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April 30, 2003

Alameda County
MAY 6 6 2003
Environmental Health

Mr. Scott Seery
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Subject: *Remedial Action Plan and Feasibility Study*
Former Chevron Service Station No. 9-7127
I-580 and Grant Line Road
Tracy, California
Delta Project No. DG97-127


Dear Mr. Seery:

Please find enclosed Delta's *Remedial Action Plan and Feasibility Study* for the subject site. This report presents a summary of assessment activities and proposes remediation and additional assessment activities at the site as requested by Eva Chu.

If you have questions or comments regarding this report, please contact Karen Streich at (925) 842-1589.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.


Benjamin I. Heningburg
Project Manager

BIH (Rpt002 9-7127 RAP and Feasibility)
Enclosures

cc: Ms. Karen Streich – Chevron Products Company
Mr. Bob Foss – Cambria Environmental Technology, Inc.
Mr. James Brownell – Delta Environmental Consultants, Inc.

Alameda County
MAY 06 2003
Environmental Health

REMEDIAL ACTION PLAN AND FEASIBILITY STUDY

Former Chevron Facility No. 9-7127
I-580 and Grant Line Road
Tracy, California
Delta Project No. DG97-127

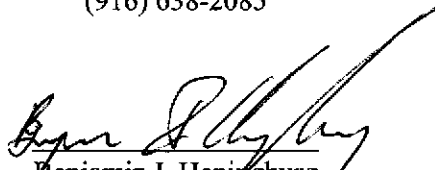
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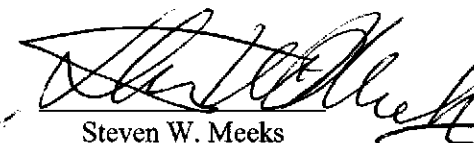
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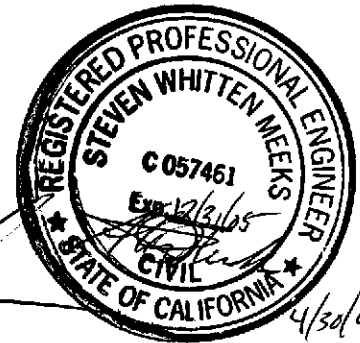


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- Appendix B Cumulative Soil Analytical Results
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- Appendix D Soil Boring Logs and Well Construction Details

REMEDIAL ACTION PLAN AND FEASIBILITY STUDY

FORMER CHEVRON SERVICE STATION NO. 9-7127

I-580 AND GRANTLINE ROAD

TRACY, CALIFORNIA

DELTA PROJECT NO. DG97-127

1.0 INTRODUCTION

1.1 Purpose

Delta Environmental Consultants, Inc. (Delta) was authorized by Chevron Products Company (Chevron) to review investigative work conducted at former Chevron Service Station No. 9-7127, located at I-580 and Grant Line Road, Tracy, Alameda County, California (Figure 1) and to prepare a Remedial Action Plan (RAP) and Feasibility Study. The RAP and Feasibility Study objective is to propose feasible remedial actions for residual concentrations of petroleum hydrocarbons in the subsurface. The RAP and Feasibility Study was prepared in response to the Alameda County Health Care Services (ACHCS) letter dated October 29, 2002 requesting a report evaluating several technically and economically feasible methods for soil and groundwater remediation. A copy of the ACHCS letter is included in Appendix A.

2.0 BACKGROUND INFORMATION

2.1 Site Description

The site is located in a small basin near the intersection of I-580 and Grant Line Road, Tracy, California. The site is at an approximate elevation of 326 feet above mean sea level with the surrounding topography sloping towards the site. The site is bounded on the North by I-580 and to the South, East and West by ranch property. A USGS topographic map with the site centered on the map is presented in Figure 1. A map illustrating the site vicinity is shown in Figure 2. The site is currently a vacant lot. The locations of former USTs and site features are illustrated in Figure 3.

2.2 Site History

Petroleum hydrocarbon contaminants related to the operation of product storage and dispensing systems at the site were first reported in October 1987 during a Soil Vapor Containment Assessment conducted by E. A. Engineering Science and Technology (EA) as part of a soil vapor investigation. Soil vapor samples were collected from 13 on-site locations and two off-site locations at depths of from 3 to 12 feet below surface grade (bsg). Soil vapor assessment results were reported in the EA report dated November 13, 1987. Analytical results for soil vapor samples are included in Appendix B. Sample locations are illustrated on Figure 3.

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In December 1987, Kleinfelder, Inc. (Kleinfelder) drilled soil borings B-1 through B-7 on site. Soil samples were collected from each boring and analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) and total petroleum hydrocarbons (TPH) as gasoline. Soil boring analytical results indicated that petroleum hydrocarbon constituents were present in the subsurface.

During the same period of the soil boring installations, Kleinfelder conducted a well survey to identify documented water supply wells in the vicinity of the site. Three water supply wells were identified within a ½ mile radius of the site. The first water supply well is located approximately ½ mile southeast up gradient from the site and is not expected to be impacted by site conditions. The second water supply well is located approximately 300 yards south (up gradient) from the site. This well was reported as damaged in 1980 and is not used. An onsite water supply well, believed to have an approximate depth of 90 feet bsg, with the bottom 20 feet screened, is located along the eastern boundary of the property.

Groundwater samples were first collected from the onsite water supply well on December 21, 1987. Between December 1987 and May 1989, concentrations of benzene in groundwater samples ranged between 1.0 ppb and 6.4 ppb. In May 1989, Gettler-Ryan installed a carbon absorption treatment system on the wellhead. During August 1989, the well was sampled five times on a weekly basis to confirm the effectiveness of the carbon absorption treatment system. From December 1992 to November 1993, Pacific Environmental Group (PEG) sampled the water supply well on a weekly basis. It is assumed that the wellhead had been sampled on a regular basis during 1994, though sampling data was not available. Since November 1995, the well was initially sampled annually for the first two years, then semi-annually thereafter for analyses of TPHG, BTEX, and MTBE. Concentrations of TPHG, BTEX, and MTBE have not been detected at or above laboratory reporting limits in the well since November 1995. The well is currently used to supply water to a watering trough for hoofed animals that graze on Mr. Joe Jess' property. The analytical results for the onsite water supply well water samples are included in Appendix C.

In April 1991, five underground storage tanks (UST) including two 10,000-gallon gasoline tanks, one 6,000-gallon gasoline tank, one 1,000-gallon used oil tank and one 750-gallon heating oil tank were removed. Each tank was constructed of fiberglass. No holes were observed in any of the tanks. Over-excavation of the tank basin and piping trenches was conducted. Soil samples were collected beneath the tanks and product lines. Soil generated from the over-excavation activities was aerated

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until concentrations were reduced to less than 10 parts per million (ppm). The aerated soil, along with clean overburden, was used to backfill the excavation.

In December 1992, PEG drilled soil boring B-1 south of the former tank complex to a depth of 22 feet bsg, to evaluate the lateral and vertical extent of soil contamination. Groundwater was not encountered in B-1. In addition, groundwater monitoring wells (MW-1 through MW-3) were installed to approximately 37 feet bsg. Soil sample data for B-1 and MW-1 are included in Appendix B. Soil samples were not analyzed from boring locations MW-2 and MW-3. Groundwater sample data for MW-2 and MW-3 are included in Appendix C. Groundwater was not sampled from MW-1 due to the presence of separate-phase hydrocarbons (SPH). Monitoring well and soil boring locations are illustrated in Figure 3. Soil boring logs and well construction details are included in Appendix D.

In May 1993 PEG, advanced three soil borings, B-2 through B-4. Soil boring B-2 was advanced to 37 feet bsg and soil borings B-3 and B-4 were advanced to 25 feet bsg. Soil borings B-2 and B-4 were converted to groundwater monitoring wells (MW-4/B2 and MW-5/B-4). Soil samples were not analyzed from boring locations MW-4/B-2 and B-3. Soil sample analytical data for MW-5/B-4 is included in Appendix B. Analytical results for groundwater grab samples for MW-4/B2, MW-5/B-4 and B-3 are included in Appendix C. Monitoring well and soil boring locations are illustrated on Figure 3. Soil boring logs and well construction details are included in Appendix D.

In October 1995, PEG installed groundwater monitoring wells MW-6 through MW-8 to approximately 30, 24 and 40 feet bsg, respectively. Soil sample data for MW-6 through MW-8 is included in Appendix B. Analytical results for groundwater grab samples for MW-6 through MW-8 are included in Appendix C. Monitoring well locations are illustrated on Figure 3. Soil boring logs and well construction details are included in Appendix D.

In August 1997, a revised Risk Based Corrective Action (RBCA) -Tier 2 Assessment was completed for the site. The assessment indicated that groundwater ingestion could pose a human health risk due to the elevated benzene and TPH as gasoline concentrations in MW-1, MW-3 and MW-4. The assessment also indicated that the water supply well was a potential receptor for residual concentrations of petroleum hydrocarbons in the subsurface.

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In August 1998, oxygen-releasing compound was installed in MW-1, MW-3 and MW-4. In May 1999, RRM, Inc. conducted an evaluation of groundwater conditions at the site and surveyed water supply wells within a ½ mile radius. In May 2001, Delta submitted an Interim Corrective Action Plan (ICAP) as requested by ACHCS. As recommended in the ICAP, a passive product skimmer was installed in MW-1 to capture SPH present in the well. Vacuum extraction of petroleum hydrocarbon impacted groundwater from MW-1 was also initiated in July 2001. Delta supervised seven groundwater extraction events between July 2001 and October 2002. During the third quarter 2002, Delta initiated quarterly events to remove SPH from the skimmer installed in MW-1.

2.3 Regional Geology and Hydrogeology

The subject site is located within a small basin in the eastern foothills of the Diablo Range in eastern Alameda County, California. The Diablo Range is a northwest-southeast trending range of mountains bounded to the west by the flatlands of the San Francisco Bay area and to the east by San Joaquin Valley. Site elevation is approximately 326 feet above mean sea level.

Approximately 6 to 17 feet of Quaternary alluvial fan fluvial deposits overlie bedrock. Bedrock in the vicinity of the site belongs to two formations, the Upper Cretaceous Panoche Formation and the Miocene Neroly Formation (Bishop, 1970). The Panoche Formation was not encountered during drilling activities but has been mapped to the northwest and west of the site. The Neroly Formation has been described as a marine blue to gray sandstone, which is pebbly in some locations (Dibblee, 1980). The nearest surface water is a surface water catch basin approximately 200 feet east of the site. The direction of groundwater flow in the vicinity of the site is inferred to be toward north based on the depth to water measurements recorded from monitoring wells.

2.4 Site Geology

Based on a review of boring logs, the subsurface materials encountered at the site primarily consist of sand to clay-fill to depths of 6 to 17 feet bsg. Fill and alluvium thicken to the south. Fill and alluvial deposits are underlain by predominantly sandstone bedrock extending to the total depth explored of approximately 40 feet bsg. Boring logs for borings advanced at the site are included in Appendix B. Geologic cross-sections have been prepared using the soil boring logs to illustrate the subsurface soil. A cross-section location map showing the trace of cross-sections A-A', B-B' and C-C' is included as Figure 4. Geologic cross-sections A-A', B-B' and C-C' are illustrated in Figures 5, 6 and 7 respectively.

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2.5 Site Hydrogeology

Depth to groundwater data was collected quarterly between 1994 and 1998. Since 1999, depth to groundwater data has been collected semi-annually. Measurements indicate a range from as shallow as 9.80 feet bsg in MW-6 to as deep as 31.70 feet bsg in MW-1. Depth to groundwater has remained relatively stable over the last several monitoring events. The water-bearing unit at the site consists predominately of sandstone. Cumulative depth to water measurements for the site are included in Appendix C.

Based on soil boring logs of wells installed within a ½ mile radius of the site and quarterly depth to groundwater measurements of onsite wells, it appears that the approximate location of the water-bearing zone beneath this site is between 10 and 40 feet bsg. The construction details of the on-site water supply well are unknown. Henings Brothers Drilling Company of Modesto, California has installed several wells in the area and believes the total depth of the well is approximately 90 feet bsg with the bottom 20 feet screened. During a telephone conversation on August 16, 2000, Mr. Blake Henings, formerly of Henings Brothers Drilling Company, stated that he has installed numerous wells in the area and that most of the water supply, industrial, municipal and irrigation wells were installed with 20 to 25-foot sanitary seals. He also stated that Mr. Joe Jess "adjacent property owner" has always had a tough time locating groundwater in this area and that groundwater beneath this basin location is probably a perched zone of surface water seeps and seasonal recharge. Mr. Henings said that he has drilled many test wells in the area to 600 feet bsg without encountering groundwater. His comments are supported by the California Department of Water Resources water well drillers reports of wells installed within a ½ mile radius of the subject site.

Based on the above information, it appears that the groundwater in the aquifer beneath the site is a perched zone overlying a confining bedrock. It is our understanding that the water supply well may be constructed with a 20 to 25-foot sanitary seal. Using this data, it appears that approximately 45 to 50 feet of non-perforated well casing and 20 feet of perforated well casing is exposed to the perched water zone. It appears that groundwater from this perched zone could potentially be drawn down the unsealed portion of the annulus where it would then be pulled through the filter pack and casing screen via a well pump.

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3.0 SITE INVESTIGATION RESULTS

3.1 Distribution of Petroleum Hydrocarbons in Soil

During October 1987, soil vapor samples were collected from 13 on-site locations and two off-site locations at depths of 3 to 12 feet bsg. Soil vapor samples were field screened for petroleum hydrocarbons by a Photovac 10S50. Field screening of soil vapor samples did not detect concentrations of any petroleum hydrocarbons in soil vapor samples V1, V8 through V12, V14 and V15. Benzene was reported in soil vapor samples V1/B through V7 and V13 ranging from 1 ppm in V3/B to 3,200 ppm in V4. Petroleum hydrocarbons were reported ranging from 10 ppm in V9 to 28,500 ppm in V4. Soil vapor screening results are included in Appendix B.

In December 1987, soil borings B-1 through B-7 were drilled on site. Soil samples were collected from each boring and analyzed for BTEX by EPA Method 8020 and TPH as gasoline by EPA Method 8015 Modified. Borings B-1 through B-4 were drilled to 10, 20, 14 and 15 feet bsg, respectively. Borings B-5 through B-7 were drilled to 5 feet bsg. Concentrations of petroleum hydrocarbons were not detected above laboratory reporting limits in samples collected from B-1 and B6. Soil samples B-2 through B-4, B-6 and B-7 reported benzene concentrations ranging from 0.001 ppm (B2) to 19 ppm (B4) and TPH as gasoline ranging from 0.5 ppm (B5) to 2,300 ppm (B4).

During April 1991, soil samples AF, Aop, BF, Bop, CF, and Cop were collected beneath the former gasoline storage tank pit. Soil samples WoM, FoM and 15 were collected beneath the former waste oil and fuel oil tank pit. Soil samples 1, 5, 8, 10, 11, 12, 13 and 14 were collected beneath former product line locations. Soil samples collected during tank removal activities were analyzed for BTEX, TPH as gasoline and total lead. Additionally, soil samples WoM and FoM were analyzed for TPH as diesel, total oil and grease, volatile organic compounds and metals. Soil samples Aop, BF, Bop, CF, Cop, 1, 8, 10, 11, 12 and 14 reported benzene ranging from 0.005 ppm in 14 to 30 ppm in Cop. Concentrations of TPH as gasoline were reported in soil samples AF, Aop, BF, CF, 1, 5, 8, 10, 11, 12, 13, 14 and FoM ranging from 1.0 ppm (Aop) to 4,000 ppm (AF).

