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**Dana Thurman**  
Project Manager

202

May 10, 2005

(date)

**ChevronTexaco**

Alameda County Health Care Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Alameda County  
MAY 13 2005  
Environmental Health

Re: Chevron Service Station # 9-1583

Address: 5509 Martin Luther King, Jr. Way, Oakland, California

I have reviewed the attached report titled Site Conceptual Model and Closure Request  
and dated May 10, 2005.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Cambria Environmental Technology, Inc., upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,



Dana Thurman  
Project Manager

Enclosure: Report

May 10, 2005

Mr. Barney Chan  
 Alameda County Health Care Services Agency (ACHCSA)  
 1131 Harbor Bay Parkway  
 Alameda, CA 94502-6577

Re: **Site Conceptual Model and Closure Request**  
 Former Chevron Service Station # 9-1583  
 5509 Martin Luther King, Jr. Way  
 Oakland, California  
 RO# 2

RECEIVED  
 MAY 13 2005  
 CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

Dear Mr. Chan:



Cambria Environmental Technology Inc. (Cambria), on behalf of Chevron Environmental Management Company (Chevron), has prepared this *Site Conceptual Model and Closure Request* for the site referenced above. Our objective is to summarize site conditions to satisfy the criteria for closure as a low-risk groundwater site based on the San Francisco Bay Regional Water Quality Control Board (SFBay RWQCB) definition as described in their memorandum "*Interim Guidance on Required Cleanup at Low-Risk Fuel Sites*," dated January 5, 1996. A summary of the site background, site conditions, and the applicability of low-risk fuel site criteria are presented below.

## SITE BACKGROUND

The site is situated on the northwest corner of Martin Luther King, Jr. Way and 55<sup>th</sup> Street in Oakland, Alameda County, California (Figure 1), at an elevation of approximately 85 feet above mean sea level with the surrounding topography sloping towards the west. Prior to November of 1998, the service station facilities included a station building, service islands, fuel and used-oil underground storage tanks (USTs), and product lines. The used-oil UST and hydraulic hoists in the service bays were removed in 1995 and 1998, respectively. Since November 1998, the site has been utilized as a gasoline fueling station only. Locations of former and current site features are shown on Figure 2. The site was de-branded June 9, 2003. The site vicinity is used for transportation, commercial, and residential purposes.

## PREVIOUS INVESTIGATIONS

Figures and tables containing data from previous investigations are presented in Attachment A.


### Site Excavation

**December 1989 Product Upgrade:** In December 1989, Geotest removed product piping from the site and collected six soil samples from the piping trenches in the vicinity of the product dispenser islands. The concentrations of total petroleum hydrocarbons as gasoline (TPHg) in Sample B, collected at a depth of 3 feet below grade (fbg), were reported at 1,700 mg/kg. For the six samples collected,

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 Technology, Inc.

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benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds were not analyzed. Additionally, one stockpiled soil sample (SS-1) was reportedly sampled on December 15, 1989 and analyzed for TPHg and BTEX. No TPHg or BTEX concentrations were reported above the laboratory reporting limits.




**1995 Used-Oil Tank Removal and Soil Excavation:** In April 1995, Golden West/American Construction excavated and removed the used-oil UST from the northwest corner of the site. Touchstone Developments (TD) collected four soil samples from the base of the excavation at a depth of approximately 10.5 to 11 fbg, and four soil samples were collected and composited from stockpiled soil generated from the excavation. Laboratory analysis of the collected soil samples indicated low concentrations of TPHg, BTEX, and total petroleum hydrocarbons as diesel (TPHd) were reported. Total oil and grease (TOG) was reported at a depth of 10.5 and 11 fbg. TOG was identified in all soil samples collected during the used-oil UST removal, with a maximum concentration of 2,700 mg/kg in the northern sample at 10.5 fbg. The pit was further over-excavated to 12.5 fbg. In May 1995, approximately 80 cubic yards of used-oil bearing soil was transported and disposed of at BFI Waste Systems in Livermore, California.

**November 1998 Hydraulic Hoist and Clarifier Removal and Excavation:** In November 1998, Musco Excavators removed two single post semi-hydraulic hoists and one dual post hydraulic hoist with clarifier from the site. TD collected one soil sample from beneath each of the hoists at depths ranging from 7.5 to 8 fbg. The analytical results of the soil samples were below method detection limits for TOG, TPHg, TPHd, BTEX and methyl tertiary butyl ether (MTBE). Analytical results from samples collected during site excavation activities are included in Table 1. Locations of soil samples collected during site excavation activities are shown on Figure 2.

