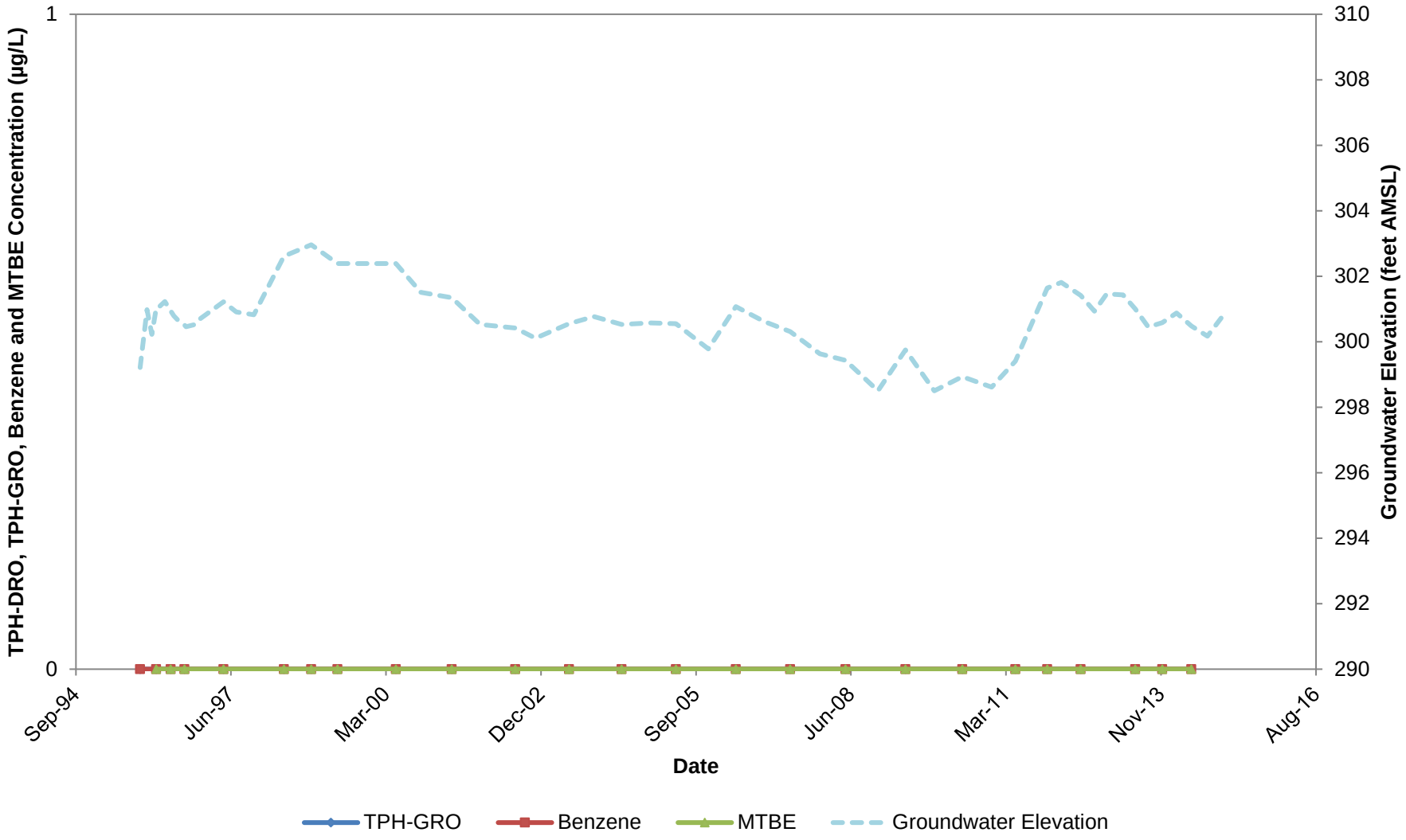
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 7
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-7

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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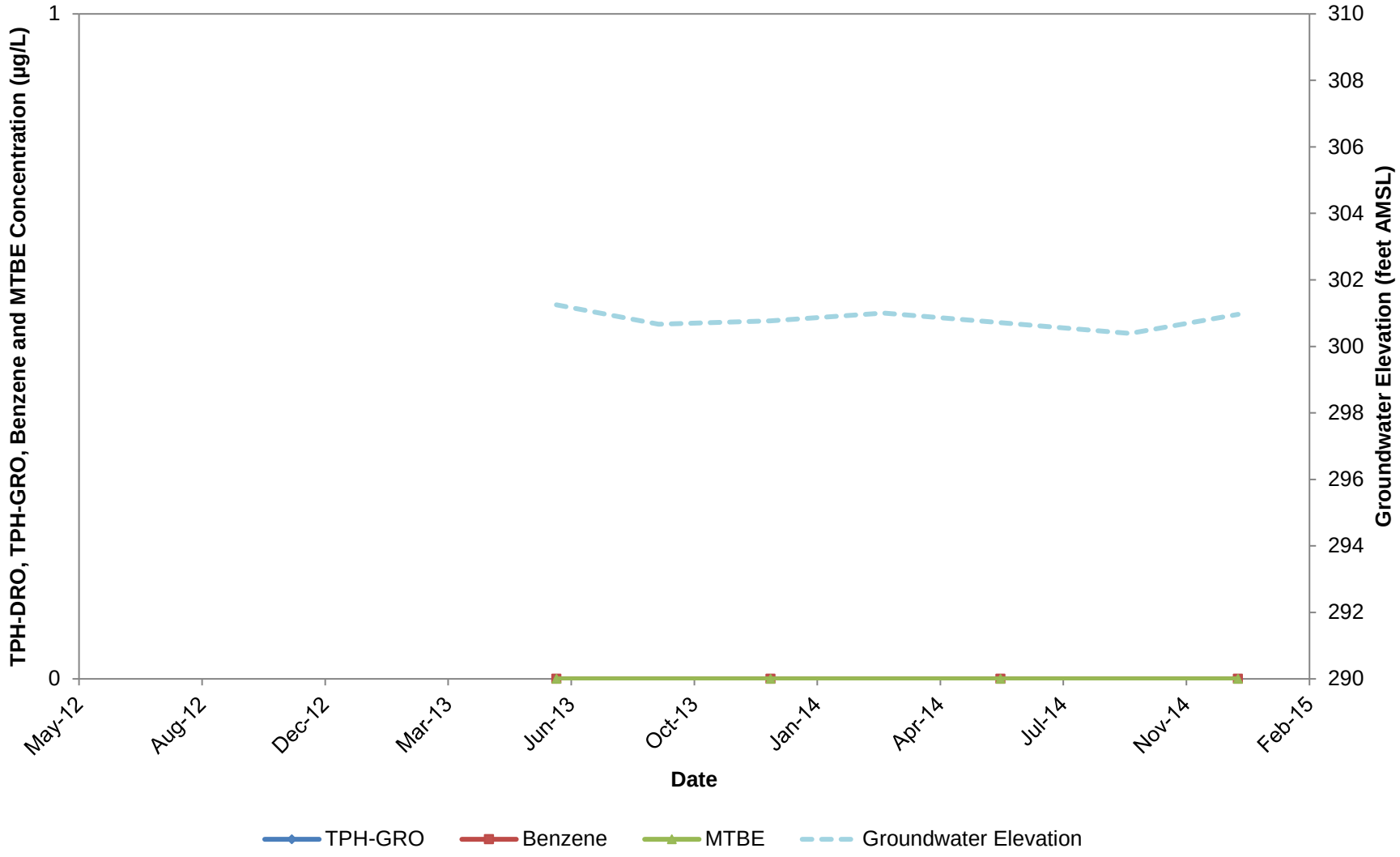
APPENDIX F
FIGURE 8
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-8