Between December 1992 and October 1995, PEG collected soil samples from boring locations B-1, MW-1, MW-5/B4 and MW-6 through MW-8. Soil samples were analyzed for BTEX and TPH as gasoline. Laboratory analytical results did not detect concentration of petroleum hydrocarbons at or

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above the laboratory reporting limits in soil samples collected at locations MW-5/B4 and MW-6 through MW-8. Benzene concentrations were reported in sample MW-1 at 21 ppm. Concentrations of TPH as gasoline were reported in samples from B-1 and MW-1 at 4.0 ppm and 8,100 ppm, respectively. Cumulative soil sample analytical results are included in Appendix B.

Based on a review of soil analytical results to date, impacted soil appears to be confined to just above and groundwater table within the capillary fringe in the vicinity of the former gasoline UST basin.

3.2 Monitoring Well Construction

Eight groundwater monitoring wells are currently associated with the site. Monitoring wells MW-1 through MW-3 and MW-6 are installed on site. Monitoring wells MW-4, MW-5, MW-7 and MW-8 are installed off site. Monitoring well MW-1 is constructed of 4-inch diameter Schedule 40 PVC casing. Monitoring wells MW-2 through MW-8 are constructed of 2-inch diameter Schedule 40 PVC casing. The total depths of the wells range from approximately 25 to 40 feet bsg. Well screens vary in length from 14 to 20 feet. Wells are screened with 0.020-inch machine slotted casing. The well annular space is filled with Lonestar No. 3 sand, which extends from the base of the screen section to one foot above the top of screen with a 1-foot bentonite seal overlaying the filter pack. The remaining annulus is filled with a neat cement grout to within six inches of the surface. The surface of each well is completed with a stovepipe or a traffic-rated well box set in concrete. Well completion diagrams are included in Appendix D.

3.3 Groundwater Sampling

Groundwater samples collected from monitoring wells MW-1 through MW-8 have been analyzed for BTEX and TPH as gasoline by EPA Method 8015 Modified and methyl tertiary butyl ether (MTBE) by EPA Method 8020. Additionally, samples from monitoring wells have been analyzed for bio-parameters (alkalinity, nitrate, sulfate phosphate and ferrous iron). Currently the site is monitored and sampled semi-annually.

3.4 Groundwater Flow Direction and Hydraulic Gradient

Historical groundwater elevations at and in the vicinity of the site have ranged from 298.04 feet above mean seal level (msl) in MW-1 (9/12/94) to 306.41 feet above msl in MW-4 (11/24/99). Depth to water ranges from approximately 9.80 feet bsg (MW-6) to 30.75 feet bsg (MW-4). During the most recent semi-annual groundwater monitoring event conducted on November 8, 2002, depth to

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groundwater was measured in MW-1 through MW-8. A groundwater elevation contour map was constructed from the measured depth-to-water and surveyed casing elevations and is included as Figure 8. Groundwater elevation contours indicate an inferred groundwater flow direction towards the north with a hydraulic gradient of 0.01 to 0.05. Historical data indicates previous groundwater flow to be towards the northeast. Cumulative groundwater elevation data are included in Table 1. Cumulative groundwater elevation data are included in Appendix C.

3.5 Distribution of Petroleum Hydrocarbons in Groundwater

3.5.1 Separate Phase Petroleum Hydrocarbons

Since February 1994, the possible presences of SPH and hydrocarbon sheens were examined in groundwater monitoring wells. The presence of SPH was observed and measured in MW-1 during the periods of September 1994 through March 1995, May 1998 and November 1999 to present. The presence of SPH was not observed in MW-2 through MW-8 since installation.

On November 8, 2002 the presence of SPH was measured in MW-1 and was found to have a thickness of 0.90 feet. Groundwater samples are not collected from MW-1 when SPH is present.

3.5.2 Dissolved Phase Petroleum Hydrocarbons

Semi-annual groundwater monitoring and analyses conducted on November 8, 2002 reported concentrations of benzene in samples from MW-3 and MW-4 at 9,800 and 7.0 parts per billion (ppb), respectively. Concentrations of TPH as gasoline in groundwater samples collected from MW-3 and MW-4 were reported at 45,000 and 64 ppb, respectively. Concentrations of MTBE were not detected above the laboratory reporting limits in groundwater samples collected from MW-3, MW-5 and MW-6.

Based on groundwater sample analytical results to date, it appears that concentrations of dissolved petroleum hydrocarbons beneath the site are primarily downgradient (north) of the former dispenser island and gasoline UST basin locations. A trend of increased groundwater elevations beneath the site may have contributed to increased dissolved hydrocarbon concentrations from petroleum hydrocarbon impacted subsurface soil in the vicinity of MW-1, MW-3 and MW-4.

Since the installation of the carbon adsorption treatment system in May 1989, no concentrations of any analytes have been detected above the laboratory reporting limits in groundwater samples

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collected from the water supply well. Cumulative groundwater analytical results are included in Appendix C. Groundwater monitoring well and the water supply well locations are illustrated on Figure 3.

4.0 REMEDIATION

4.1 Separate Phase Petroleum Hydrocarbon Removal

As recommended in the 2001 ICAP, a passive product skimmer was installed in MW-1 on July 17, 2001 to capture SPH present in the well. Periodic vacuum extraction of petroleum hydrocarbon impacted groundwater from MW-1 was also initiated in July 2001. Due to an increase in dissolved petroleum hydrocarbons observed in MW-3 in November 2001, the ACHCSA requested that petroleum hydrocarbon impacted groundwater from MW-3 be removed by periodic vacuum extractions as an alternative to dedicated active remediation of soil and groundwater at the site. Periodic vacuum extraction of petroleum hydrocarbon impacted groundwater from MW-3 was initiated in July 2002.

An increase in SPH thickness was observed in MW-1 during October 2002. The increase indicated that vacuum extraction of petroleum hydrocarbon impacted groundwater and vapors from MW-1 and MW-3 was not an effective method for removing SPH from MW-1. In October 2002, ACHCSA gave the approval to discontinue the vacuum extraction events from MW-1 and MW-3 so that the cost associated with continuing those events could be applied to a more economical active soil and groundwater remediation method.

During the third quarter 2002, Delta initiated quarterly events to remove SPH from the skimmer installed in MW-1. The SPH captured in the skimmer installed in MW-1 will be removed on a quarterly basis and SPH will continue to be removed from the well during groundwater monitoring events. A product interface probe will be used to determine the thickness of SPH present before and after each SPH bailing event. SPH thickness will be tabulated to track and calculate total SPH removal from MW-1.

4.2 Dissolved Phase Petroleum Hydrocarbon Reduction

In August 1997 a revised RBCA-Tier 2 assessment was completed for the site. Groundwater bio-parameters suggested that intrinsic biodegradation could be occurring at the site. However, petroleum hydrocarbon concentrations did not appear to be decreasing. In August 1998, ORC socks

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were installed in wells MW-1, MW-3, and MW-4 to reduce petroleum hydrocarbon concentrations in those wells. On July 17, 2001, the ORC sock installed in MW-1 was removed so that a passive product skimmer could be installed in the well.

5.0 FEASIBILITY STUDY

Several alternatives for soil and groundwater remediation at the site have been evaluated by Delta. Soil remediation technologies considered included additional soil excavation and soil vapor extraction. The groundwater remediation technologies evaluated included groundwater extraction and natural attenuation. A discussion of each of the technologies considered is included in this section.

5.1 Soil Remediation Alternatives

Soil excavation or soil vapor extraction (SVE) could remove a portion of the residual petroleum hydrocarbons the subsurface and in the vadose zone. Impacts observed at the site are primarily above the groundwater table within the capillary fringe as previously discussed. The potential effectiveness of these source removal technologies is limited due to the depth of the source and lithology of the formation in which the source is contained.

Soil excavation would not be practical since the primary source area is between 30 and 25 ft bsg. Additionally, the lithology of the formation approximately 10 ft above and at least 10 ft below the source area is composed of sandstone.

Soil vapor extraction or dual phase extraction from existing wells would not be economically feasible due to the low porosity, specific yield and specific retention values that are characteristic of fractured and semi-consolidated sandstone. The lithology detailed in the soil boring logs indicates sandstone bedrock underlies the site. It has been documented that thrust faulting associated with an uplift of fractured and semi-consolidated sandstone bedrock has occurred along the western margin of the San Joaquin Valley and along the eastern front of the Diablo range near Tracy. Due to the possible fractured sandstone, hydraulic and or vapor control may be difficult to control.

Based on the above information, soil excavation, SVE, and DPE would not be considered to be efficient remediation alternatives at this time.

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5.2 Groundwater Remediation Alternatives

5.2.1 Groundwater Extraction

Groundwater extraction was considered as a potential remediation option. This technology would involve the installation and operation of a network of groundwater extraction wells in the lower less permeable sandstone and associated treatment systems to address the dissolved hydrocarbons in groundwater. This technology has a proven track record of achieving containment, but a poor track record of achieving effective remediation. The pore space permeability of the upper surrounding clays and silts would limit the development of an effective capture radius of a groundwater extraction well and would require dense spacing of wells to provide an effective containment area. Due to limited potential for petroleum hydrocarbon removal, long time frame required for operation, and high capital costs for installation and operation of a system, groundwater extraction is considered one of the least attractive groundwater remediation alternatives.

Although continuous groundwater extraction by itself is not an attractive remedial alternative, in conjunction with natural attenuation, quarterly groundwater extractions from MW-1 may provide immediate reductions of dissolved COCs beneath the source area and aid in the natural attenuation process. The natural attenuation process may be enhanced as a result of temporarily increasing the groundwater flow velocity under the source area which would bring in groundwater from less impacted areas with a higher dissolved oxygen content.

5.2.2 Natural Attenuation

Monitored natural attenuation involves the understanding of the natural processes in the environment that can reduce petroleum hydrocarbons. The primary attenuation mechanism at the site is biodegradation. Other attenuation mechanisms include sorption, volatilization, dispersion, and abiotic degradation.

The historic presence of low levels of dissolved oxygen indicates that anaerobic biodegradation of the petroleum hydrocarbons may be the primary remediation process occurring in the subsurface. This is generally confirmed by the analysis of groundwater trends as discussed in Section 3.5.2.

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5.2.3 Mechanical Oil Skimmer

Mechanical removal of separate phase hydrocarbons floating on groundwater was considered as a potential remediation option. This technology would involve the installation and operation of a PetroXractor® or similar mechanical oil skimming device into selected groundwater monitoring wells to remove floating SPH. Once the floating SPH is removed from the well, it is gravity fed into a hazardous waste drum or similar container until processed for disposal. This technology has a proven track record of removing SPH and dense nonaqueous phase liquid (DNAPL) contaminants, but a poor track record of achieving complete groundwater remediation. Based in the information provided in the product specification brochure for the PetroXractor®, the use of this technology can remove up to three gallons of SPH per hour if installed in a 4" monitoring well using a 2" poly belt.

Although continuous mechanical removal of SPH by itself is not an attractive remedial alternative, in conjunction with natural attenuation, mechanical SPH removal from MW-1 may provide reductions of SPH and dissolved COCs beneath the source area. In addition, the natural attenuation process may be enhanced as a result of decreasing the floating SPH in the capillary fringe under the source area allowing microorganisms to grow.

Given the potential for effective SPH removal, short time frame required for operation, and minimum to moderate capital costs for installation and operation of a skimmer system, mechanical removal is considered one of the most attractive groundwater remediation alternatives.

6.0 GROUNDWATER SAMPLING AND ANALYSIS

Delta recommends the collection of intrinsic bioremediation data for the following parameters; ferrous iron, total alkalinity, nitrate, sulfate, dissolved oxygen, and redox potential. The bioremediation parameter data will be used to evaluate the effectiveness of natural attenuation at the site.

Delta also recommends that all groundwater sample analyses for TPH as diesel and fuel oxygenates be reduced in wells where concentrations are not detected above laboratory reporting limits.

REMEDIAL ACTION PLAN AND FEASIBILITY STUDY

Former Chevron Facility No. NO. 9-7127

I-580 and Grant Line Road

Tracy, California

Page 13

7.0 CONCLUSIONS/RECOMMENDATIONS

Based on the information available to Delta to date, the following conclusions are presented:

- The vertical extent of the plume appears to be confined to a perched zone between 10 and 40 feet bsg.
- The source of SPH appears to be the subsurface soil in the vicinity of the UST basin. To remove the SPH in MW-1, it is proposed that an active mechanical oil skimmer oil be installed and operated in MW-1 for a period of four quarters.
- Groundwater flow direction is towards the north and northeast.
- Groundwater sample analytical results for monitoring wells MW-1, MW-3, MW-4 and MW-6 as well as depths to groundwater indicate that dissolved petroleum hydrocarbons are increasing with increased groundwater elevation. This indicates that residual petroleum hydrocarbons may still impact the soil in the vicinity of the former UST basin.
- We recommend that the carbon absorption treatment system installed on the water supply well remain in use.
- Following the removal of SPH by the mechanical oil skimmer, it is recommended that the site be re-evaluated for a "Low Risk" groundwater case closure using RBCA.

9.0 LIMITATIONS

The interpretations contained in this report represent our professional opinions and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.