### **Soil Boring and Monitoring Well Installation**

**December 1983 Subsurface Investigation:** In December 1983, Gettler-Ryan, Inc. (G-R) advanced three on-site soil borings and completed the borings as monitoring wells MW-1 through MW-3. The borings were drilled to a depth of 21 fbg. Groundwater was encountered at depths ranging from 13 to 16 fbg. Although reports indicate these wells were installed in response to a suspected leak, no record exists of soil samples being collected and analyzed from MW-1 through MW-3.

**March 1990 Well Redevelopment:** In March 1990, G-R redeveloped and sampled wells MW-1 through MW-3. Laboratory analyses of the groundwater samples indicated the presence of TPHg with concentrations ranging from 800 to 50,000 micrograms per liter ( $\mu\text{g/L}$ ), and BTEX concentrations ranging from 18 to 18,000  $\mu\text{g/L}$ .



**October 1990 Subsurface Investigation:** In October 1990, H.E.W. Drilling, Inc. advanced three soil borings and completed the borings as monitoring wells MW-4 through MW-6 to further evaluate the extent of petroleum hydrocarbons beneath the site vicinity. Well MW-4 was installed in the northeast corner of the subject property and wells MW-5 and MW-6 were installed off-site, along the southern shoulder of 55<sup>th</sup> Street. The borings were drilled to depths ranging between 20 and 26.5 fbg. Six soil samples collected from the borings at depths between 10.5 and 20.5 fbg were analyzed for TPHg. In a sample collected from MW-5 at a depth of 10.5 fbg, concentrations of TPHg were reported at 190 milligrams per kilograms (mg/kg). Concentrations of TPHg (11 mg/kg) were also reported in a sample collected from MW-6 at 10.5 fbg. In the remaining samples collected from MW-4 through MW-6, TPHg were not reported at or above the laboratory detection limits.


**February 1994 Subsurface Investigation:** In February 1994, Groundwater Technology Inc. (GTI) advanced two on-site soil borings and completed them as groundwater monitoring wells MW-7 and MW-8 to evaluate the extent of petroleum hydrocarbons near the former used-oil UST. Wells MW-7 and MW-8 were installed to depths of 20 fbg. Four soil samples were collected from the soil borings at depths between 5 and 15 fbg. No TPHg or BTEX concentrations were reported at or above the laboratory detection limits. The locations of soil borings advanced at the site are shown on Figure 2. Analytical results for samples collected during the installation of monitoring wells are summarized in Table 1. Boring logs and monitoring well construction details are included in Attachment B.

### Well Search

On April 24, 2002, Delta conducted a search of Department of Water Resources (DWR) files for domestic, municipal, and irrigation supply wells within 2,000 feet of the site. Two wells were identified as active. One well was listed as an irrigation well and the other as a cathodic well. The irrigation well is located approximately 1,200 feet northwest of the site. An inventory of wells identified within 2,000 feet of the site is presented in Attachment D.

## SITE CONDITIONS

### Geology and Hydrogeology



The site is located on the East Bay Plain, approximately 1.5 miles east of the Outer Harbor on the eastern shore of San Francisco Bay, and approximately 2 miles north of Lake Merritt. The site is a relatively flat lot approximately 85 feet above mean sea level. As mapped by Helley and others (1979, Flatland Deposits of the San Francisco Bay Region, California: U.S. Geological Survey Professional Paper 943), soil in the vicinity consists of Pleistocene beach and dune sand deposits (Merritt Sand) of loose, well sorted fine to medium sand. The nearest surface water is the San Francisco Bay. Based on historical monitoring data, the groundwater flow direction in the vicinity of the site fluctuates between northwest and southeast.

The site surface is paved with cement and asphalt from 2 to 8 inches thick. Based on a review of the subsurface materials encountered during soil boring installations, the site consists of sandy silt to clay from beneath the surface extending between 8 and 10 fbg. Soil boring logs for the site are included in Attachment B. Geologic cross-sections have been prepared to illustrate the subsurface soil using the information from the boring logs. Geologic cross-sections A-A' and B-B' are depicted on Figure 3 and 4.