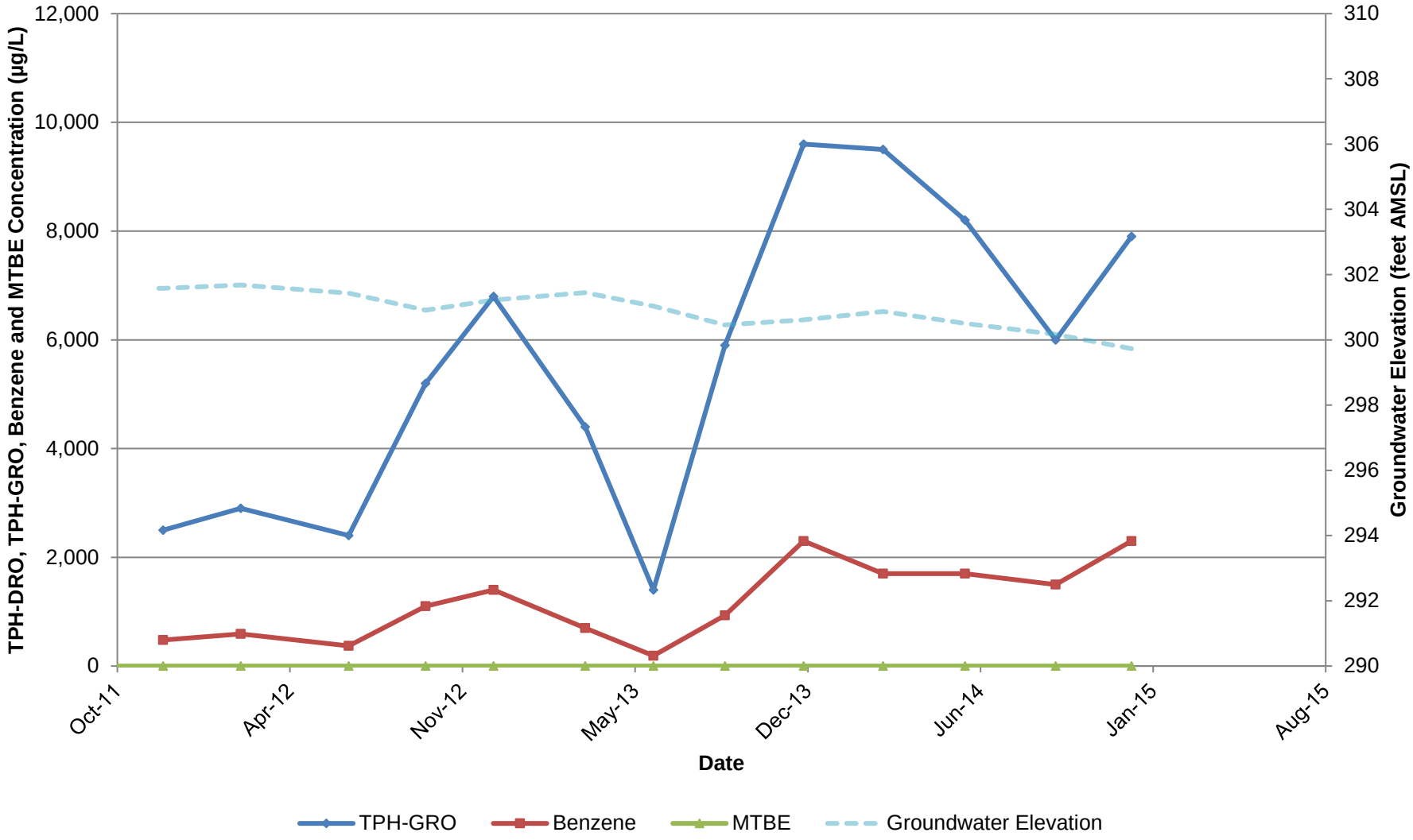
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 9
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-9

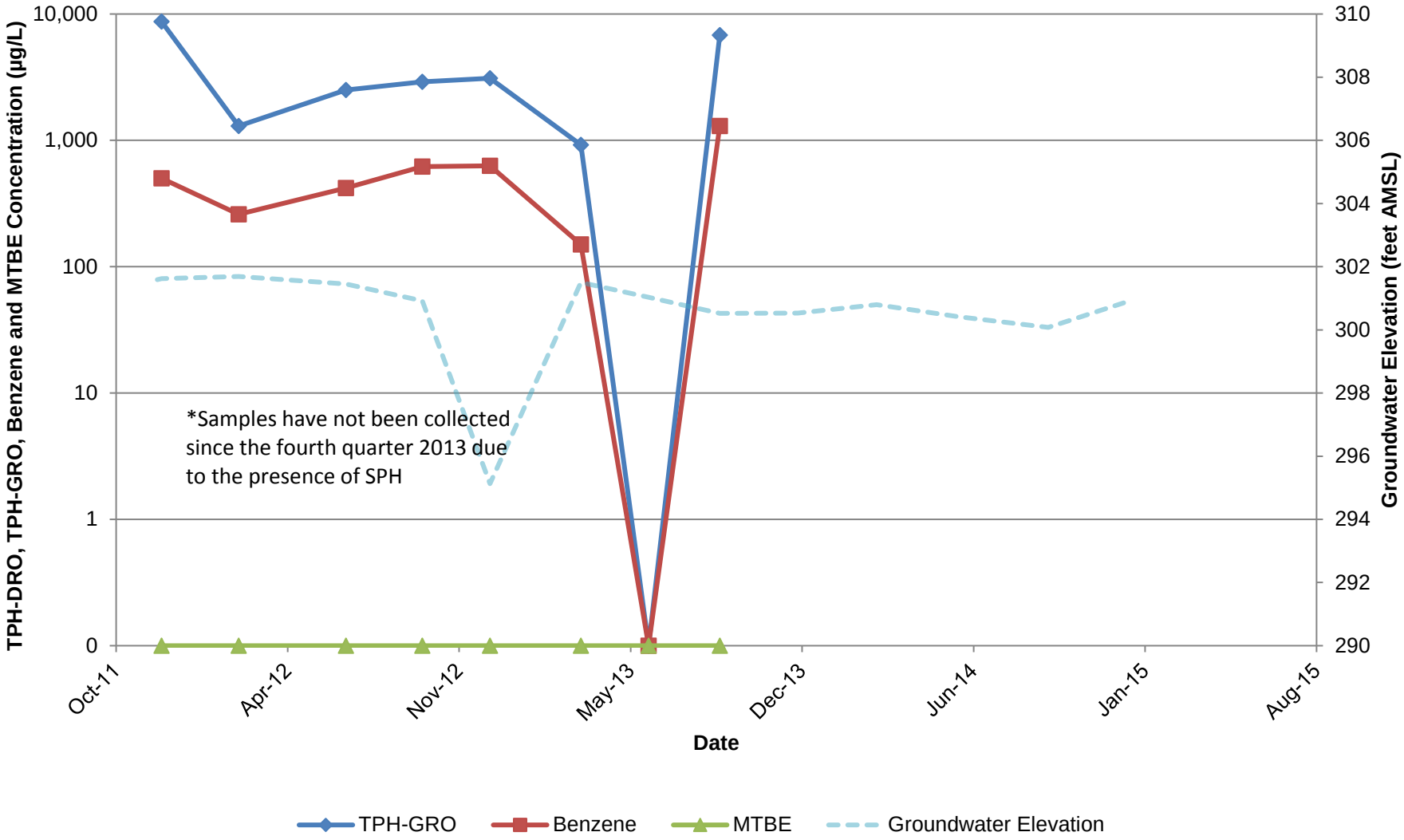
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 10
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-10