GENERAL NOTES:
 BASE MAP FROM U.S.G.S
 MIDWAY, CA
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1980



QUADRANGLE LOCATION

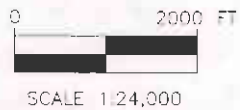
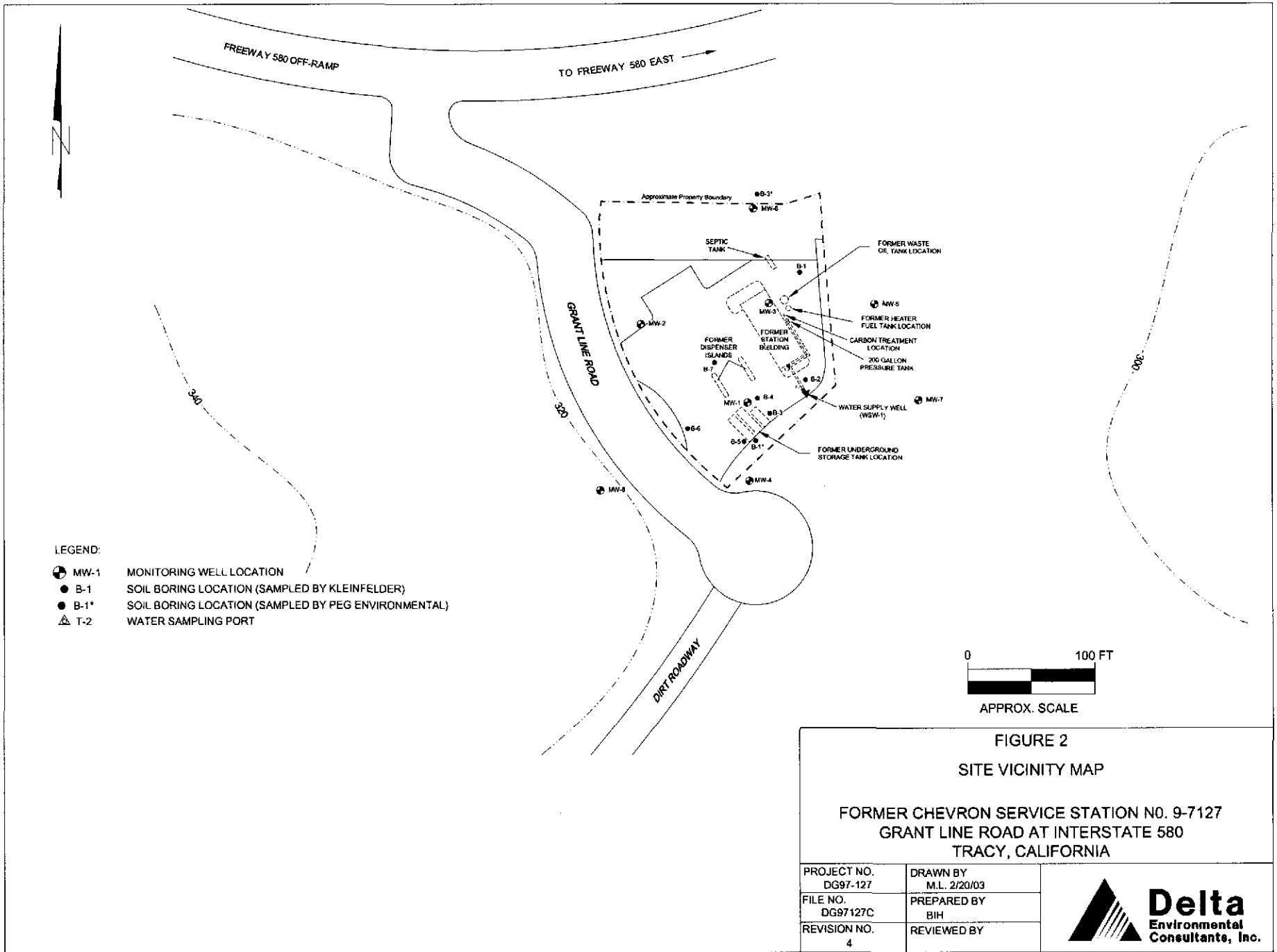


FIGURE 1
 SITE LOCATION MAP
 FORMER CHEVRON SERVICE STATION NO. 9-7127
 GRANT LINE ROAD AT INTERSTATE 580
 TRACY, CALIFORNIA

PROJECT NO. DG97-127	DRAWN BY M.L. 8/30/00
FILE NO. DG97127A	PREPARED BY BIH
REVISION NO. 1	REVIEWED BY





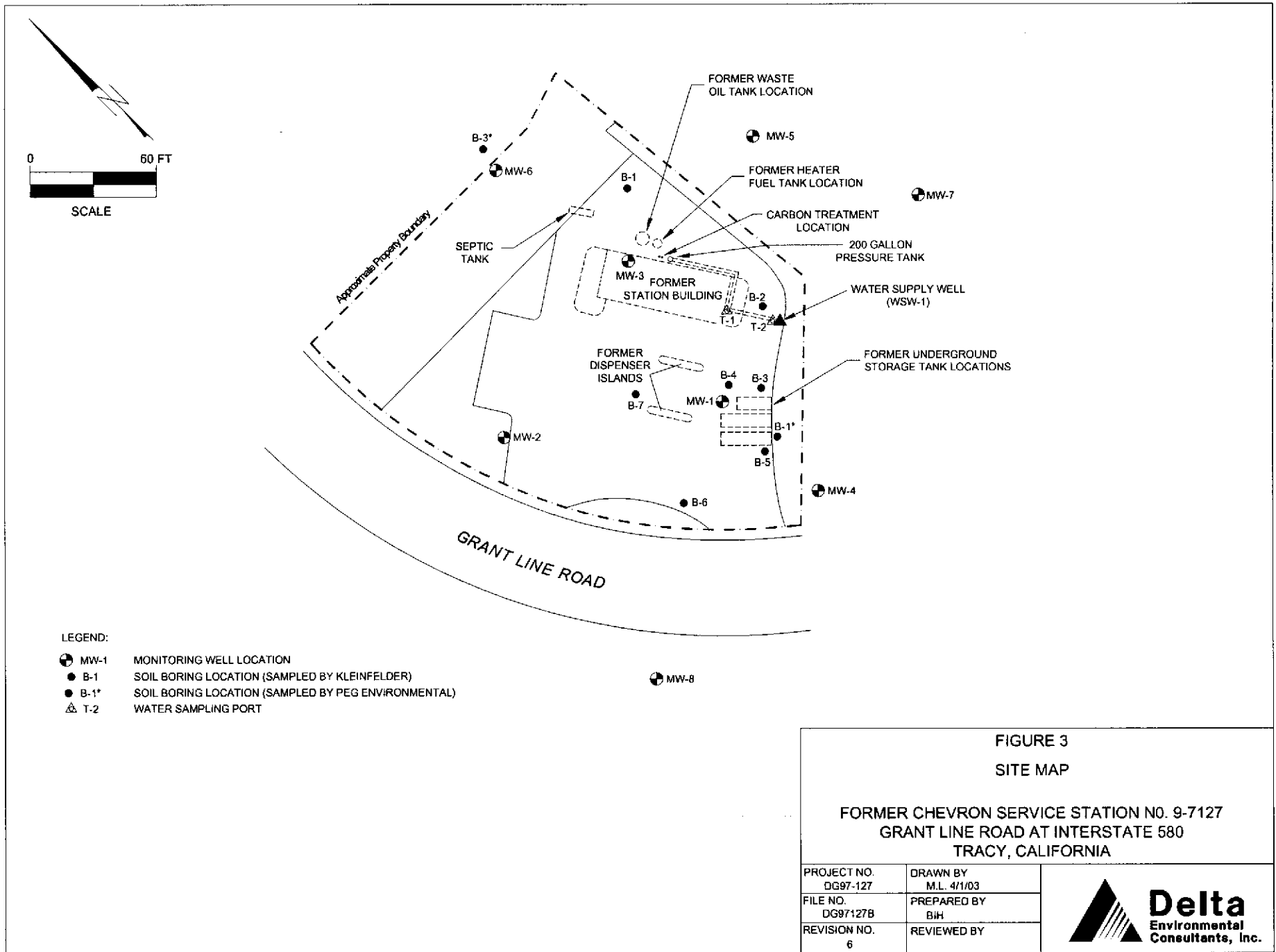
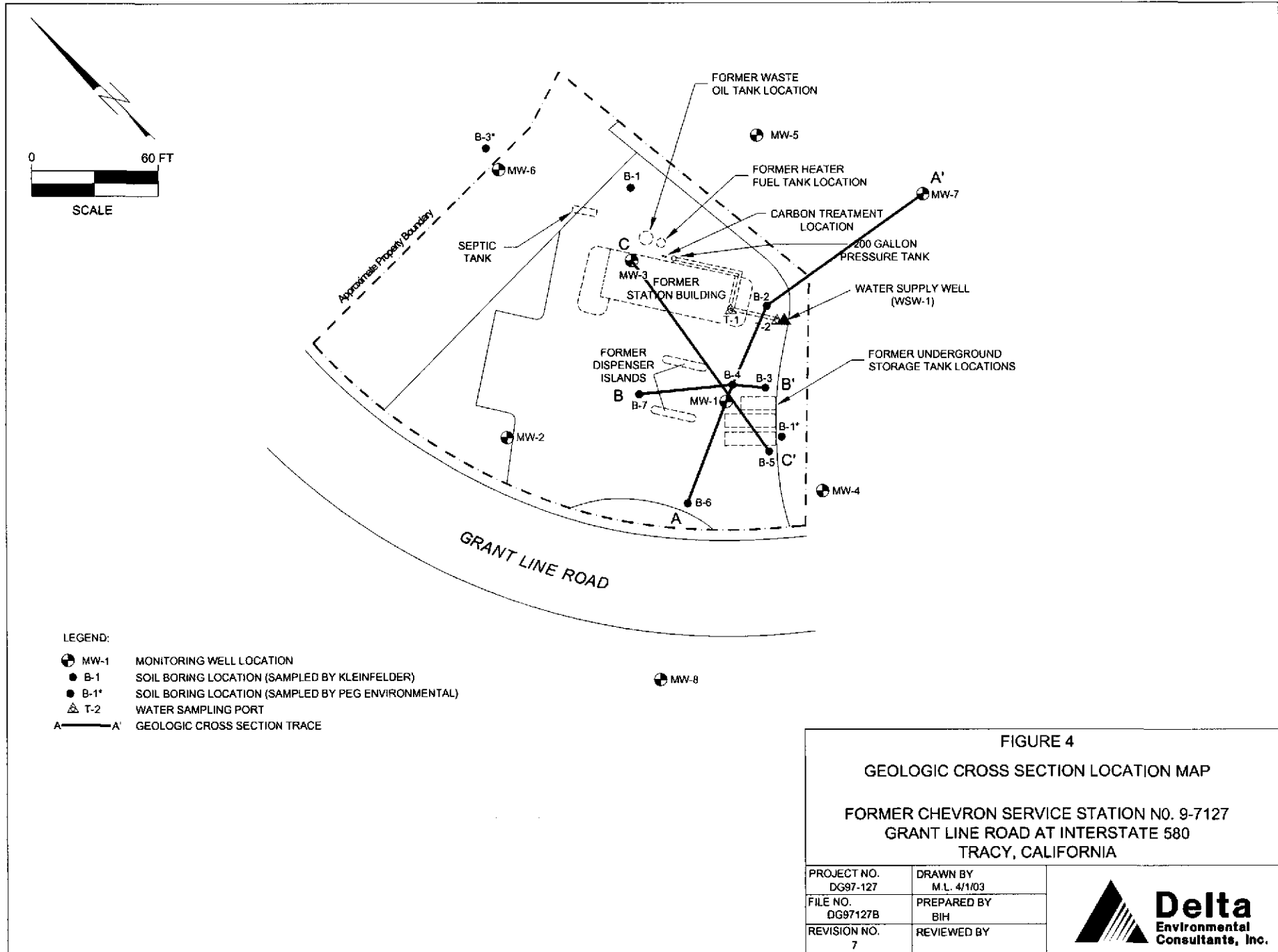


FIGURE 3
SITE MAP

FORMER CHEVRON SERVICE STATION NO. 9-7127
GRANT LINE ROAD AT INTERSTATE 580
TRACY, CALIFORNIA

PROJECT NO. DG97-127	DRAWN BY M.L. 4/1/03
FILE NO. DG97127B	PREPARED BY BIH
REVISION NO. 6	REVIEWED BY





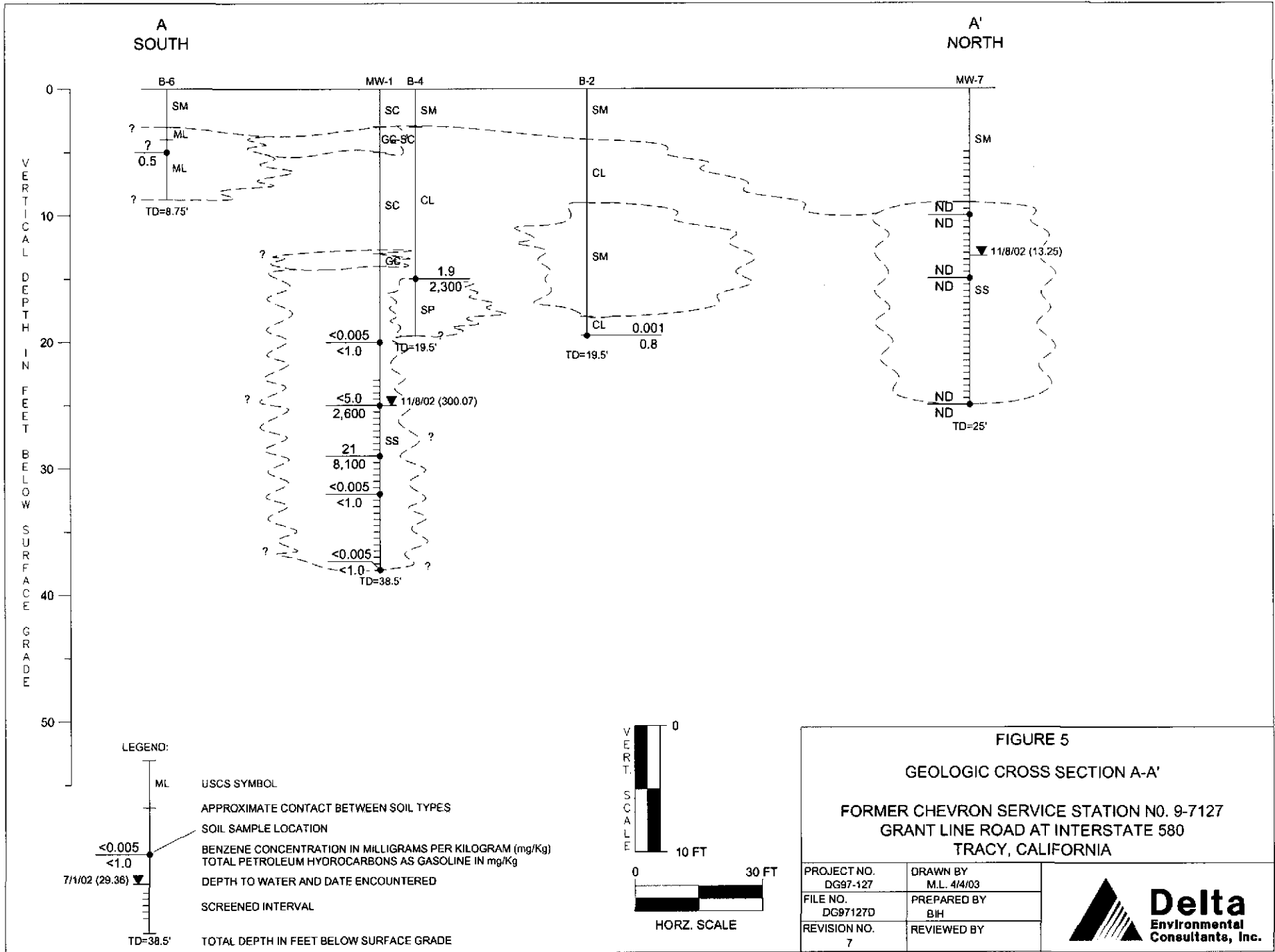



FIGURE 5

GEOLOGIC CROSS SECTION A-A'

FORMER CHEVRON SERVICE STATION NO. 9-7127
GRANT LINE ROAD AT INTERSTATE 580
TRACY, CALIFORNIA

PROJECT NO. DG97-127	DRAWN BY M.L. 4/4/03
FILE NO. DG97127D	PREPARED BY BIH
REVISION NO. 7	REVIEWED BY



Delta
Environmental Consultants, Inc.