**Groundwater Depth:** Measured depth to groundwater historically has ranged from 6.70 fbg to 14.23 fbg.

**Preferential Pathways:** Preferential groundwater flow in utility trench backfill is a risk at this site as groundwater is shallow and utilities exist in 55<sup>th</sup> Street and Martin Luther King Jr. Way. However, it is likely the plume no longer extends far enough beyond the southern and eastern property boundaries to reach utility trenches acting as preferential pathways (Figure 2 and Figure 7).

### Groundwater Monitoring

Currently, groundwater monitoring wells MW-1, MW-2, MW-3, MW-7 and MW-8 are monitored and sampled semi-annually. Wells MW-4 through MW-6 are sampled annually. Groundwater samples have been analyzed for TPHg by EPA Modified Method 8015 and BTEX by EPA Method 8020 since the first quarter 1991. Beginning fourth quarter 1995, groundwater samples were also analyzed for MTBE. During the period of February 1991 to July 2001, measured depth to groundwater beneath the site fluctuated between 6.70 and 14.23 feet below top of casings (TOC).

### Groundwater Gradient

From November 1990 to August 1994, groundwater flow direction beneath the site was consistently north-northwest. Beginning October 1994, groundwater flow shifted east-southeast. This apparent change in groundwater flow direction is likely attributed to the addition of monitoring wells MW-7 and MW-8 in the northwest corner of the subject property, establishing a less localized groundwater direction. The two wells were installed on February 22, 1994 and first sampled on March 8, 1994. Wells MW-7 and MW-8 were not included in contouring until third quarter 1994.



### Groundwater Concentrations

Concentrations of TPHg and benzene in MW-1 have been reported as high as 14,000,000  $\mu\text{g/L}$  and 12,000  $\mu\text{g/L}$ , respectively; apparently anomalous concentrations in January 1993. Concentrations of TPHg and benzene in well MW-1 have decreased to levels below the laboratory detection limits of 50  $\mu\text{g/L}$  and 0.5  $\mu\text{g/L}$ , respectively, and have stabilized since July 2002. No benzene was reported this quarter, in any well, above the laboratory detection limit. Historically, MW-3 also contained high concentrations of petroleum hydrocarbons. Currently, concentrations of TPHg are below laboratory detection limits, and MTBE is reported in MW-3 at 41  $\mu\text{g/L}$ . With the exception of low petroleum hydrocarbon concentrations in well MW-4 in 1991, groundwater samples collected from MW-4 have not had reportable concentrations of petroleum hydrocarbons at or above the laboratory detection limits. Down-gradient, off-site wells MW-5 and MW-6 have historically reported several low concentrations of petroleum hydrocarbons. Currently, MW-5 and MW-6 are sampled annually. Cumulative groundwater monitoring results and hydrocarbon trend graphs are included in Attachment C.

Wells MW-7 and MW-8 straddle the excavation limits of the former used-oil UST. Additionally, samples from these two wells are also analyzed for total petroleum hydrocarbons as motor oil (TPHmo). Historically, concentrations of TPHmo have been higher in well MW-7 than in MW-8. Currently, TPHmo are reported in MW-7 at 730  $\mu\text{g/L}$ . Levels of TPHmo have decreased to non-detectable levels in well MW-8. Concentrations of TPHg in well MW-8 have been observed as high as 28,000  $\mu\text{g/L}$ , and have declined to 1,100  $\mu\text{g/L}$ . Concentrations of TPHg and BTEX in MW-7 have not been reported above the laboratory detection limits since April 1998.

The fuel oxygenate MTBE was first analyzed and reported in the fourth quarter 1995 monitoring and sampling event. MTBE was found to be present above the laboratory detection limit in wells MW-1, MW-3, MW-6, and MW-8. The highest reported concentration of MTBE was 3,900  $\mu\text{g/L}$  from MW-3 during the second quarter 1997. Current concentrations of MTBE in MW-3 (41  $\mu\text{g/L}$ ) are

fluctuating but have been decreasing over time. Wells MW-1, MW-7, and MW-8 have had reported concentrations of MTBE in excess of 1,000  $\mu\text{g/L}$ . MTBE was never reported in wells MW-4 and MW-5; MTBE was only reported once above the laboratory detection limit of 2.5  $\mu\text{g/L}$  in MW-2. Currently, MTBE is reported in wells MW-1, MW-3, MW-7 and MW-8, with concentrations ranging from 41 to 89  $\mu\text{g/L}$ . Cumulative groundwater monitoring results and hydrocarbon trend graphs are included in Attachment C.