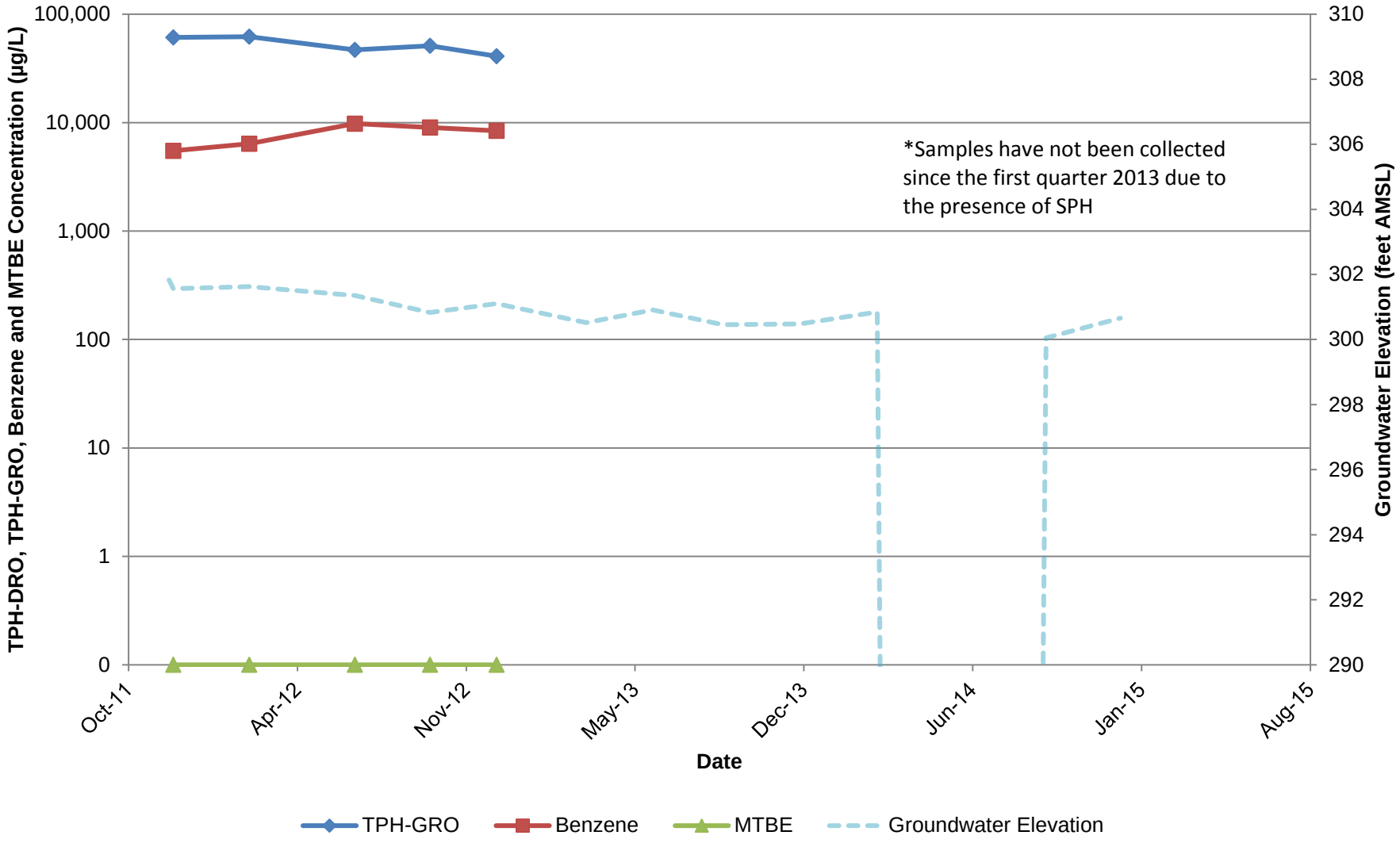
Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



\\arcadis-us.com\OfficeData\Roseville-CA\Projects\ENV\CHEVRON\97127\4 Project\Periodic Monitoring\Attachment 5 - Time vs Con Graph