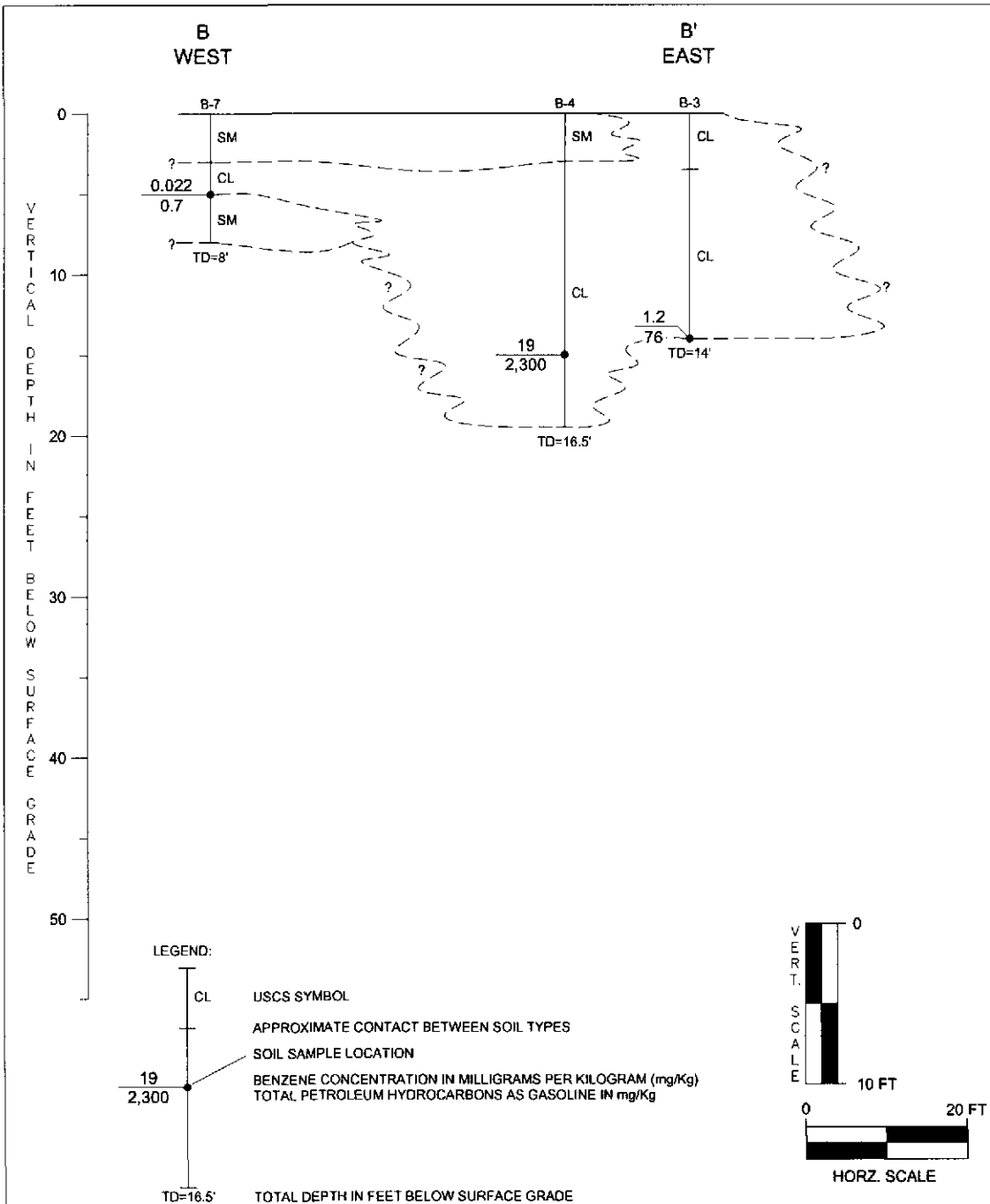

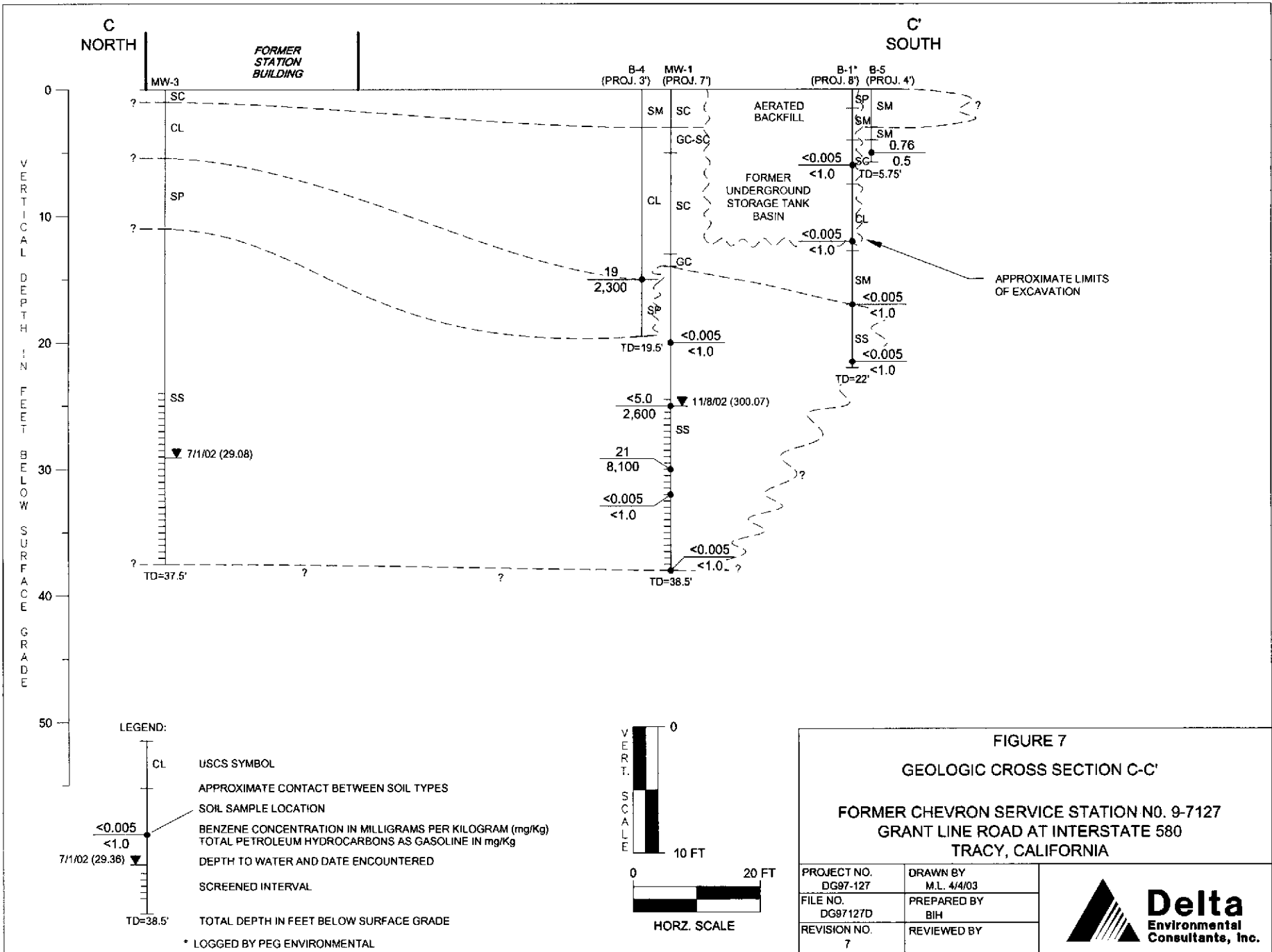


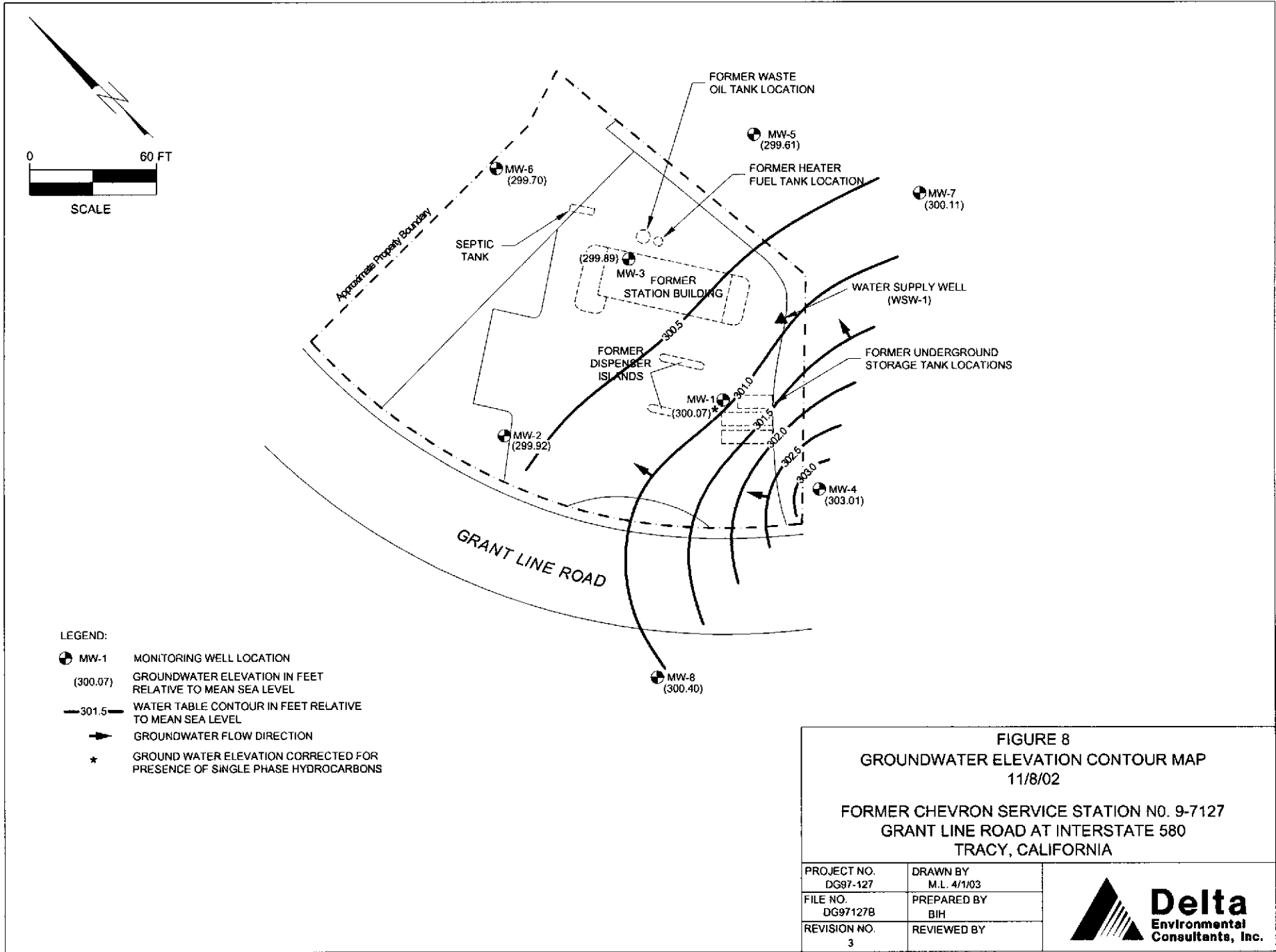
FIGURE 6
GEOLOGIC CROSS SECTION B-B'

FORMER CHEVRON SERVICE STATION NO. 9-7127
GRANT LINE ROAD AT INTERSTATE 580
TRACY, CALIFORNIA

PROJECT NO. DG97-127	DRAWN BY M.L. 4/1/03
FILE NO. DG97127D	PREPARED BY BIH
REVISION NO. 4	REVIEWED BY

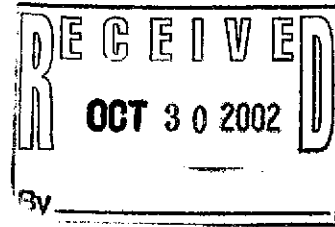






APPENDIX A

Alameda County Health Care Services Letter Dated October 29, 2002



RO0000185

October 29, 2002

Mr. Karen Streich
Chevron
P.O. Box 6004
San Ramon, CA 94583

Mr. Ardavan Onori
29310 Union City Blvd
Union City, CA 94587

RE: Feasibility Study for Chevron 9-7127 at I-580 and Grant Line Rd, Tracy, CA

Dear Ms. Streich and Mr. Onori:

In February 2002, I requested that a Remedial Action Plan (RAP) be submitted for the above referenced site. Please let me clarify that the RAP should evaluate several technically and economically feasible methods to remediate soil and groundwater, and will adequately protect human health and safety, the environment, eliminate nuisance conditions, and protect water resources. Of the technical methods evaluated, the RAP shall detail the cleanup alternative you plan to implement at the site. The RAP should also propose verification monitoring to confirm completion and or effectiveness of cleanup at the site.

The required RAP is due within 45 days of the date of this letter, or by **December 20, 2002**. If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

email: Ben Heningburg, Delta Environmental

TABLE 1

SUMMARY OF SOIL VAPOR MONITORING DATA
 CHEVRON SERVICE STATION #7127
 TRACY, CALIFORNIA

SAMPLE LOCATION	SAMPLE DEPTH	PRIOR TO			DETECTED
		BENZENE(1) (ppm)	BENZENE (ppm)	TOLUENE (ppm)	HYDROCARBONS (ppm)
V1	3	<5	<1	<1	<5
V1/B	5	3700	650	3200	7500
V1/C	8	18000	600	2800	20000
V2	5	130	<5	30	160
V3	3	10	5	10	30
V3/B	5	<5	1	10	15
V4	3	20000	3200	5200	28500
V4/B	5	120	130	1900	2000
V5	5	1	<1	<5	<5
V5/B	7	620	40	<1	750
V6	5	1150	540	160	7300
V7	5	1300	<5	<5	1400
V8	3	<1	<1	<1	<1
V8/B	8	<1	<1	<1	<1
V9	8	1	<1	<10	10
V10	8	<1	<1	<1	<1
V11	5	<1	<1	<1	<1
V12	8	<1	<1	<1	<1
V13	12	20	<1	<1	25
V14	8	<1	<1	<1	<1
V15	12	<1	<1	<1	<1
BLANK	NA	<0.1	<0.1	<0.1	NA
BLANK	NA	<0.1	<0.1	<0.1	NA
Detection Limit		0.5	0.5	0.5	1

NA = Not Applicable
 ppm = parts per million

(1) Quantification based on the volt-second:ppm response ratio for benzene.
 Source: EA Engineering, Science, and Technology, Inc. report dated 11/13/87

(Note: See Plate 2 for sampling point locations.)