### Hydrocarbon Distribution in Soil

The highest TPHg concentrations reported in soil at the site were 1,700 mg/kg at 3 fbg in product piping sample B. TPHg were also reported at elevated concentrations in the soil in MW-5 and MW-6 at 10.5 fbg. Soil samples were not collected from MW-1 through MW-3 near the USTs, thus little is known about the soil in the vicinity of the USTs, however because hydrocarbon concentrations in groundwater are low and declining, a significant residual source is not likely present in the vicinity of MW-1, MW-2 and MW-3. The extent of hydrocarbons in soil is defined up-gradient by wells MW-4, MW-7 and MW-8. TOG was identified in all soil samples collected during the used-oil UST removal, with a maximum concentration of 2,700 mg/kg in the northern sample at 10.5 fbg. Over-excavation to 12.5 fbg likely removed the majority of hydrocarbon impacted soil from the used-oil UST pit. Cross-sections, presenting vertical hydrocarbon distribution from third quarter 2004, are presented in Figures 3 and 4. Historical soil data are presented as Table 1.

Based on tank and piping removal activities, and eight groundwater monitoring wells installed to date, the extent of hydrocarbons in soil is localized and adequately defined vertically. Soil has been defined down-gradient of the site by monitoring wells MW-5 and MW-6, and up-gradient by MW-4. The former used-oil UST source area appears to have been adequately remediated during excavation in 1989, which removed approximately 80 cubic yards of soil from the site.

### Hydrocarbon Distribution in Groundwater

Currently, the highest hydrocarbon concentrations reported in groundwater are 1,100  $\mu\text{g/L}$  TPHg and 89  $\mu\text{g/L}$  MTBE in well MW-8 during the July 27, 2004 sampling event. All wells have contained intermittent hydrocarbon detections, but concentrations have steadily declined and are currently low. Figures 6 through 8 present third quarter 2004 hydrocarbon concentration distribution maps for groundwater, concentrations have since decreased in all wells. Current analytical data and trend graphs for groundwater are presented in Attachment C.



Hydrocarbons near the UST source area (MW-1 and MW-3) have steadily declined to below laboratory detection limits for TPHg and benzene, and below the environmental screening level<sup>1</sup> (ESL) for MTBE (1,800 µg/L) since MTBE sampling began in 1994. Hydrocarbons in the secondary source area, near the former used-oil UST (MW-7 and MW-8), also appear to be decreasing with time (Attachment C). Hydrocarbons near the former used-oil tank are projected to meet respective ESLs within the next 3 years. TPHg in MW-8 (1,100 µg/L) is predicted to meet the ESL of 500 µg/L by January 2007. TPHmo in MW-7 (730 µg/L) is predicted to meet the ESL of 640 µg/L by December 2004. Attachment E presents degradation rate calculations. The hydrocarbon plumes are defined up-gradient by MW-4 and down-gradient by MW-5 and MW-6. The TPHg, TPHmo and MTBE plumes appear to be relatively limited to the site. The hydrocarbon plume appears to have naturally attenuated.

## SITE CONCEPTUAL MODEL

The site conceptual model was prepared based on the site characteristics and quarterly monitoring data from third quarter 2004 and soil sampling data collected at the site to date. A pictorial representation of the site conceptual model is presented as Table 2.

### Release Scenario and Plume Characterization

The site is currently an active service station. Gasoline USTs are present at the site. The former used-oil UST was removed in November 1998.

Environmental investigations conducted at the site indicate soil and groundwater have been impacted by petroleum hydrocarbons. The primary sources of impact, based on investigative activities, are the UST basin and product lines. Impacted soil was observed in the product line excavation and soil borings advanced around the UST basin. Concentrations of TPHg were reported as high as 1,700 mg/kg in the product line trenches after excavation. Cross-sections (Figure 3 and Figure 4) also present analytical results of the site.