APPENDIX F
FIGURE 11
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-11

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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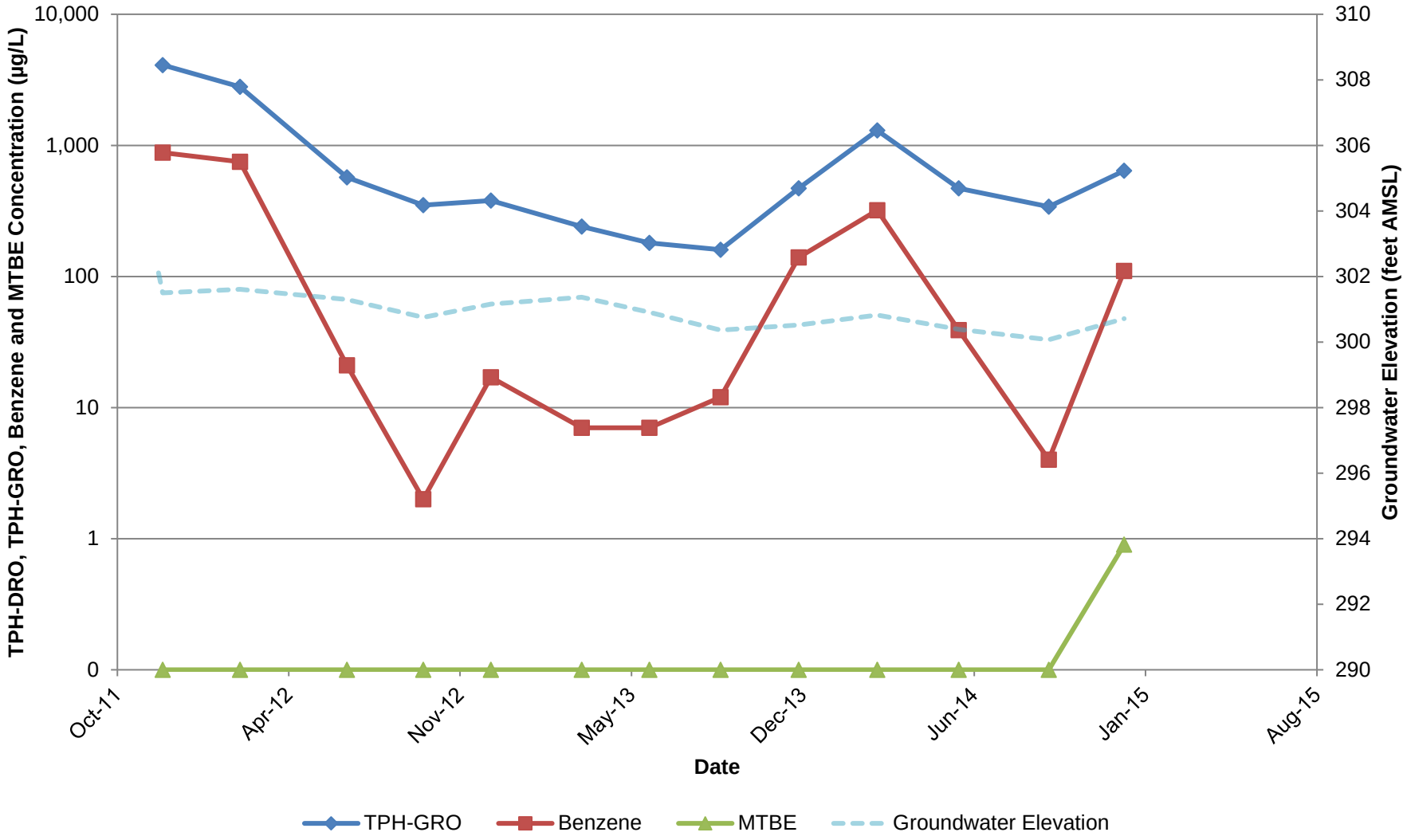
APPENDIX F
FIGURE 12
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-12

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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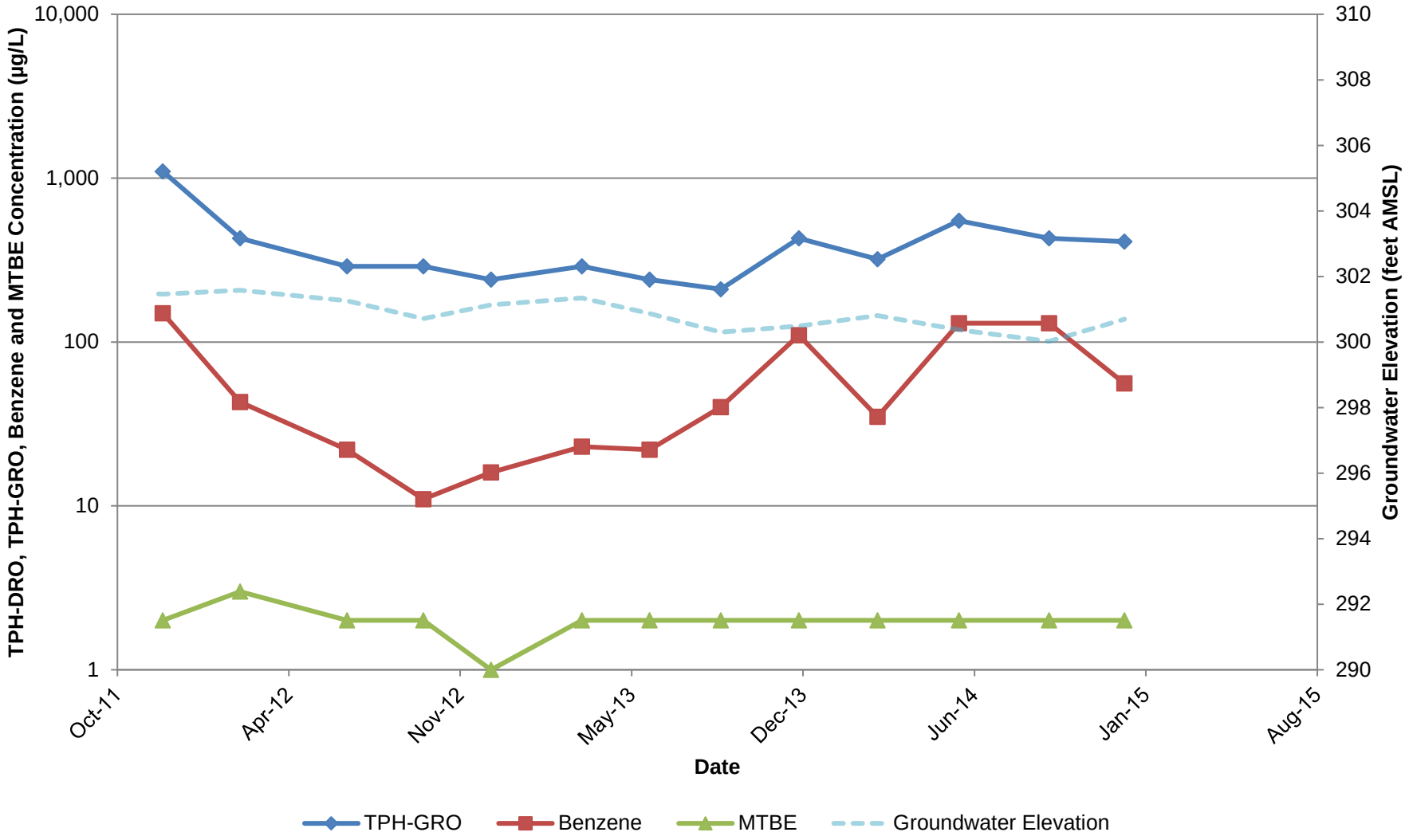
APPENDIX F
FIGURE 13
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-13