TABLE 2

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SUMMARY OF SOILS ANALYTICAL DATA
CHEVRON SERVICE STATION #7127
TRACY, CALIFORNIA

=====

SAMPLE ID	SAMPLE DEPTH*	BENZENE (ppm)	TOLUENE (ppm)	TOTAL XYLENES (ppm)	ETHYLBENZENE (ppm)	TPH (ppm)
B1-10	10	ND	ND	ND	ND	ND
B2-20	20	0.001	ND	4	0.003	0.8
B3-14	14	1.2	0.680	2	0.8	76
B4-15	15	19	85	140	28	2300
B5-5	5	0.076	0.007	0.030	0.002	0.5
B6-5	5	ND	ND	ND	ND	ND
B7-5	5	0.022	0.003	0.024	0.046	0.7

Detection

Limit	0.5	0.5	0.5	0.5	1
-------	-----	-----	-----	-----	---

=====

TPH = Total Petroleum Hydrocarbons

* Feet below ground surface

ppm = parts per million

Benzene, Toluene, Total Xylenes and Ethylbenzene concentrations converted from ppb to ppm.

SOURCE: Subsurface Environmental Investigation, January 6, 1988; Kleinfelder Inc.

(Note: See Plate 3 for boring locations.)

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in
Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DONE MTL LABORATORY	LABORATORY SAMPLE I.D.	-----PPM-----					
										TPH AS GAS	BEN-ZENE	TOL-UENE	ETHYL BEN-ZENE	XY-LENES	TOTAL LEAD
AF	14.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#5	SEQUOIA	104-0738	4000	ND	41	66	310	13
Aop	13.5	LIA	SIDEWALL	SOIL	04/04/91	910404-G-1	#4	SEQUOIA	104-0737	1.0	0.0070	ND	0.0050	0.030	9.1
BF	14.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#6	SEQUOIA	104-0739	5700	20	220	110	560	80
Bop	14.0	LIA	SIDEWALL	SOIL	04/04/91	910404-G-1	#3	SEQUOIA	104-0736	ND	0.0070	0.016	0.012	0.030	7.7
CF	12.5	LIA	SIDEWALL	SOIL	04/04/91	910404-G-1	#7	SEQUOIA	104-0740	2.1	0.018	0.013	0.014	0.046	6.9
Cop	15.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#2	SEQUOIA	104-0735	2900	30	180	60	350	14
	13.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#1	SEQUOIA	104-2649	16	0.0090	0.014	0.021	0.17	3.6
	15.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#2	SEQUOIA	104-2650	710	0.013	0.063	0.096	0.41	8.1
PRODUCT LINE/DISPENSER PUMP ISLAND															
#1	2.5	LIA	INTRFACE	SOIL	04/04/91	910404-G-1	#1	SEQUOIA	104-0734	1200	3.3	17	17	86	17
#10	4.0	LIA	INTRFACE	SOIL	04/04/91	910404-G-1	#10	SEQUOIA	104-0743	J.J	0.20	0.043	0.060	0.16	7.7
#11	4.0	LIA	INTRFACE	SOIL	04/04/91	910404-G-1	#11	SEQUOIA	104-0744	750	12	33	19	110	2.5
#12	4.0	LIA	INTRFACE	SOIL	04/04/91	910404-G-1	#12	SEQUOIA	104-0745	15	0.23	0.19	0.26	1.3	6.9
#5	13.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#5	SEQUOIA	104-2653	220	ND	0.80	1.7	10	2.6
#8	14.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#8	SEQUOIA	104-2656	33	0.085	0.24	0.27	1.5	6.1
#13	15.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#13	SEQUOIA	104-2661	11	ND	0.047	0.044	0.31	6.1
#14	13.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#14	SEQUOIA	104-2662	9.2	0.0050	0.0060	0.030	0.13	3.6

Standard - The location conformed to established (professional or regulatory) definitions for the type of sample being collected.
Example: a standard RMOCB interface sample.

LIA - The local implementing agency inspector chose a sampling location that was different from a standard (pre-defined) location.

Elective - Elective samples are not taken to comply with regulatory requirements, but to obtain information. Sampling locations may be chosen by the property owner, the contractor, a consultant, etc. The samples may or may not be analyzed.

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in
Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HQ/L LABORATORY	LABORATORY SAMPLE I.D.	PPM					TOTAL LEAD
										TPH AS GAS	BEN- ZENE	TOL- UENE	ETHYL BEN- ZENE	XY- LENES	
W6M	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-C-1	18	SEQUOIA	104-0741	ND	ND	ND	ND	ND	3.3
F6M	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-C-1	19	SEQUOIA	104-0742	170	ND	ND	ND	2.7	1.7
#15	18.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#15	SEQUOIA	104-2663	ND	ND	ND	ND	ND	6.1
STOCK	6-12"	RHOGB	DISCRETE	SOIL	04/04/91	910404-C-1	130	SEQUOIA	104-0763	ND	ND	ND	ND	ND	2.6
	6-12"	RHOGB	DISCRETE	SOIL	04/04/91	910404-C-1	131	SEQUOIA	104-0764	ND	ND	ND	ND	ND	4.1
	6-12"	RHOGB	DISCRETE	SOIL	04/04/91	910404-C-1	132	SEQUOIA	104-0765	ND	ND	ND	ND	ND	5.9
	6-12"	RHOGB	DISCRETE	SOIL	04/04/91	910404-C-1	133	SEQUOIA	104-0766	ND	ND	ND	ND	ND	2.5

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in
Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM					
										TPH AS GAS	BEN-ZENE	TOL-OENE	ETHYL BEN-ZENE	XY-LENES	TOTAL LEAD
WOM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#8	SEQUOIA	104-0741	ND	ND	ND	ND	ND	3.3
FoM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#9	SEQUOIA	104-0742	170	ND	ND	ND	2.7	1.7
#15	10.0	ELECTIVE	CONFIRM	SOIL	04/16/91	910416-V-1	#15	SEQUOIA	104-2663	ND	ND	ND	ND	ND	6.1
STOCK	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#30	SEQUOIA	104-0763	ND	ND	ND	ND	ND	2.6
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#31	SEQUOIA	104-0764	ND	ND	ND	ND	ND	4.1
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#32	SEQUOIA	104-0765	ND	ND	ND	ND	ND	5.9
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#33	SEQUOIA	104-0766	ND	ND	ND	ND	ND	2.5

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM		PPB
										TPH-HBF DIESEL	TOTAL OIL & GREASE	EPA 8010 COMPOUNDS
WOM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#8	SEQUOIA	104-0741	ND	ND	ND
FoM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#9	SEQUOIA	104-0742	ND	ND	ND
STOCK	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#30	SEQUOIA	104-0763	ND	ND	ND
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#31	SEQUOIA	104-0764	ND	ND	ND
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#32	SEQUOIA	104-0765	2.6	ND	ND
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#33	SEQUOIA	104-0766	3.4	ND	ND

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM				
										CADMIUM	CHROMIUM	LEAD	ZINC	NICKEL
WOM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#8	SEQUOIA	104-0741	4.8	7.9	3.3	23	10
FoM	11.0	STANDARD	INTRFACE	SOIL	04/04/91	910404-G-1	#9	SEQUOIA	104-0742	2.2	4.4	1.7	13	0.5
STOCK	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#30	SEQUOIA	104-0763	3.4	8.4	2.6	22	9.7
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#31	SEQUOIA	104-0764	2.8	7.9	4.1	25	15
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#32	SEQUOIA	104-0765	5.2	18	5.9	42	16
	6-12"	RWQCB	DISCRETE	SOIL	04/04/91	910404-G-1	#33	SEQUOIA	104-0766	2.7	5.9	2.5	21	11

Standard - The location conformed to established (professional or regulatory) definitions for the type of sample being collected.
Example: a standard RWQCB interface sample.

LIA - The local implementing agency inspector chose a sampling location that was different from a standard (pre-defined) location.

Elective - Elective samples are not taken to comply with regulatory requirements, but to obtain information. Sampling locations may be chosen by the property owner, the contractor, a consultant, etc. The samples may or may not be analyzed.

Table 2
Soil Analytical Data
 Total Petroleum Hydrocarbons
 (TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Highway I-580 at Grant Line Road
 Tracy, California

Boring Number	Sample Date	Sample Depth (feet)	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)
B-1	12/09/92	7	ND	ND	ND	ND	ND
		12.5	4.0	ND	ND	ND	0.015
		17.5	ND	ND	0.014	ND	0.025
		21.5	ND	ND	0.013	ND	0.018
MW-1	12/08/92	19	ND	ND	0.0056	ND	0.0079
		24	2,600	<5.0*	79	30	200
		29	8,100	21	560	150	840
		30.5	ND	ND	ND	ND	ND
		38.5	ND	ND	0.013	ND	0.024
Detection Limits:			1.0	0.005	0.005	0.005	0.005
ppm = Parts per million ND = Not detected * Elevated method reporting limit.							

Table 1
Soil Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Interstate 580 at Grant Line Road
 Tracy, California

Boring Number	Date Sampled	Sample Depth (feet)	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)
MW-5/B-4	05/25/93	10	ND	ND	ND	ND	ND
		15	ND	ND	ND	ND	ND
SPOILS	05/25/93	N/A	ND	ND	ND	ND	ND
Detection Limits:			1.0	0.005	0.005	0.005	0.015
ppm = Parts per million ND = Not detected N/A = Not applicable							

Table 1
 Soil Analytical Data
 Total Petroleum Hydrocarbons
 (TPPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7107
 Grant Line Road at Interstate 580
 Tracy, California

Well Number	Sample Depth (feet)	Date Sampled	TPPH as			Ethyl-	
			Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	benzene (ppm)	Xylenes (ppm)
MW-6	9.5	10/27/95	ND	ND	ND	ND	ND
	14.5		ND	ND	ND	ND	ND
	29.5		ND	ND	ND	ND	ND
MW-7	10.5	10/24/95	ND	ND	ND	ND	ND
	14.5		ND	ND	ND	ND	ND
	24.5		ND	ND	ND	ND	ND
MW-8	24.5	10/25/95	ND	ND	ND	ND	ND
	29.5		ND	ND	ND	ND	ND
	39.5		ND	ND	ND	ND	ND
TPPH	= Total purgeable petroleum hydrocarbons						
ppm	= Parts per million						
ND	= Not detected						

APPENDIX C

Cumulative Groundwater Analytical Results

TABLE 3

=====

SUMMARY OF GROUND-WATER ANALYTICAL DATA
CHEVRON SERVICE STATION #7127
TRACY, CALIFORNIA

=====

SAMPLE DATE	SAMPLING POINT	BENZENE (ppb)	TOLUENE (ppb)	TOTAL XYLENES (ppb)	ETHYLBENZENE (ppb)	TPH (ppm)
12/21/87	T-1	2	ND	ND	ND	NT
01/05/88	T-2	4	ND	ND	ND	NT
01/08/88	T-2	1	ND	ND	ND	NT
01/08/88	T-2	1.1	ND	ND	ND	NT
01/21/88	Well	ND	ND	ND	ND	NT
02/19/88	T-1	ND	ND	ND	ND	ND
02/19/88	T-1	ND	ND	ND	ND	ND
02/19/88	Well	ND	ND	ND	ND	ND
02/19/88	TB	ND	ND	ND	ND	ND
03/14/89	Well #	3.7	0.8	NT	NT	ND
03/14/89	Well *	ND	ND	ND	NT	ND
03/14/89	T-2 #	2.7	0.4	NT	NT	ND
03/14/89	T-2 *	ND	ND	NT	NT	ND
03/14/89	T-3 #	1.4	0.4	NT	NT	ND
03/14/89	T-3 *	ND	ND	NT	NT	ND
03/14/89	TB *	ND	ND	NT	NT	ND
04/05/89	Well *	7	3	ND	NT	ND
04/05/89	Well #	6.4	2.3	1	NT	ND
04/05/89	T-2 *	6	3	3	NT	ND
04/05/89	T-2 #	5	1.5	0.7	NT	ND
04/05/89	T-3 *	2	ND	ND	NT	ND
04/05/89	T-3 #	2.3	0.6	ND	NT	ND
04/05/89	TB #	ND	ND	0.6	NT	ND
Detection Limit		0.5	0.5	0.5	0.5	1

=====

TB = Trip Blank

NT = not tested

ppm = parts per million

ppb = parts per billion

* Analyzed by Med-Tox Associates, Inc.

Analyzed by Clayton Environmental Consultants, Inc.

Well = samples collected from domestic well-head.

(Note: See Plate 4 for sampling point locations.)

TABLE 1
ANALYTICAL RESULTS OF WATER SAMPLES
CHEVRON, TRACY
 concentrations in $\mu\text{g/l}$ (ppb)

Sample Location	Sample Date	Purge Well Volumes	TPH as Gasoline	Benzene	Total Xylene	Toluene	Ethyl Benzene
Wellhead	3-14-89	3	ND (ND)	ND (3.7)	ND (ND)	ND (0.8)	ND (ND)
	4-5-89	0	ND	ND	ND	ND	ND
		3	ND	ND	ND	ND	ND
		6	ND (ND)	7.0 (6.4)	ND (1.0)	3.0 (2.3)	ND (ND)
		5	NT	5.0	ND	2.0	ND
	5-18-89	5	NT	ND	ND	ND	ND
Tap-2 (T-2)	3-14-89	3	ND (ND)	ND (2.7)	ND	ND (0.4)	ND
	4-5-89	0	ND	ND	ND	ND	ND
		3	ND	ND	ND	ND	ND
		6	ND (ND)	6.0 (5.0)	3.0 (0.7)	3.0 (1.5)	ND (ND)
		5	NT	4.0	ND	2.0	ND
	5-18-89	5	NT	ND	ND	ND	ND
Tap-3 (T-3)	3-14-89	3	ND (ND)	ND (1.4)	ND	ND (0.4)	ND (ND)
	4-5-89	0	ND	ND	ND	ND	ND
		3	ND	ND	ND	ND	ND
		6	ND (ND)	2.0 (2.3)	ND (ND)	ND (0.6)	ND (ND)
		5	NT	1.0	ND	ND	ND
	5-18-89	5	NT	ND	ND	ND	ND
Travel Blank	3-14-89	-	ND	ND	ND	ND	ND
4-5-89	-	ND (ND)	ND (ND)	ND (0.6)	ND (ND)	ND (ND)	
	-	NT	ND	ND	ND	ND	
	-	NT	ND	ND	ND	ND	
Detection Limit	-	-	100 (50)	0.5 (0.4)	2.0 (0.4)	0.5 (0.3)	0.5 (0.3)

ND = Not detected at or above laboratory limits of detection

NT = Compound not tested for in specific sampling round

Results and detection limits of duplicate analyses are shown in parentheses

Duplicate analyses were performed by Clayton Environmental. All other analyses were performed by Med-Tox Associates.