Groundwater beneath the site has been monitored on a consistent basis since February 1991. Currently, eight wells are used to monitor groundwater quality beneath the site. Petroleum

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<sup>1</sup> ESL from Table B: Shallow Soil (<3m bgs) – Water is not a current or potential source of drinking water in Chapter 4 of *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* prepared by the California Regional Water Quality Control Board San Francisco Bay Region, interim final dated July 2003.



hydrocarbon impacted groundwater has been present beneath the southwestern portion of the site since the monitoring and sampling of wells MW-1 and MW-3 was initiated in February 1991. Figure 5 through Figure 7 present TPHg, TPHmo, and MTBE isoconcentrations in groundwater during the July 27, 2004 monitoring and sampling event.

Despite occasional anomalous concentrations of TPHg in several site wells, petroleum hydrocarbon concentrations have shown a steadily declining trend since 1994. TPHg is currently reported in MW-8 only, and benzene is currently below the detection limit in all wells. Concentrations of MTBE have also decreased and currently the maximum concentration is reported in MW-8 at 89 µg/L. Figure 5 through Figure 7 present plan view maps of hydrocarbon distribution in groundwater as of third quarter 2004; concentrations in all wells have since decreased. Attachment C contains current analytical groundwater data and hydrocarbon trend graphs.



### **Potential Receptors**

During the site visit conducted by Delta on April 26, 2002, no man-sized utility vaults were identified within the search area. However, several minor utility vaults were identified including Pacific Bell and Pacific Gas & Electric. Utilities identified adjacent to the site included: storm drains, sanitary sewer, cable television, and water. The vault lines were identified as being buried between depths of 4 and 22 fbg. The utility trenches could act as potential pathways of dissolved and vapor phase hydrocarbons. Historical depth to groundwater at the site has ranged between 6.70 fbg to 14.23 fbg. Storm drains were located throughout the site and were measured at approximately 3.0 fbg. Locations of utility lines and vaults in the site vicinity are shown on Figure 2.

### **Other Environmental Issues**

The dissolved MTBE plume at the subject site extends slightly beneath 55<sup>th</sup> Street, in the area where underground utilities are likely to be present. Based on depth to groundwater data and the varying depths of utilities in the site vicinity, it appears these minor utilities may act as conduits for plume migration. However, it appears the MTBE plume has diminished in size to just beyond the southern property boundary and no longer poses a risk of migrating along utility conduits.

### **Risk Assessment**

A risk based corrective action (RBCA) has not been performed for this site because hydrocarbon concentrations in soil and groundwater do not exceed the San Francisco Bay RWQCB established environmental screening levels (ESL), except TPHmo which has no ASTM-RBCA guidelines established. Therefore, potential exposure risk is low because no exposure pathway is complete, and

hydrocarbons are not likely to migrate along preferential pathways.

## REGULATORY STATUS REVIEW AND RECOMMENDATIONS

The site appears to meet the San Francisco Bay RWQCB criteria for a low-risk groundwater fuel site. As described by the January 5, 1996 SFBay RWQCB memorandum *Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites*, a low-risk groundwater case has the following general characteristics:



- The leak has stopped and ongoing sources, including free product, have been removed or remediated,
- The site has been adequately characterized,
- The dissolved hydrocarbon plume is not migrating,
- No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted,
- The site presents no significant risk to human health or the environment.

Each of the low-risk groundwater case characteristics, as they relate to the site, is discussed below.

### **The Leak Has Stopped and Ongoing Sources, Including Free Product, Have Been Removed**

Hydrocarbon concentrations have decreased since monitoring and sampling began in 1991. Approximately 80 cubic yards of soil was removed in 1995 from the former used-oil tank pit. Based on decreasing concentrations and shrinking hydrocarbon plumes, excavation and likely natural attenuation are successfully remediating the site.

### **The Site Has Been Adequately Characterized**

The original leak, prior to 1983, from the USTs was monitored by MW-1 through MW-3. Soil and groundwater have been defined down-gradient by MW-5 and MW-6, and up-gradient by MW-4. No TPHg or benzene remains in the original source area surrounding the USTs. TPHg and TOG remain in the secondary source area in the vicinity of the former used-oil tank, but are limited in extent and are steadily declining. TPHg and TOG will meet respective ESLs within the next 3 years. The MTBE plume has diminished in size and is significantly below the ESL. Soil and groundwater have been defined vertically by all wells, and laterally up-gradient by MW-4 and down-gradient by MW-5 and MW-6. Therefore, the site is adequately characterized.