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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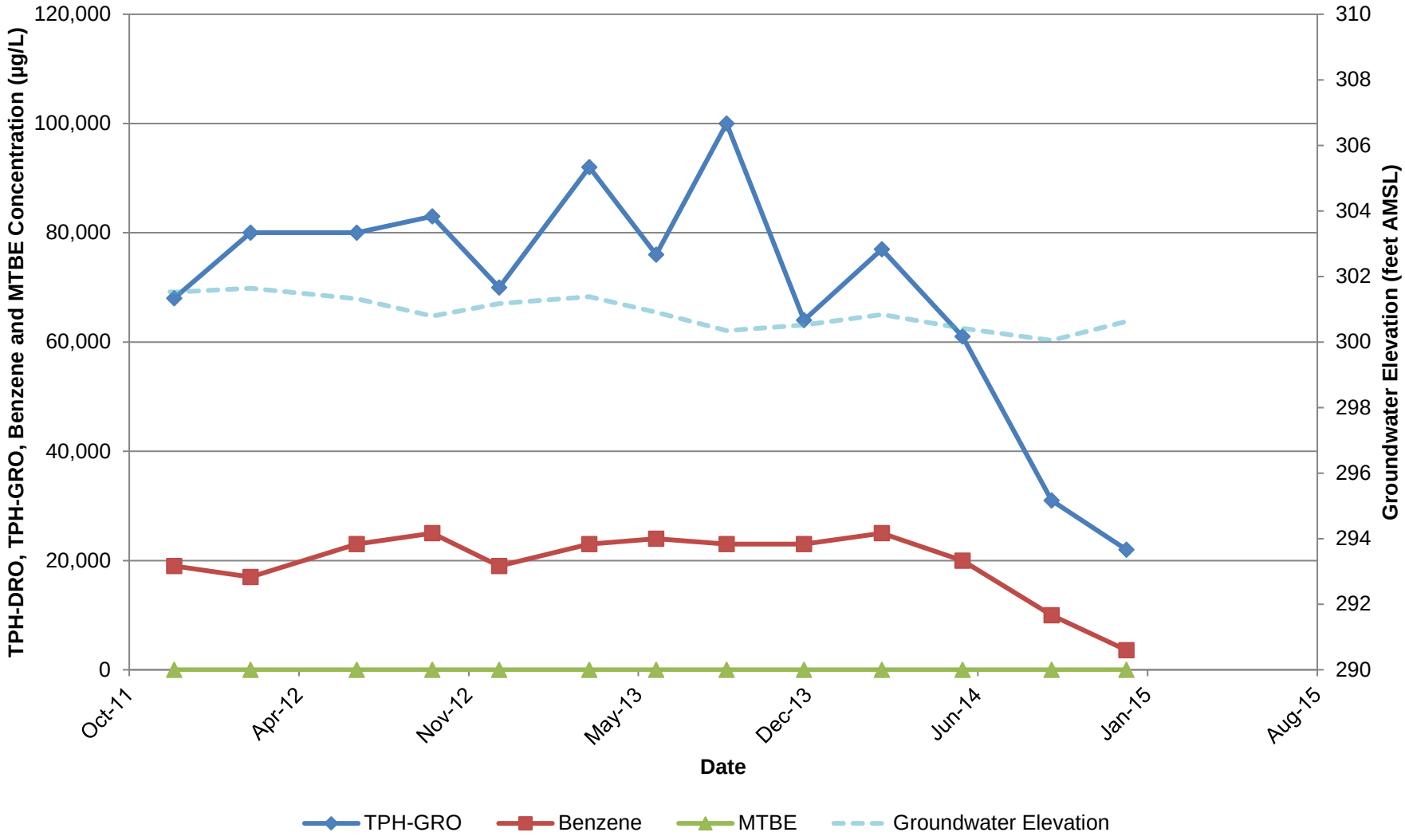
APPENDIX F
FIGURE 14
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-14

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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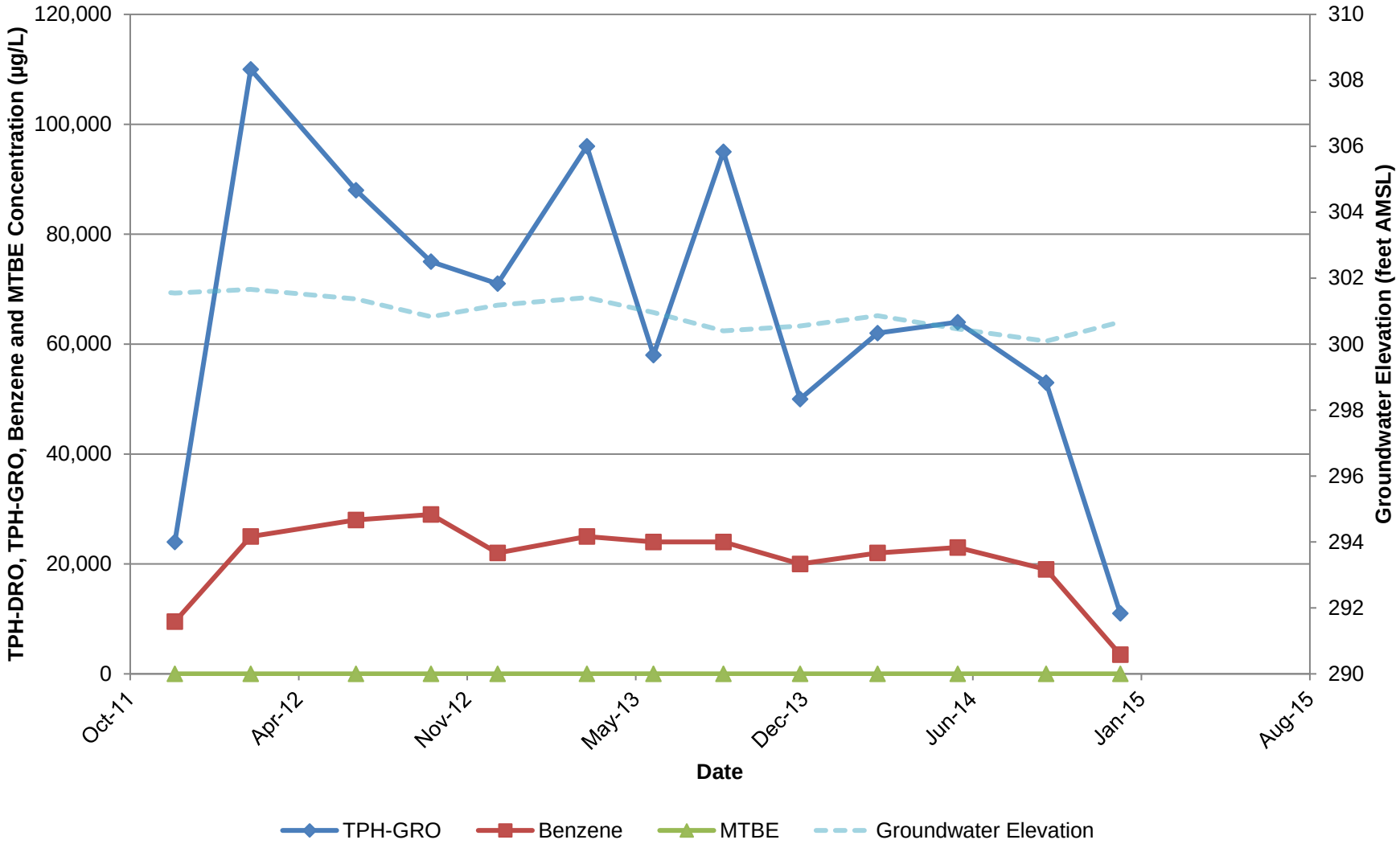
APPENDIX F
FIGURE 15
CHEMICAL CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME – MW-15