TABLE 2
GENERAL DRINKING WATER PARAMETERS
CHEVRON, TRACY
 concentrations in $\mu\text{g/l}$ (ppb)

Parameter	Wellhead Sample	Detection Limit
Fecal Coliform (MPN)	ND	2.2
Nitrate - Nitrogen (mg/l)	12	0.1
Total Organic Carbon (mg/l)	1.2	1
Total Suspended Solids (mg/l)	4	2
General Minerals (mg/l)		
Bicarbonate Alkalinity ¹	2,000	2
Carbonate Alkalinity ¹	ND	2
Hydroxide Alkalinity ¹	ND	2
Calcium	41	0.1
Chloride	150	0.1
Copper	0.005	0.005
Iron	0.02	0.01
Magnesium	33	0.01
Manganese	0.005	0.005
pH (Standard units)	7.9	NA
Sodium	160	0.01
Sulfate	77	0.5
Conductivity (umhos/cm)	1,100	20
Total Dissolved Solids	600	10
Hardness ¹	240	0.3
Zinc	0.012	0.003

¹ mg CaCO₃/l
 ND Not detected at or above laboratory detection limits
 NA Not applicable

TABLE 4

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SUMMARY OF GROUND-WATER ANALYTICAL DATA AFTER TREATMENT
CHEVRON SERVICE STATION #7127
TRACY, CALIFORNIA

=====

SAMPLE DATE	SAMPLING POINT	BENZENE (ppb)	TOLUENE (ppb)	TOTAL XYLENES (ppb)	ETHYLBENZENE (ppb)	TPH (ppm)
08/05/89	A	ND	ND	ND	ND	ND
08/05/89	B	ND	ND	ND	ND	ND
08/05/89	C	ND	ND	ND	ND	ND
08/05/89	Well	ND	ND	ND	ND	ND
08/05/89	TB	ND	ND	ND	ND	ND
08/11/89	A	ND	ND	ND	ND	ND
08/11/89	B	ND	ND	ND	ND	ND
08/11/89	C	ND	ND	ND	ND	ND
08/11/89	Well	ND	ND	ND	ND	ND
08/11/89	TB	ND	ND	ND	ND	ND
08/18/89	A	ND	ND	ND	ND	ND
08/18/89	B	ND	ND	ND	ND	ND
08/18/89	C	ND	ND	ND	ND	ND
08/18/89	Well	ND	ND	ND	ND	ND
08/18/89	TB	ND	ND	ND	ND	ND
08/25/89	A	ND	ND	ND	ND	ND
08/25/89	B	ND	ND	ND	ND	ND
08/25/89	C	ND	ND	ND	ND	ND
08/25/89	Well	ND	ND	ND	ND	ND
08/25/89	TB	ND	ND	ND	ND	ND
08/30/89	A	ND	ND	ND	ND	ND
08/30/89	B	ND	ND	ND	ND	ND
08/30/89	C	ND	ND	ND	ND	ND
08/30/89	Well	ND	ND	ND	ND	ND
08/30/89	TB	ND	ND	ND	ND	ND
Detection Limit		50.	0.5	1.	1.	3.

=====

TB = Trip Blank

ppm = parts per million ppb = parts per billion

Source: Gettler-Ryan Sampling Reports 5/89 through 8/89

Note: Well is also referred to as sample point D in G-R Sampling Reports.

(Note: See Plates 5 and 6 for sampling location.)

Table 1
Groundwater Elevation Data

Former Chevron U.S.A. Service Station 9-7127
Highway I-580 at Grant Line Road
Tracy, California

Well Number	Sample Date	Well Elevation (feet)	Depth to Water (feet, TOC)	Groundwater Elevation (feet)
MW-1	12/28/92	329.18	30.78*	299.09*
MW-2	12/28/92	327.22	28.59	298.63
MW-3	12/28/92	329.26	30.69	298.57

TOC = Top of casing
* Separate-phase hydrocarbons (1.67 feet) were reported; level measured represents the top of liquid.
Elevations relative to bench mark 477-R at 309.20 feet, USC & GS datum.

Table 3
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Highway I-580 at Grant Line Road
 Tracy, California

Well Number	Sample Date	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-2	12/28/92	ND	ND	ND	ND	0.6*
MW-3	12/28/92	19,000	8,900	660	380	720
Detection Limits:		50	0.4	0.3	0.3	0.4
ppb = Parts per billion ND = Not detected at or above limit of detection * The trip blank (TB-1) also contained detectable xylenes at 0.9 ppb.						

Table 1
Water Well Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Highway I-580 at Grant Line Road
 Tracy, California

Sample Date	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
12/10/92	ND	ND	ND	ND	ND
01/07/93	ND	ND	ND	ND	ND
01/22/93	ND	ND	ND	ND	ND
01/29/93	ND	ND	3	ND	2
02/04/93	ND	ND	ND	ND	ND
02/12/93	ND	ND	ND	ND	ND
02/19/93	ND	ND	ND	ND	ND
02/26/93	ND	ND	ND	ND	ND
03/04/93	ND	ND	ND	ND	ND
03/11/93	ND	ND	ND	ND	ND
03/19/93	ND	0.8	ND	ND	ND
03/25/93	ND	ND	ND	ND	ND
04/01/93	ND	ND	ND	ND	ND
04/08/93	ND	ND	ND	ND	ND
04/15/93	ND	ND	ND	ND	ND
04/23/93	ND	ND	ND	ND	ND
04/29/93	ND	ND	ND	ND	ND
05/07/93	ND	ND	ND	ND	ND
05/13/93	ND	ND	ND	ND	ND
05/20/93	ND	ND	ND	ND	ND
05/21/93	ND	ND	ND	ND	ND
06/04/93	ND	ND	ND	ND	ND
06/11/93	ND	ND	ND	ND	ND
06/18/93	ND	ND	ND	ND	ND
06/24/93	ND	ND	ND	ND	ND
07/01/93	ND	ND	ND	ND	ND
07/08/93	ND	ND	ND	ND	ND
07/16/93	ND	ND	ND	ND	ND
07/23/93	ND	ND	ND	ND	ND
07/29/93	ND	ND	ND	ND	ND
08/05/93	ND	ND	ND	ND	ND

Table 1 (continued)
Water Well Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Highway I-580 at Grant Line Road
 Tracy, California

Sample Date	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
08/12/93	ND	ND	ND	ND	ND
08/19/93	ND	ND	ND	ND	ND
08/26/93	ND	ND	ND	ND	ND
09/02/93	ND	ND	ND	ND	ND
09/09/93	ND	ND	ND	ND	ND
09/17/93	ND	ND	ND	ND	ND
09/23/93	ND	ND	ND	ND	ND
10/01/93	ND	ND	ND	ND	ND
10/07/93	ND	ND	ND	ND	ND
10/15/93	ND	ND	ND	ND	ND
10/21/93	ND	ND	ND	ND	ND
10/28/93	ND	ND	ND	ND	ND
11/05/93	ND	ND	ND	ND	ND
11/12/93	ND	ND	ND	ND	ND
Detection Limits:	50	0.5	0.5	0.5	0.5
ppb = Parts per billion ND = Not detected at or above limit of detection * The trip blank (TB-1) also contained detectable xylenes at 0.9 ppb.					

Table 2
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Interstate 580 at Grant Line Road
 Tracy, California

Boring Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
(Grab Sample) MW-4/B-2	05/21/93	ND	12	2	ND	1
B-3	05/21/93	96	1	0.5	ND	ND
(Grab Sample) MW-5/B-4	05/25/93	ND	ND	ND	ND	0.9
MW-4	05/25/93	300	56	10	0.8	3
MW-5	05/25/93	ND	ND	ND	ND	ND
Detection Limits:		50	0.5	0.5	0.5	0.5
ppb = Parts per billion ND = Not detected at or above limit of detection.						

Table 2
 Groundwater Elevation and Analytical Data
 Total Petroleum Hydrocarbons
 (TPPH as Gasoline and BTEX Compounds)

Former Chevron U.S.A. Service Station 9-7127
 Grant Line Road at Interstate 5
 Tracy, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-6	11/22/95	312.20	13.20	299.00	ND	ND	ND	ND	ND
MW-7	11/22/95	313.36	14.15	299.21	ND	ND	ND	ND	ND
MW-8	11/22/95	329.91	30.35	299.56	ND	ND	ND	ND	ND

TPPH = Total purgeable petroleum hydrocarbons
 MSL = Mean sea level
 TOC = Top of casing
 ppb = Parts per billion
 ND = Not detected

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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1											
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

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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1 (cont)											
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
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					--
MW-2											
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	--	--	--	--	--	--	--	--

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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2 (cont)											
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
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	--	--	--	--	--	--

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.)	SPH		B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
					REMOVED (gallons)	TPH-G (ppb)					
MW-3											
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	--	--	--	--	--	--	--	--
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

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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-3 (cont)											
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
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
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--

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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4 (cont)											
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
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

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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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4 (cont)											
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
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--

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I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5 (cont)											
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
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	--	--	--	--	--	--
MW-6											
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	--	--	--	--	--	--	--	--

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I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-6 (cont)											
08/27/96	312.20	300.25	11.95	--	--	90	1.6	<0.5	<0.5	<0.5	<5.0
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
MW-7											
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	--	--	--	--	--	--	--	--

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WELL ID/ DATE	TOC* (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-7 (cont)											
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	--	--	--	--	--	--
MW-8											
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--

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.)	SPHI (ft.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-8 (cont)											
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	--	--	--	--	--	--
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
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
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.)	SPH REMOVED (gallons)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
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

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	SPH = Separate Phase Hydrocarbons	MTBE = Methyl tertiary butyl ether
(ft.) = Feet	TPH-G = Total Petroleum Hydrocarbons as Gasoline	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	B = Benzene	(ppb) = Parts per billion
(msl) = Mean sea level	T = Toluene	QA = Quality Assurance/Trip Blank
DTW = Depth to Water	E = Ethylbenzene	
SPHT = Separate Phase Hydrocarbon Thickness	X = Xylenes	

- * TOC elevations are relative to msl.
- ** GWE has been corrected for the presence of SPH, correction factor = [(TOC - DTW) + (SPHT x 0.80)].
- 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, 210,1500 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.
- 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.

Table 2
Groundwater Analytical Results - Oxygenate Compounds
 Former Chevron Service Station #9-7127
 I-580 and Grant Line Road
 Tracy, California

WELL ID	DATE	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME. (ppb)
MW-3	05/18/01 ¹	1,000	11	<10	<10	<10
	07/01/02	600	<10	<10	<10	<10
MW-4	05/18/01 ¹	200	2.1	<2.0	<2.0	<2.0

EXPLANATIONS:

TBA = Tertiary butyl alcohol
 MTBE = Methyl tertiary butyl ether
 DIPE = Di-isopropyl ether
 ETBE = Ethyl tertiary butyl ether
 TAME = Tertiary amyl methyl ether
 (ppb) = Parts per billion

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

¹ Laboratory report indicates samples were analyzed outside the EPA recommended holding time.

Table 3
Groundwater Analytical Results
Former Chevron Service Station #9-7127
I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ mhos/cm)	Temp. °C/F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-1												
07/27/97	14:46											
07/27/97	14:51	7.5	7.09	212.00	20.9/-	2.37	-5.0	500	--	--	--	--
07/27/97	14:56	15.0	7.11	212.00	21/-	2.24	-6.0	600	--	--	--	--
07/27/97	15:01	22.5	7.11	211.00	21.1/-	2.24	-5.0	550	--	--	--	--
07/27/97	15:03	23.0	7.10	212.00	20.9/-	2.25	-6.0	550	<1.0	14	<100	2.2
05/31/98	13:30											
05/31/98	13:36	9.0	6.96	1331.00	20.6/-	0.15	3.2	975	--	--	--	--
05/31/98	13:40	18.0	6.97	1239.00	20.2/-	0.40	1.3	900	--	--	--	--
05/31/98	13:48	27.0	6.95	1199.00	20.5/-	0.66	1.3	950	--	--	--	--
05/31/98	13:50	28.0	6.97	1201.00	20.4/-	0.60	2.0	950	<1.0	4.0	<10	4.1
08/12/98	--	--	--	--	--	0.45	--	--	--	--	--	--
11/23/98	16:00	0.0	7.00	1706.00	16.6/-	--	--	--	--	--	--	--
05/11/99	15:45	8.0	7.60	1800.00	23.5/-	0.3 (Pre)	118 (Pre)	--	--	--	--	--
05/11/99	15:48	16.0	7.60	1600.00	21.3/-	--	--	--	--	--	--	--
05/11/99	15:50	24.0	7.60	1600.00	21.5/-	1.5 (Post)	26 (Post)	--	1.7	--	--	1.5
MW-2												
07/27/97	14:01											
07/27/97	14:03	2.0	6.95	206.00	21.2/-	9.83	2.1	300	--	--	--	--
07/27/97	14:05	4.0	6.95	206.00	21.2/-	9.85	3.0	350	--	--	--	--
07/27/97	14:07	6.0	6.95	205.00	21.2/-	9.93	3.0	325	--	--	--	--
07/27/97	14:09	7.0	6.95	205.00	21.2/-	9.90	3.0	350	59	68	<10	0.019
05/31/98	12:34											
05/31/98	12:37	2.0	7.01	800.00	21.1/-	2.16	-13	250	--	--	--	--
05/31/98	12:40	4.0	7.03	800.00	21.1/-	-2.55	-10	300	--	--	--	--
05/31/98	12:43	6.0	7.01	795.00	21.1/-	2.83	-11	275	--	--	--	--
05/31/98	12:46	7.0	6.99	796.00	21.2/-	2.80	-10	275	54	57	<10	0.11
05/11/99	12:05	3.0	7.60	1200.00	21.4/-	2.2 (Pre)	107 (Pre)	--	--	--	--	--
05/11/99	12:08	6.0	6.90	1100.00	21.1/-	--	--	--	--	--	--	--
05/11/99	12:10	7.0	7.00	1100.00	21.2/-	2.3 (Post)	91 (Post)	290	62	59	--	0.043

Table 3
Groundwater Analytical Results
Former Chevron Service Station #9-7127
I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ mhos/cm)	Temp. °C/F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-2 (cont)												
05/23/00	5:11	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	5:14	2.5	6.68	937.00	--/72.0	--	--	--	--	--	--	--
05/23/00	5:17	5.0	6.58	939.00	--/71.5	--	--	--	--	--	--	--
05/23/00	5:20	7.0	6.54	908.00	--/71.1	--	--	--	--	--	--	--
MW-3												
07/27/97	14:29											
07/27/97	14:31	2.0	7.11	269.00	23/--	8.75	-4.3	875	--	--	--	--
07/27/97	14:33	4.0	6.95	264.00	22/--	6.22	2.8	850	--	--	--	--
07/27/97	14:35	6.0	6.93	261.00	21.9/--	6.90	4.3	850	--	--	--	--
07/27/97	14:37	7.0	6.94	262.00	21.9/--	6.70	4.3	850	<1.0	<1.0	<10	2.1
05/31/98	13:13											
05/31/98	13:15	2.0	6.89	1266.00	21.1/--	0.45	12.3	750	--	--	--	--
05/31/98	13:17	4.0	6.75	1155.00	21/--	0.40	12.2	700	--	--	--	--
05/31/98	13:19	6.0	6.79	1200.00	20.9/--	0.38	12.1	675	--	--	--	--
05/31/98	13:23	7.0	6.78	1199.00	20.9/--	0.35	12.1	700	<1.0	4.0	<10	3.1
08/12/98	--	--	--	--	--	0.33	--	--	--	--	--	--
11/23/98	15:32	2.5	7.00	1705.00	16.6/--	--	--	--	--	--	--	--
11/23/98	15:36	4.5	7.00	1720.00	16.4/--	--	--	--	--	--	--	--
11/23/98	15:40	6.5	6.90	1723.00	16.4/--	--	--	--	--	--	--	--
05/11/99	17:01	3.0	8.00	1500.00	21.4/--	1.5 (Pre)	-7.0 (Pre)	--	--	--	--	--
05/11/99	17:03	6.0	7.20	1700.00	21.4/--	--	--	--	--	--	--	--
05/11/99	17:04	9.0	7.20	1700.00	21.4/--	1.5 (Post)	-19 (Post)	480	<1.0	8.8	--	1.5
11/24/99	11:33	2.0	6.70	1588.00	17.9/--	--	--	--	--	--	--	--
11/24/99	11:36	4.0	6.70	1564.00	18.3/--	--	--	--	--	--	--	--
11/24/99	11:39	6.0	6.80	1517.00	18.4/--	--	--	--	--	--	--	--
05/23/00	7:30	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	7:33	2.5	6.56	1251.00	--/70.6	--	--	--	--	--	--	--
05/23/00	7:36	5.0	6.53	1155.00	--/70.0	--	--	--	--	--	--	--
05/23/00	7:39	7.0	6.51	1137.00	--/69.8	--	--	--	--	--	--	--