### **The Dissolved Hydrocarbon Plume Is Not Migrating**

The TPHg, TOG and MTBE plumes have significantly decreased in size indicating a shrinking, localized plume limited in extent. TPHg and TOG are limited to the vicinity of the former used-oil tank. No hydrocarbons are reported in down-gradient wells MW-5 and MW-6 demonstrating the plume is no longer migrating off-site and is likely naturally attenuating.



### **No Water Wells, Deeper Drinking Water Aquifers, Surface Water, or Other Sensitive Receptors are Likely to be Impacted**

Two wells were identified as active within a 2,000 foot radius of the site. One well was listed as an irrigation well and the other as a cathodic well. The irrigation well is located approximately 1,200 feet northwest of the site. Considering the fact the hydrocarbon plumes do not extend much farther than the southern property boundary and both wells are located up-gradient, any potential sensitive receptors are not at risk from remaining site hydrocarbons.

### **The Site Presents No Significant Risk to Human Health or the Environment**

There is no risk to human health or the environment as the used-oil UST source area has been removed, and groundwater is not a potential source of drinking water. Existing utilities in 55<sup>th</sup> Street, potential preferential pathways, do not pose a risk to human health or the environment because the hydrocarbon plume does not extend much beyond the southern property boundary.

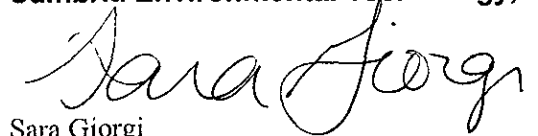
### **CONCLUSION**

Based on our review of site conditions, and the findings presented above, this site satisfies the closure criteria for a low-risk fuel case. Hydrocarbon concentrations in groundwater are stable and have declined since sampling began in 1994. Down-gradient wells MW-5 and MW-6 have defined the hydrocarbon plume, and over time the plume has diminished in size. The TPHg and TOG plumes have significantly decreased in size, and are limited to the vicinity of the former used-oil UST pit in the northwest corner of the site. TOG concentrations will meet ESLs within the next 3 years. The MTBE plume is likely still under a small portion of 55<sup>th</sup> Street, but has receded to just beyond the southern boundary of the site, and is therefore no longer posing a risk of migrating through utilities trenches on the south side of 55<sup>th</sup> Street. Thus, the MTBE plume is limited in extent to on-site. Therefore, on behalf of ChevronTexaco, Cambria respectfully requests case closure.

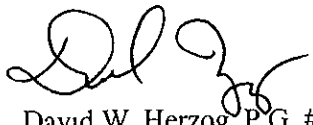
**CLOSING**

Please contact Sara Giorgi at (916) 630-1855 if ext. 103 you have any questions or comments regarding this site or require additional information.