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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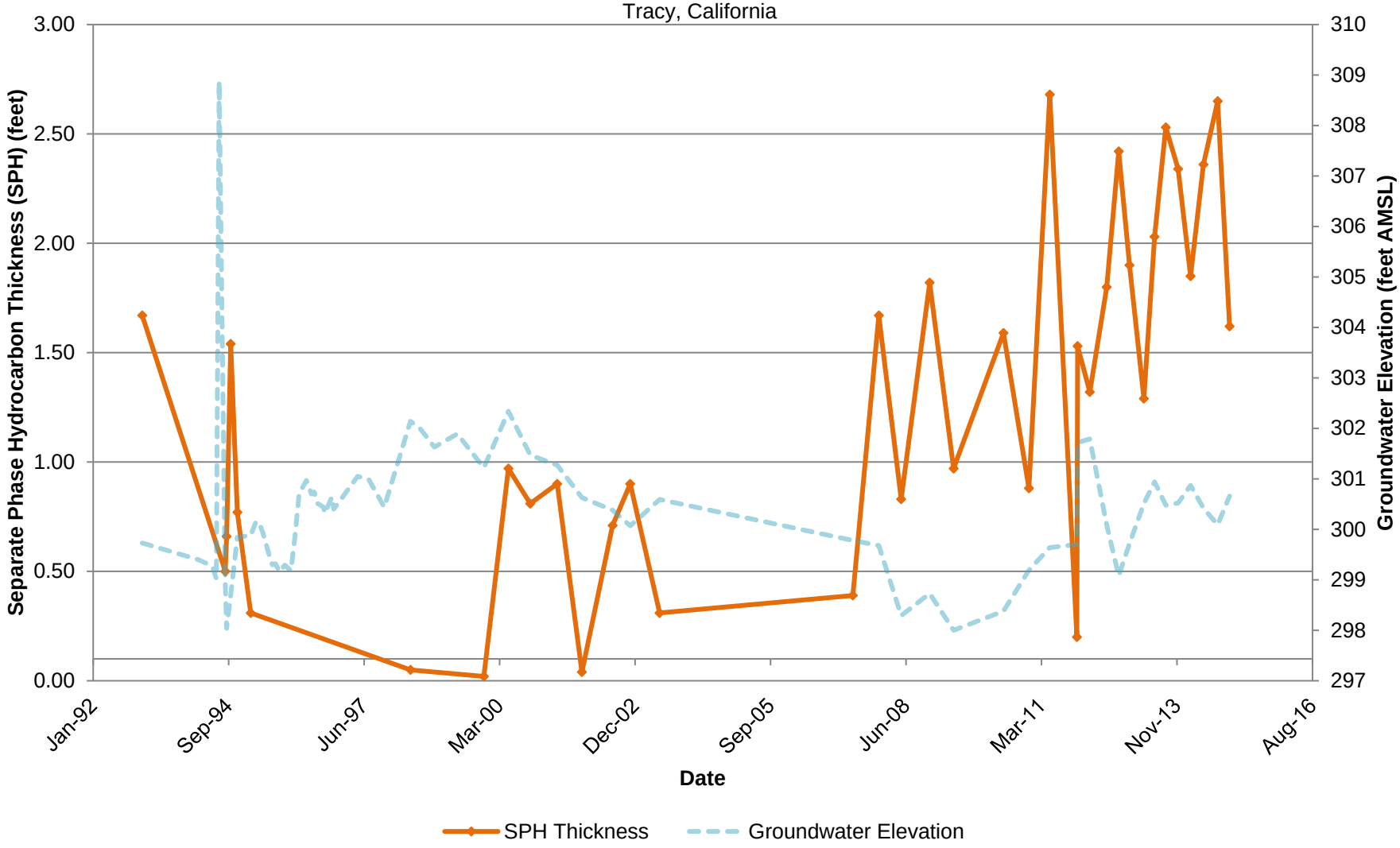
Appendix G

Measured Separate Phase Hydrocarbon Thickness and Groundwater Elevation versus Time Graph

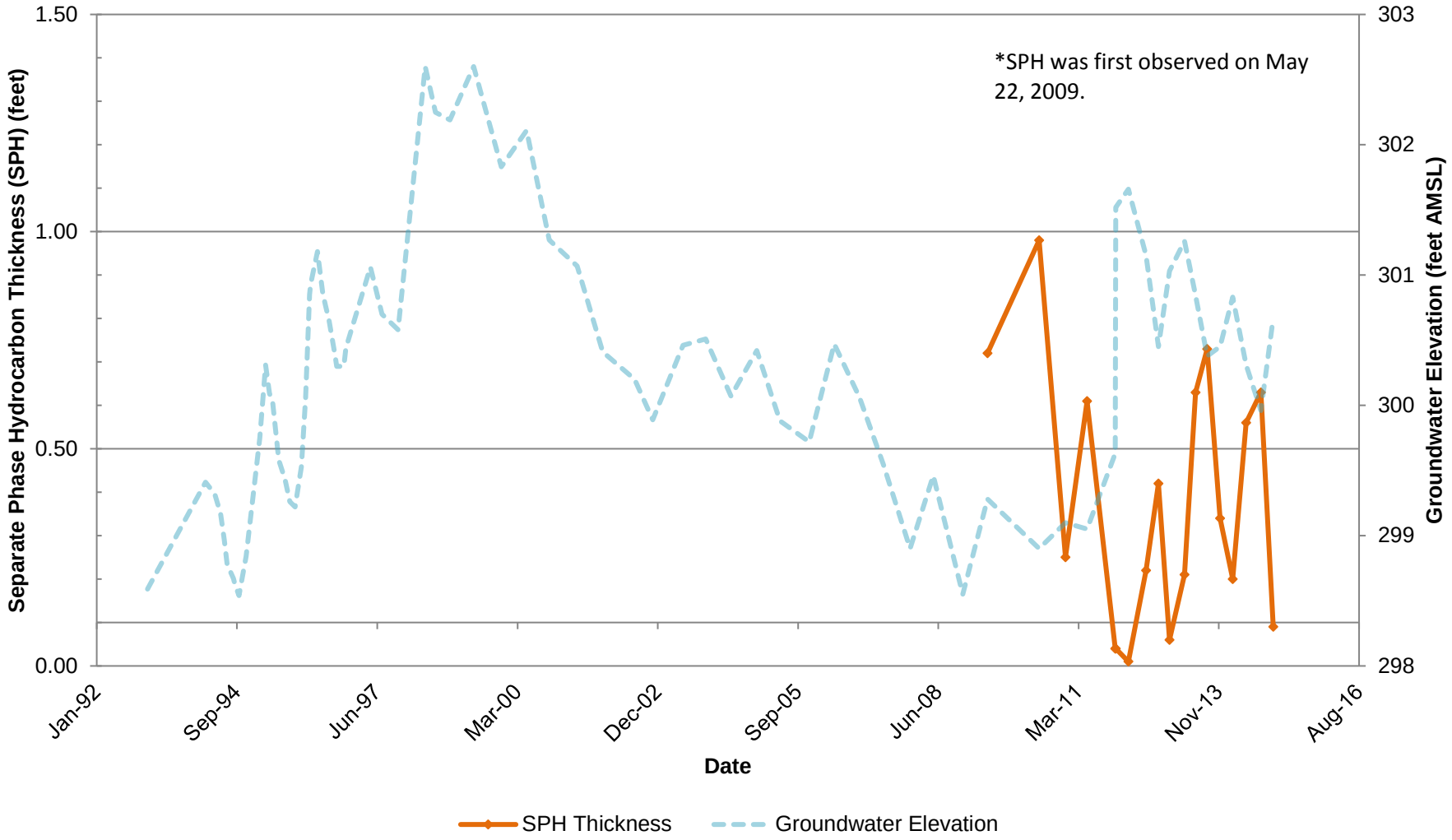
APPENDIX G
FIGURE 1
MEASURED SEPARATE PHASE HYDROCARBON THICKNESS AND GROUNDWATER ELEVATION VERSUS TIME – MW-1