Table 3
Groundwater Analytical Results
Former Chevron Service Station #9-7127
I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ mhos/cm)	Temp. °C/°F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-4												
07/27/97	14:14											
07/27/97	14:16	2.0	7.22	244.00	20.6/--	8.75	-13	500	--	--	--	--
07/27/97	14:18	4.0	7.21	243.00	20.6/--	8.20	-13	550	--	--	--	--
07/27/97	14:20	6.0	7.24	246.00	20.5/--	8.55	-13	525	--	--	--	--
07/27/97	14:22	7.0	7.22	245.00	20.6/--	8.50	-13	550	80	68	<10	0.15
05/31/98	12:51											
05/31/98	12:54	3.0	7.01	1300.00	20.4/--	2.83	-10	450	--	--	--	--
05/31/98	12:57	6.0	6.98	1290.00	20.4/--	2.82	-12	400	--	--	--	--
05/31/98	13:00	9.0	6.90	1280.00	20.4/--	2.80	-11	375	--	--	--	--
05/31/98	13:03	10.0	6.92	1283.00	20.4/--	2.80	-12	400	17	30	<10	7.4
08/12/98	--	--	--	--	--	0.82	--	--	--	--	--	--
12/23/98	16:45	5.0	6.80	1062.00	9.9/--	--	--	--	--	--	--	--
05/11/99	15:00	1.5	7.80	1400.00	21.5/--	0.3 (Pre)	148 (Pre)	--	--	--	--	--
05/11/99	15:02	3.0	7.40	1500.00	20.6/--	--	--	--	--	--	--	--
05/11/99	15:04	4.0	7.30	1500.00	20.6/--	1.8 (Post)	124 (Post)	430	86	64	--	0.027
11/24/99	11:05	1.5	7.00	1310.00	17.8/--	--	--	--	--	--	--	--
11/24/99	11:06	2.0	6.90	1319.00	18.2/--	--	--	--	--	--	--	--
11/24/99	11:08	4.0	--	--	--	--	--	--	--	--	--	--
05/23/00	6:48	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	6:52	1.5	7.18	1036.00	--/71.6	--	--	--	--	--	--	--
05/23/00	6:56	3.0	6.24	1014.00	--/69.3	--	--	--	--	--	--	--
05/23/00	6:59	4.0	6.24	1039.00	--/69.6	--	--	--	--	--	--	--
MW-5												
07/27/97	13:15											
07/27/97	13:18	3.0	7.95	274.00	19.3/--	10.45	-55	300	--	--	--	--
07/27/97	13:20	6.0	7.92	273.00	19/--	10.35	-54	350	--	--	--	--
07/27/97	13:22	9.0	7.90	274.00	18.9/--	10.30	-52	300	--	--	--	--
07/27/97	13:24	10.0	7.91	273.00	19/--	10.31	-53	300	82	100	<10	0.013
05/31/98	12:07											

Table 3
Groundwater Analytical Results
Former Chevron Service Station #9-7127
I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ mhos/cm)	Temp. °C/°F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-5 (cont)												
05/31/98	12:09	34.5	6.85	785.00	18.9/--	3.20	-25	350	--	--	--	--
05/31/98	12:11	69.0	7.00	980.00	18.9/--	3.27	-26	400	--	--	--	--
05/31/98	12:13	13.5	7.01	981.00	18.9/--	3.21	-28	400	--	--	--	--
05/31/98	12:15	14.0	7.00	990.00	18.8/--	3.20	-28	450	35	90	<10	1.9
05/11/99	13:10	3.0	8.00	1700.00	18.9/--	5.1 (Pre)	98 (Pre)	--	--	--	--	--
05/11/99	13:13	6.0	7.40	1700.00	18.2/--	--	--	--	--	--	--	--
05/11/99	13:17	9.0	7.40	1700.00	18.4/--	4.6 (Post)	140 (Post)	330	62	100	--	<0.01
05/23/00	5:47	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	5:53	3.0	7.80	1241.00	--/70.3	--	--	--	--	--	--	--
05/23/00	5:59	6.0	7.62	1178.00	--/68.8	--	--	--	--	--	--	--
05/23/00	6:07	9.0	7.62	1165.00	--/67.4	--	--	--	--	--	--	--
MW-6												
07/27/97	13:42											
07/27/97	13:44	3.0	7.54	261.00	23.2/--	11.28	-40	400	--	--	--	--
07/27/97	13:46	6.0	7.34	232.00	19.4/--	8.10	-18	450	--	--	--	--
07/27/97	13:48	9.0	7.26	227.00	19/--	8.35	-16	400	--	--	--	--
07/27/97	13:50	10.0	7.20	228.00	19.1/--	8.32	-15	400	17	27	<10	0.017
05/31/98	11:48											
05/31/98	11:51	3.0	6.98	966.00	18.7/--	0.72	3.20	500	--	--	--	--
05/31/98	11:54	6.0	6.96	970.00	18.7/--	0.51	3.19	450	--	--	--	--
05/31/98	11:57	9.0	6.95	959.00	18.7/--	0.36	3.42	400	--	--	--	--
05/31/98	12:00	10.0	6.90	960.00	18.6/--	0.40	3.40	450	68	51	<10	3.5
12/23/98	15:15	3.0	6.40	1038.00	15/--	--	--	--	--	--	--	--
12/23/98	15:20	6.0	6.70	980.00	15.7/--	--	--	--	--	--	--	--
12/23/98	15:24	9.0	6.80	964.00	15.6/--	--	--	--	--	--	--	--
05/11/99	14:20	3.0	7.00	1200.00	18.6/--	0.3 (Pre)	140 (Pre)	--	--	--	--	--
05/11/99	14:23	6.0	6.40	1100.00	19.3/--	--	--	--	--	--	--	--
05/11/99	14:29	9.0	6.40	1100.00	19.1/--	0.4 (Post)	214 (Post)	370	52	39	--	0.064
11/24/99	13:13	3.0	6.00	1130.00	19.6/--	--	--	--	--	--	--	--

Table 3
Groundwater Analytical Results
Former Chevron Service Station #9-7127
I-580 and Grant Line Road
Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ hos/cm)	Temp. °C/F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-6 (cont)												
11/24/99	13:18	6.0	6.90	1105.00	20/--	--	--	--	--	--	--	--
11/24/99	13:22	9.0	7.10	1114.00	20.2/--	--	--	--	--	--	--	--
05/23/00	8:15	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	8:21	3.0	6.97	950.00	--/66.2	--	--	--	--	--	--	--
05/23/00	8:28	6.0	6.97	995.00	--/65.5	--	--	--	--	--	--	--
05/23/00	8:35	9.0	6.98	1002.00	--/65.6	--	--	--	--	--	--	--
MW-7												
07/27/97	13:02											
07/27/97	13:04	3.0	7.91	245.00	19.6/--	8.95	-52	350	--	--	--	--
07/27/97	13:06	6.0	7.94	264.00	19.3/--	9.70	-55	325	--	--	--	--
07/27/97	13:08	9.0	7.95	266.00	19.3/--	9.80	-55	350	--	--	--	--
07/27/97	13:10	10.0	7.93	265.00	19.3/--	9.79	-55	350	99	100	<10	0.012
05/31/98	12:16											
05/31/98	12:18	3.0	6.85	1020.00	19.6/--	3.60	-20	350	--	--	--	--
05/31/98	12:20	6.0	7.25	1020.00	18.9/--	3.80	-21	300	--	--	--	--
05/31/98	12:22	9.0	7.28	1000.00	18.8/--	4.20	-21	350	--	--	--	--
05/31/98	12:24	10.0	7.30	1001.00	18.9/--	4.40	-20	325	45	85	<10	0.011
05/11/99	12:41	3.0	6.80	1200.00	18.2/--	5.2 (Pre)	95 (Pre)	--	--	--	--	--
05/11/99	12:44	6.0	7.40	1400.00	18.5/--	--	--	--	--	--	--	--
05/11/99	12:48	9.0	7.40	1400.00	18.2/--	5.2 (Post)	96 (Post)	300	75	86	--	0.14
05/23/00	6:10	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	6:15	3.0	8.01	1157.00	--/68.8	--	--	--	--	--	--	--
05/23/00	6:21	6.0	7.70	1158.00	--/67.8	--	--	--	--	--	--	--
05/23/00	6:27	9.0	7.68	1136.00	--/67.8	--	--	--	--	--	--	--

Table 3
Groundwater Analytical Results
 Former Chevron Service Station #9-7127
 I-580 and Grant Line Road
 Tracy, California

WELL ID/ DATE	Time	Volume (gallons)	pH	Conduct. (μ mhos/cm)	Temp. °C/F	DO (mg/L)	ORP (mV)	Alkalinity (ppm)	Nitrate (mg/L)	Sulfate (mg/L)	Phosphate (mg/L)	Ferrous Iron (mg/L)
MW-8												
07/27/97	12:38											
07/27/97	12:40	2.2	7.85	141.00	21.1/--	9.40	-61.3	100	--	--	--	--
07/27/97	12:42	4.6	7.84	141.00	20.8/--	9.30	-48.3	150	--	--	--	--
07/27/97	12:44	6.6	7.83	142.00	20.9/--	9.25	-50	100	--	--	--	--
07/27/97	12:46	7.0	7.84	141.00	20.8/--	9.25	-50	100	50	24	<10	0.02
05/31/98	11:18											
05/31/98	11:21	3.0	7.03	357.00	21.1/--	6.58	-28	150	--	--	--	--
05/31/98	11:24	6.0	7.09	381.00	20.5/--	6.50	-30	200	--	--	--	--
05/31/98	11:27	9.0	7.08	373.00	20.5/--	6.40	-31	175	--	--	--	--
05/31/98	11:30	10.0	7.08	375.00	20.5/--	6.41	-30	200	35	16	<1.0	0.42
05/11/99	11:20	3.0	8.00	1600.00	18.2/--	6.07 (Pre)	103 (Pre)	--	--	--	--	--
05/11/99	11:24	6.0	7.30	1200.00	18.5/--	--	--	--	--	--	--	--
05/11/99	11:26	8.0	7.10	1200.00	18.2/--	5.44 (Post)	92 (Post)	110	42	19	--	0.028
05/23/00	4:23	0.0	--	--	--	--	--	--	--	--	--	--
05/23/00	4:26	2.5	7.64	4280.00	--/76.2	--	--	--	--	--	--	--
05/23/00	4:29	5.0	7.39	4320.00	--/72.5	--	--	--	--	--	--	--
05/23/00	4:32	7.5	7.27	4390.00	--/71.2	--	--	--	--	--	--	--
SUPPLY WELL												
07/27/97	13:40	--	7.85	257.00	22.7	4.89	-53	200	48	76	<10	1.5
11/23/98	15:15	1.0	7.40	1115.00	20.4	--	--	--	--	--	--	--
11/24/99	12:45	--	2.50	5386.00	18.8	--	--	--	--	--	--	--
05/23/00	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Groundwater 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.

(μ mhos/cm) = Micromhos per centimeter

DO = Dissolved Oxygen

(mg/L) = Milligrams per liter

ORP = Oxidation-Reduction Potential

(mV) = Millivolts

(ppm) = Parts per million

$^{\circ}$ C/ $^{\circ}$ F = Degrees Celsius/Degrees Fahrenheit

Conduct. = Conductivity

Temp. = Temperature

(Pre) = Pre-purge reading

(Post) = Post-purge reading

-- = Not Measured/Not Analyzed

APPENDIX D

Soil Boring Logs and Well Construction Details

Blow/ Ft.	Sample No.	USCS	Description	Well Const
0			Asphalt	
2		ML	Fill - SANDY SILT - light brown to brown, with some angular gravel, NOSC	
4				
6		CL	Fill - SILTY CLAY - brownish gray, stiff, low plasticity, dry to moist, NOSC	
8				
10	B1 - 10	SM	Gravelly SILTY SAND - gray, very dense fine grained sand, well rounded gravel up to 1/4 inch present NOSC	
12				
14				
16				
18		CL	SILTY CLAY - gray, firm, low plasticity, moist, gravel up to 1/4 inch, NOSC	
20			Total Depth = 19 feet, 6 inches Logged By: Steve Fox Drilling Date: 12/7/87	
22				
24				
26				
28				
30				

B - 1

KLEINFELDER

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

PLATE

A2

PROJECT NO. 10-1782-01

BORING LOG B-1

Blow/ Ft.	Sample No.	USCS	Description	Well Const
0			Asphalt	
2		SM	Fill - SILTY SAND - tan, light brown, NO SC	
4		CL	Fill - SILTY CLAY - brownish gray, with angular gravel	
6	24			
8				
10	80	SM	GRAVELLY SILTY SAND - gray, very dense, fine gravelly sand, well rounded gravels up to 1/2 inch, NO SC	
12				
14	85			
16				
18	14	CL	SILTY CLAY - gray, firm, low plasticity, moist, well rounded gravel, slight odor.	
20	B2 - 20			
22			Total Depth = 19 feet, 6 inches Logged By: Steve Fox Drilling Date: 12/7/87	
24			Auger refusal at 19 feet, 6 inches	
26				
28				
30				

B - 2

KLEINFELDER

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

PLATE

A3

BORING LOG B-2

PROJECT NO. 10-1782-01

Depth (feet)	Blow/ Ft.	Sample No.	USCS	Description	Well Const
0				Asphalt	
2			CL	Fill - SILTY CLAY - tan	
4			CL	Fill - SILTY CLAY - grayish brown, very stiff, dry to moist - some gravel present -50 ppm tip reading	
6	26				
8					
10	44				
12					
14	12	B3- 14		- Auger refusal at 14 feet	
16				Total Depth = 14 feet Logged By: Steve Fox Drilling Date: 12/7/87	
18					
20					
22					
24					
26					
28					
30					