Sincerely,  
**Cambria Environmental Technology, Inc.**



Sara Giorgi  
Senior Staff Geologist



David W. Herzog, P.G. #7211  
Senior Project Geologist



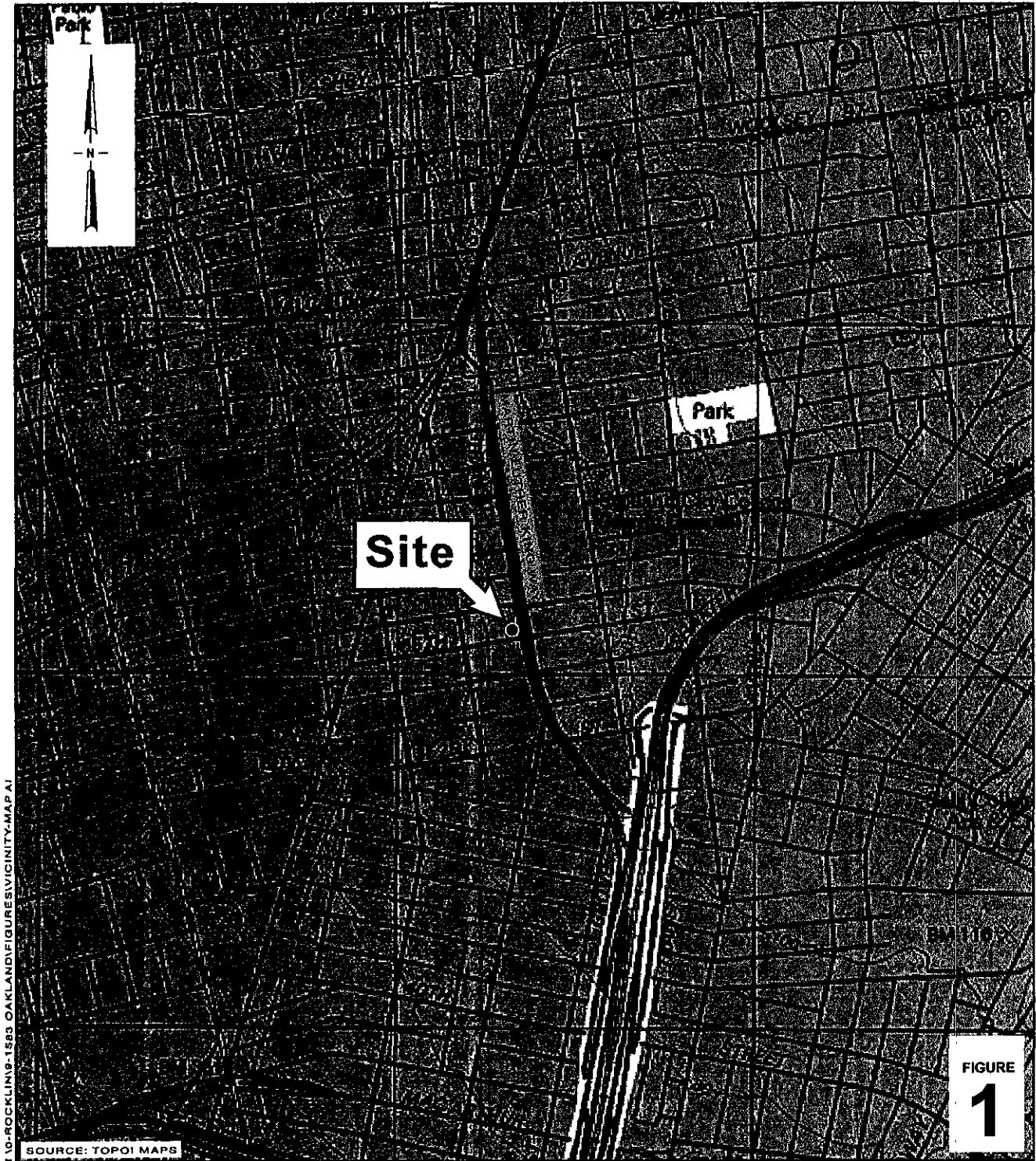
- Figures:
- 1 – Vicinity Map
  - 2 – Site Map
  - 3 – Cross Section A-A'
  - 4 – Cross Section B-B'
  - 5 – TPHg Concentrations in Groundwater, July 27, 2004
  - 6 – TPHmo Concentrations in Groundwater, July 27, 2004
  - 7 – MTBE Concentrations in Groundwater, July 27, 2004

- Tables:
- 1 – Historical Soil Data
  - 2 – Site Conceptual Model

- Attachments:
- A – Figures and Tables from Previous Consultants
  - B – Boring Logs
  - C – Groundwater Analytical Data and Trend Graphs
  - D – Delta's Well Survey
  - E – Degradation Rate Calculations

cc: Mr. Dana Thurman, Chevron Environmental Management Company, P.O. Box 6012, K2236,  
San Ramon, California 94583-0904