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



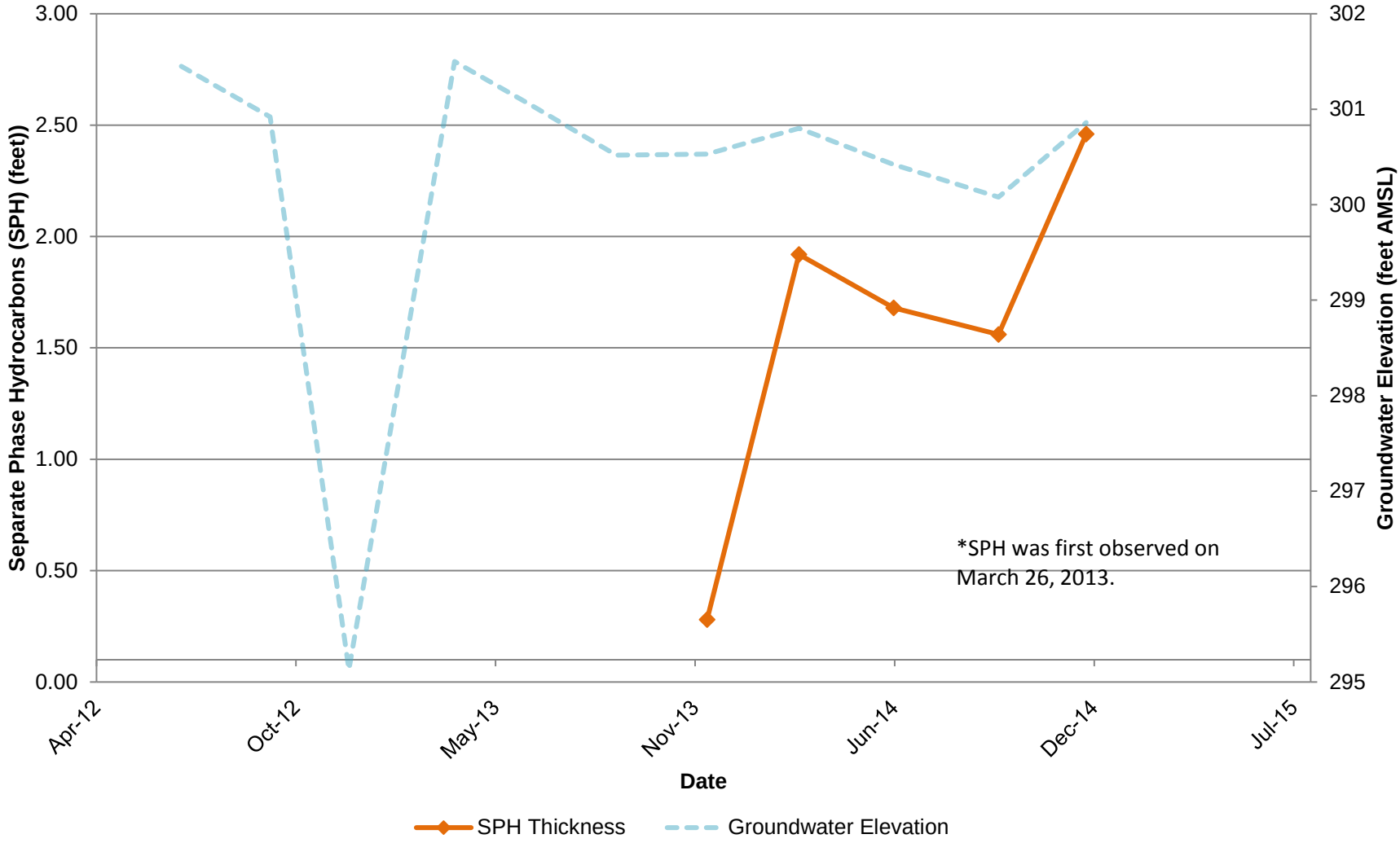
APPENDIX G
FIGURE 2
MEASURED SEPARATE PHASE HYDROCARBON THICKNESS AND GROUNDWATER ELEVATION VERSUS TIME – MW-3