B-3

KH KLEINFELDER

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

PLATE

A4

BORING LOG B-3

PROJECT NO. 10-1782-01

Depth (feet)	Blow/ Ft.	Sample No.	USCS	Description	Well Const
0				Asphalt	
2			SM	Fill - SILTY SAND - light brown tan, NOSC	
4			CL	Fill - SILTY CLAY - grey, stiff, low plasticity, moist, slight odor	
6	12			- tip reading of 25 ppm on drill cuttings	
8				- some sand present, slight odor	
10	51				
14					
16	44	B4 - 15	SP	- GRAVELLY SAND - gray, dense, sand fine grained, moist, gravels from 1/4 to 1/2 inch tip reading of over 2000 ppm	
18				Total Depth = 19 feet, 6 inches Logged By: Steve Fox Drilling Date: 12/7/87	
20					
22					
24					
26					
28					
30					

B - 4

KH KLEINFELDER

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

PLATE


A5

BORING LOG B-4

PROJECT NO. 10-1782-01

Blow/ Ft.	Sample No.	USCS	Description	Well Const
0			Asphalt	Dotted Pattern
		SM	Fill - SILTY SAND - tan, small amount of gravel, NOSC	
2		SM	SILTY SAND - gray, stiff, moist, fine-grained sand, possible fill, NOSC	
4				
12	B5 - 5			
6			Total Depth = 5 feet, 8 inches Logged By: Steve Fox Drilling Date: 12/7/87	
8				
10				
12				
14				
16				
18				
20				
22				
24				
26				
28				
30				

B - 5

 KLEINFELDER	CHEVRON, USA - STATION 7127 GRANT LINE ROAD TRACY, CALIFORNIA BORING LOG B-5	PLATE A6
PROJECT NO. 10-1782-01		

Depth (feet)	Blow/Fl.	Sample No.	USCS	Description	Well Const
	0				Asphalt
2			SM	Fill - SILTY SAND, light brown, NOSC	
4			ML	SANDY SILT - gray, low plasticity, dry to moist, NOSC	
6	22	B6 - 5	ML	GRAVELLY SANDY SILT - gray, hard, low plasticity, moist, NOSC	
8				Auger refusal at 8 feet 9 inches	
10				Total Depth = 8 feet 9 inches Logged By: Steve Fox Drilling Date: 12/7/87	
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

B - 6



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

PLATE

A7

BORING LOG B-6

PROJECT NO. 10-1782-01

Blow/ Ft.	Sample No.	USCS	Description	Well Const
0			Asphalt	
2		SM	Fill - SILTY SAND, light brown, NOSC	
4		CL	Fill - SILTY CLAY with angular gravel greater than 1 inch, NOSC	
6	74	SM	Gravelly SILTY SAND - gray, very dense, moist, NOSC	
8	B7 - 5		Auger refusal at 8 feet, unable to collect sample	
10			Total Depth = 8 feet Logged By: Steve Fox Drilling Date: 12/7/87	
12				
14				
16				
18				
20				
22				
24				
26				
28				
30				

B - 7

K KLEINFELDER

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

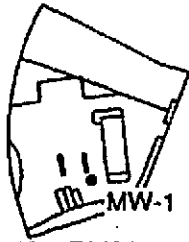
PLATE

A8

PROJECT NO. 10-1782-01

BORING LOG B-7

LOCATION MAP



NORTHING EASTING ELEVATION
154.6 172.9 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	ROD (%)	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
		Dp	0	0	1			SC	CLAYEY SAND - FILL: dark grayish brown; low to moderate plasticity; 40% clay; 15% silt; 45% fine to medium sand; weak subangular blocky; minor angular gravel fragments; loose; no product odor.
	1				2				
	3				3				
	1		16		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.
	5				5				
	2			0	7			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.
	6				6				
	8				8				
	10				10				
	3		12		12				SILTY GRAVEL: silica cemented 1/4 - 1 1/4" diameter rounded quartz pebbles; poor core recovery.
	13				13				
	1				14			GC	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" band of 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. @19': weak product odor increasing to strong product odor at 23'.
	15		1		15			SS	
	16				16				
	4		16		17				
	18				18				
	5	Dry	3		19				
					20				
					21				
					22				
				32					

GROUT

BENTONITE

SAND

See Page One

PACIFIC ENVIRONMENTAL GROUP, INC.

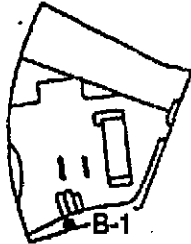
WELL MW-1
PAGE 2 OF 2

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:

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

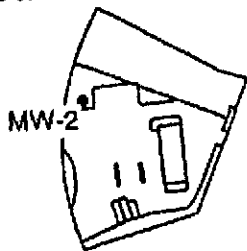
PROJECT NO. 325-04.01
LOGGED BY: RWNT
DRILLER: GREAT SIERRA
DRILLING METHOD: AIR ROTARY
SAMPLING METHOD: DRY CORE
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

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 Pattern]	SP	<p>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.</p> <p>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.</p> <p>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.</p> <p>CLAY - FILL: very dark grayish brown; low plasticity; subangular conglomeric 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.</p> <p>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.</p> <p>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.</p> <p>@19': very dark gray; 10% fines; 90% fine to medium sand; subangular granular sucrosic texture; weak fracturing and alteration; dense; no to weak product odor.</p> <p>@20': bedding at 77° TCA.</p> <p>@22': moderate product odor.</p>	
		Dp			2		[SM Pattern]	SM		
				0		3				
						4				
				0		6		[SC Pattern]		SC
		1	Mst			6				
				0		7				
			Mst			8		[CL Pattern]		CL
						9				
		2				10				
				2		12				
			Mst-Wt		11	13				
						14		[SM Pattern]		SM
		3				15				
						16				
				15		17		[SS Pattern]		SS
						18				
		4				19				
			Dp			20				
					26	21				
				>200		22				

BOTTOM OF BORING AT 22'

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-2
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: 12-10-92
 LOCATION: Grant Line Road
 HOLE DIAMETER: 8"
 HOLE DEPTH: 37'
 WELL DIAMETER: 2"
 WELL DEPTH: 36'
 CASING STICKUP: ~2.1

NORTHING EASTING ELEVATION
 270.1 131.9 27.22

WELL COMPLETION	CORE BOX RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
		Dp			1			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.
					2				
					3			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. @2-5': moderate alteration evident as iron oxide surrounding up to 10% rounded 1/4 - 1" conglomeratic pebbles; 50% pebbles from 2-3'. @5': bedding attitude at 55° TCA. @14-19': loose; unconsolidated sandstone; no core recovery. @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.
					4				
	1			16	5				
					6				
					7				
					8				
					9				
					10				
					11				
	2	Dp		8	12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

GROUT

BENTONITE

SAND

See Page One

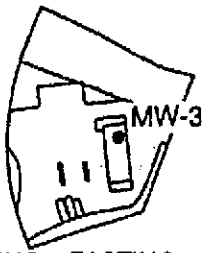
PROJECT NO. 325-04.01
 LOGGED BY:
 DRILLER:
 DRILLING METHOD:
 SAMPLING METHOD:
 CASING TYPE:
 SLOT SIZE:
 GRAVEL PACK:

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

WELL COMPLETION	CORE BOX RUN	MOISTURE CONTENT	PID	RQD (%)	DEPTH (FEET)	RECOVERY SAMPLE ANALYZED	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
					23			SS	SANDSTONE (Neroly Formation): continued
					24				@25-26': sandy claystone; brown to dark brown; fine sandy texture; horizontal platy fracturing; rare mineral grain solution cavities; moderate hardness; no product odor.
					25				@27.5': parting common at 80° TCA.
					26				@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.
					27				@31.5': bedding at 75° TCA.
					28				@33.3-34': brecciated claystone as described above; rare biotite; moderate hardness; crushed fracturing; no product odor.
					29				@34-36': Neroly Formation; intense parting at 76° TCA.
					30				@36-36.2': brecciated claystone as described above; rare biotite; moderate hardness; crushed fracturing; no product odor.
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
43									
44									

BOTTOM OF BORING AT 37'

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-3
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: 12-10-92
 LOCATION: Grant Line Road
 HOLE DIAMETER: 8"
 HOLE DEPTH: 40'
 WELL DIAMETER: 2"
 WELL DEPTH: 37.5'
 CASING STICKUP: -2.3

NORTHING EASTING ELEVATION
 220.3 242.3 29.26

WELL COMPLETION	CORE BOX RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
GROUT	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. @1': 3-4" asphalt layer	
					2		CL		
	2	Mst	0		3			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				
	3	1				5			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.
						6		SP	
4	BENTONITE	Dp	3		7			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'. @17-18': rounded 2" diameter pebbles recovered; no sand matrix. @21': see next page.	
					8		SS		
5		Wt	0		9				
					10				
6					11				
					12				
SAND					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

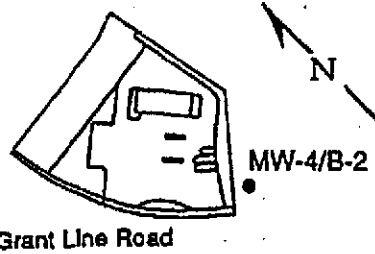
See Page One

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:

WELL COMPLETION	CORE BOX	RUN	MOISTURE CONTENT	PID	ROD (%)	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS								
SAND	2	7	Dp	16	6	23			SS	<p>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. @22-24': slight clay enriched zone; brittle subhorizontal parting. @23.5': bedding at 62° TCA with perpendicular fracture running at 77° TCA.</p>								
						24												
						25												
						26												
						27												
						28												
						29												
						30												
						31												
						32												
						33												
						34												
						35												
						36												
						37												
						38												
						39												
						40												
						SLOUGH	9	Mst-Dp					0	41				<p>@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. @30': slight product odor. @36': bedding at 55° TCA. @38': high angle fractures at 30° TCA and 11° TCA.</p>
														42				
														43				
														44				
BOTTOM OF BORING AT 40'																		

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

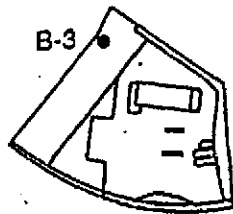
WELL NO. MW-4/B-2
PAGE 1 OF 1

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'

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

LOCATION MAP



Grant Line Road

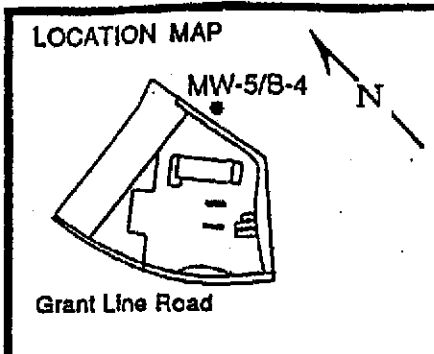
PACIFIC ENVIRONMENTAL GROUP, INC.

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		[Dotted pattern]	SS	SANDSTONE (Neroly Formation): green; >85% coarse sand; subangular; lithic fragments; moderate to hard no product odor.
				4				
				6				
				8				
				10				
				12				
				14				
	Dp	0		16				@15': bluish/green; 90% medium to fine sand; quartz; no lithic fragments; moderate to hard, no product odor.
				18				
				20				
				22				
				24				
				26				BOTTOM OF BORING 25'
				28				
				30				
				32				
				34				
				36				
				38				
				40				
				42				
				44				



PACIFIC ENVIRONMENTAL GROUP, INC.

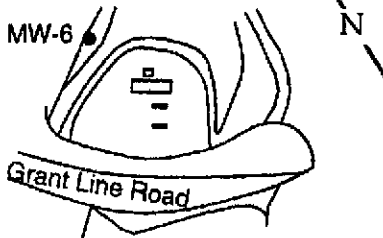
WELL NO. MW-5/B-4
PAGE 1 OF 1

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
				2			SS	SANDSTONE: greenish brown; 90% coarse sand; lithic fragments; no product odor.
				4				
				6				
				8				
	Mst	0		10				@10': grayish brown; 90% coarse to medium sand; subrounded to subangular; lithic fragments; hard to very hard; no product odor.
				12				
	Wt	0		14				
				16				
				18				
				20				
				22				
				24				
				26				BOTTOM OF BORING 25'
				28				
				30				
				32				
				34				
				36				
				38				
				40				
				42				
				44				

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL NO. MW-6
PAGE 1 OF 1

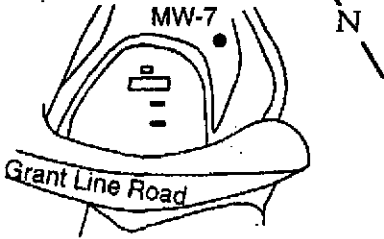
PROJECT NO. 325-004.1B
 LOGGED BY: MOTO
 DRILLER: ALL TERRAIN
 DRILLING METHOD: AIR ROTARY
 SAMPLING METHOD: CORE
 CASING TYPE: SCH 40 PVC
 SLOT SIZE: 0.020"
 SAND PACK: 2 X 12 SAND

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
				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.
	Wt	0		10				@13-14': coarsens downward.
				12				
	Wt	0		14				
				16				
	Wt	0		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.
				20				
	Wt	0		22				
				24				
	Wt	0		26				@26-30': predominately fine to medium grained sand; no product odor.
				28				
	Wt	0		30				
				32				
				34				
				36				
				38				
				40				
				42				
				44				

BOTTOM OF BORING AT 30'

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

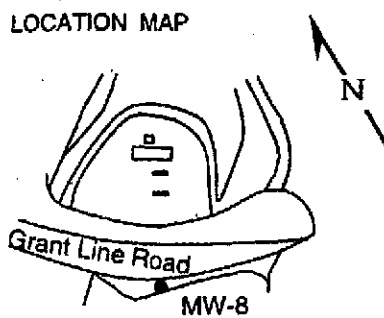
WELL NO. MW-7
PAGE 1 OF 1

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
				2				ALLUVIUM: topsoil
				4				
	Dp	0		6			Silt	SANDY SILTSTONE (Neroly Formation): olive; strongly weathered; vertical root holes to 1 cm common; no product odor.
				8				
	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': vertical 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		18				
	Wt	0		20				
	Wt	0		22				
	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				
				28				
				30				
				32				
				34				
				36				
				38				
				40				
				42				
				44				

BOTTOM OF BORING AT 25'

LOCATION MAP 	PACIFIC ENVIRONMENTAL GROUP, INC.	WELL NO. MW-8 PAGE 1 OF 1
PROJECT NO. 325-004.1B LOGGED BY: MOTO DRILLER: ALL TERRAIN DRILLING METHOD: AIR ROTARY SAMPLING METHOD: CALMOD/CORE CASING TYPE: SCH 40 PVC SLOT SIZE: 0.020" SAND PACK: 2 X 12 SAND		CLIENT: CHEVRON DATE DRILLED: 10-24, 25, 27-95 LOCATION: Grant Line Road HOLE DIAMETER: 6.5" HOLE DEPTH: 40' WELL DIAMETER: 2" WELL DEPTH: 40' CASING STICKUP: NA

WELL COMPLETION	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.
				4				
	Dp	0		6				@ 10': dark bluish gray to black; no product odor.
	Dp	0		10				
				12				@ 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		16				
	Dp	0		20				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		22			Silt	
				24				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.
	Wt	0		28				
	Wt	0		30			SS	@ 30-33': rounded pebbles to 2" diameter recovered; no sand matrix. @ 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.
				32				
				34				BOTTOM OF BORING AT 40'
				36				
				38				
				40				
				42				
				44				