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



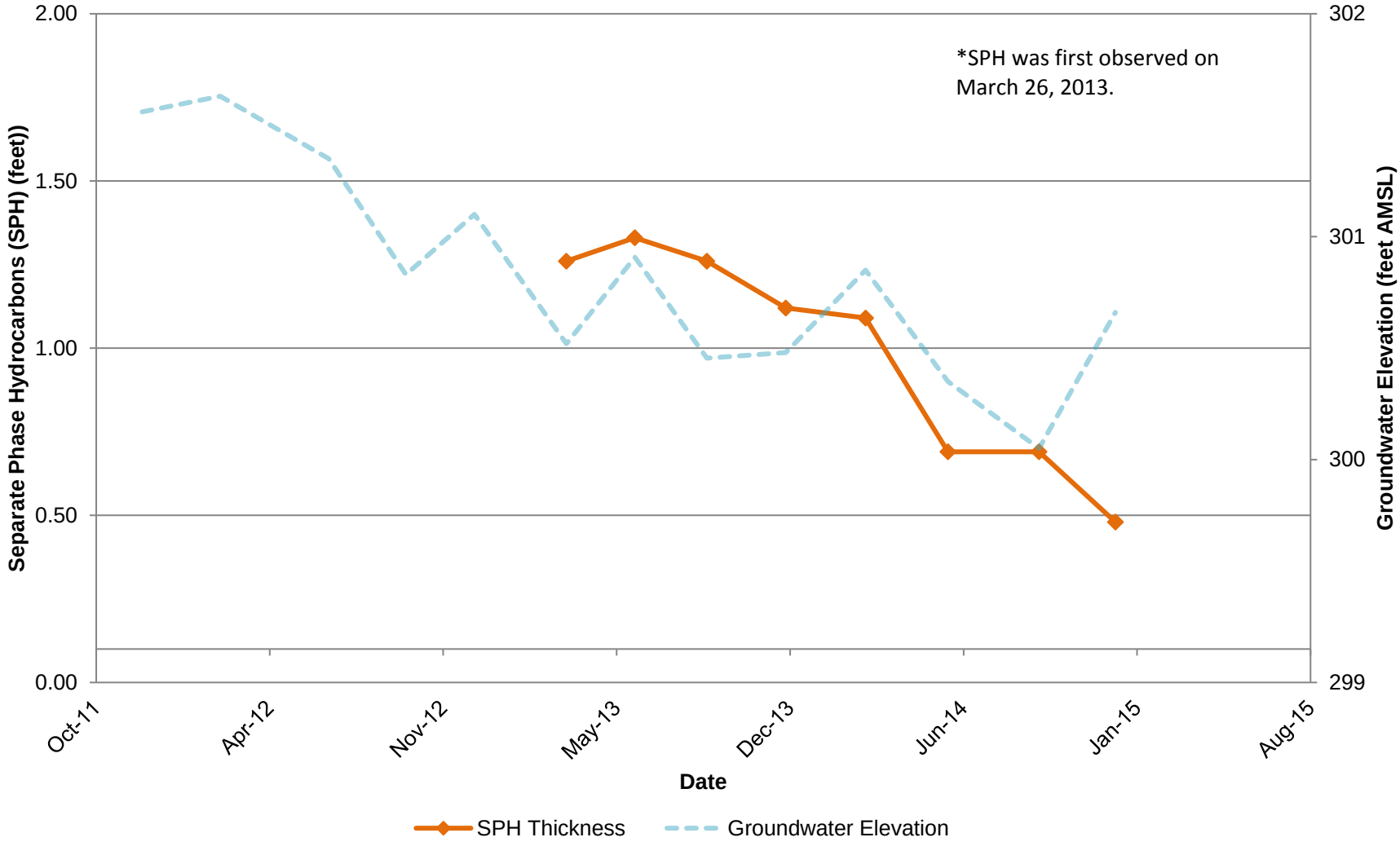
APPENDIX G
FIGURE 3
MEASURED SEPARATE PHASE HYDROCARBON THICKNESS AND GROUNDWATER ELEVATION VERSUS TIME – MW-10

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



APPENDIX G
FIGURE 4
MEASURED SEPARATE PHASE HYDROCARBON THICKNESS AND GROUNDWATER ELEVATION VERSUS TIME – MW-11

Former Chevron Service Station No. 97127
Grant Line Road and Interstate 580
Tracy, California



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Appendix H

Summary of Statistical Analysis and Linear Regression

Table 1
Summary of Statistical Analysis of Groundwater Analytical Data
Feasibility Study and Corrective Action Plan
Chevron Site ID 97127
California

Constituent	Well	Cleanup Goal/Screening Level/Remediation goal (µg/L)	Data Range						Linear Regression Analysis					
			Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	Concentration Measured Most Recently (µg/L)	% of Data Above Laboratory Reporting Limit	Start Date	End Date	Coefficient of Determination, R-squared[3]	p-value of Correlation (Significance of Slope)	Attenuation Half-life (days)	Trend Direction	Significance of Trend[4]	Projected Year to Screening Level
TPH-GRO[1]	MW-1	100	41,000	180,000	131,000	100	2/15/1994	11/23/1998	0.15	0.21	NA	Increasing	NS	NA
	MW-3	100	19,000	110,000	20,000	100	12/28/1992	11/26/2008	<0.01	0.93	NA	No Trend	NS	NA
	MW-3, Since 2000	100	19,000	110,000	20,000	100	10/31/2000	11/26/2008	0.74	<0.01	1,433	Decreasing	Significant	2039
	MW-4	100	*50*	2,400	900	92	5/21/1993	12/19/2014	0.05	0.13	NA	No Trend	NS	NA
	MW-9	100	1,400	9,600	7,900	100	11/23/2011	12/19/2014	0.41	0.02	NA	Increasing	Significant	NA
	MW-12	100	160	4,100	640	100	11/23/2011	12/19/2014	0.18	0.15	NA	Decreasing	NS	*2017*
	MW-13	100	210	1,100	410	100	11/23/2011	12/19/2014	0.01	0.69	NA	No Trend	NS	NA
	MW-14	100	22,000	100,000	22,000	100	11/23/2011	12/19/2014	0.41	0.02	899	Decreasing	Significant	2036
	MW-15	100	11,000	110,000	11,000	100	11/23/2011	12/19/2014	0.13	0.22	NA	Decreasing	NS	*2040*
Benzene[2]	MW-1	1	9,400	25,000	14,600	100	2/15/1994	11/23/1998	0.06	0.44	NA	No Trend	NS	NA
	MW-3	1	5,000	29,000	7,500	100	12/28/1992	11/26/2008	0.02	0.41	NA	No Trend	NS	NA
	MW-3, Since 1997	1	7,500	29,000	7,500	100	11/18/1997	11/26/2008	0.68	<0.01	2,667	Decreasing	Significant	2103
	MW-4	1	*0.50*	4,709	120.00	96	5/21/1993	12/19/2014	0.03	0.27	NA	No Trend	NS	NA
	MW-9	1	190.00	2,300	2,300	100	11/23/2011	12/19/2014	0.41	0.02	NA	Increasing	Significant	NA
	MW-12	1	2	880	110	100	11/23/2011	12/19/2014	0.04	0.52	NA	No Trend	NS	NA
	MW-13	1	11	150	56	100	11/23/2011	12/19/2014	0.12	0.25	NA	Increasing	NS	NA
	MW-14	1	3,600	25,000	3,600	100	11/23/2011	12/19/2014	0.26	0.08	NA	Decreasing	NS	*2048*
	MW-15	1	3,500.00	29,000	3,500	100	11/23/2011	12/19/2014	0.11	0.26	NA	Decreasing	NS	*2063*

Notes, Abbreviations and Assumptions:
µg/L = micrograms per liter
TPH-GRO = Total Petroleum Hydrocarbons, Gasoline Range Organics
NS = not significant
NA = not applicable due to increasing trend or non-significant trend
[1] San Francisco Bay Regional Water Quality Control Board Environmental Screening Level used for clean-up goal
[2] California Primary Maximum Contaminant Level used for clean-up goal
[3] Linear regression analysis with R^2 values <0.1 and no statistically significant trend were defined as having no apparent trend (No Trend).
[4] Statistically significant trend defined as having p-value ≤ 0.05. Defined in "Screening Level" worksheet, cell #F3.
Data in italics ND taken at reporting limit/reported value
Data is underlined Qualified data converted to reported value
Projected Year to Screening Level in italics is a qualitative estimate for trend not having statistical significance