APPROVED FOR  
MAY 13 2005  
MUNICIPALITY OF SAN RAMON



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SOURCE: TOPOI MAPS

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FIGURE  
1

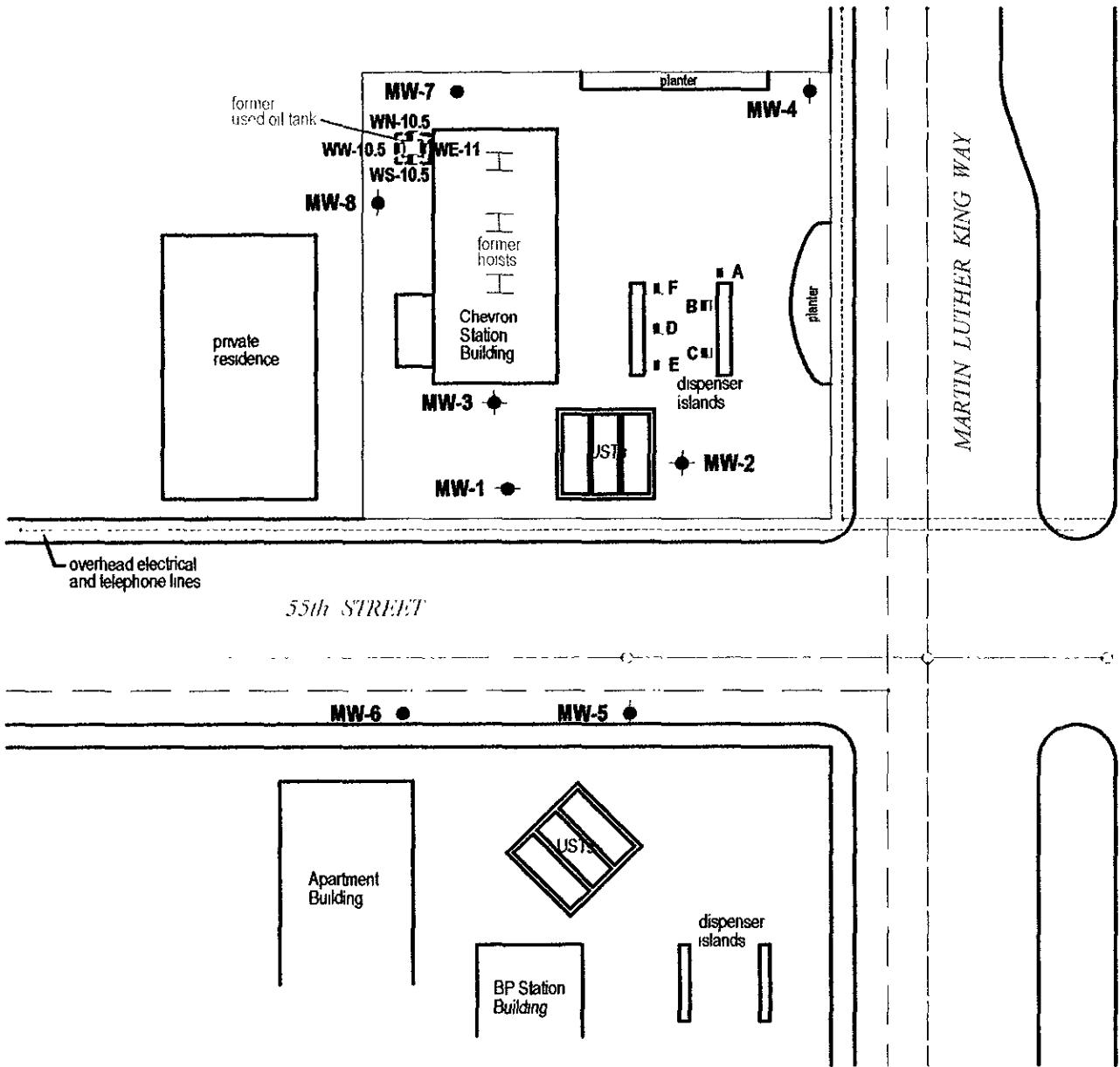
**Chevron Service Station 9-1583**



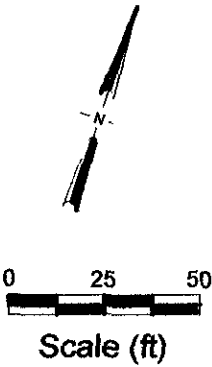
**Vicinity Map**

5509 Martin Luther King Way  
Oakland, California

C A M B R I A



EXPLANATION	
MW-1 ●	Monitoring well location
A ■	Soil sample location
-----	Electrical line (overhead where labeled)
-----	Storm drain
-----	Water line



FIGURE

**2**

### Chevron Service Station 9-1583

5509 Martin Luther King Way

Oakland, California



C A M B R I A

### Site Plan

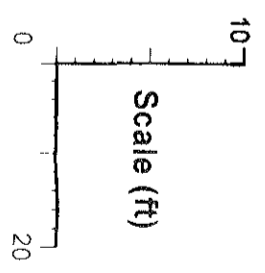
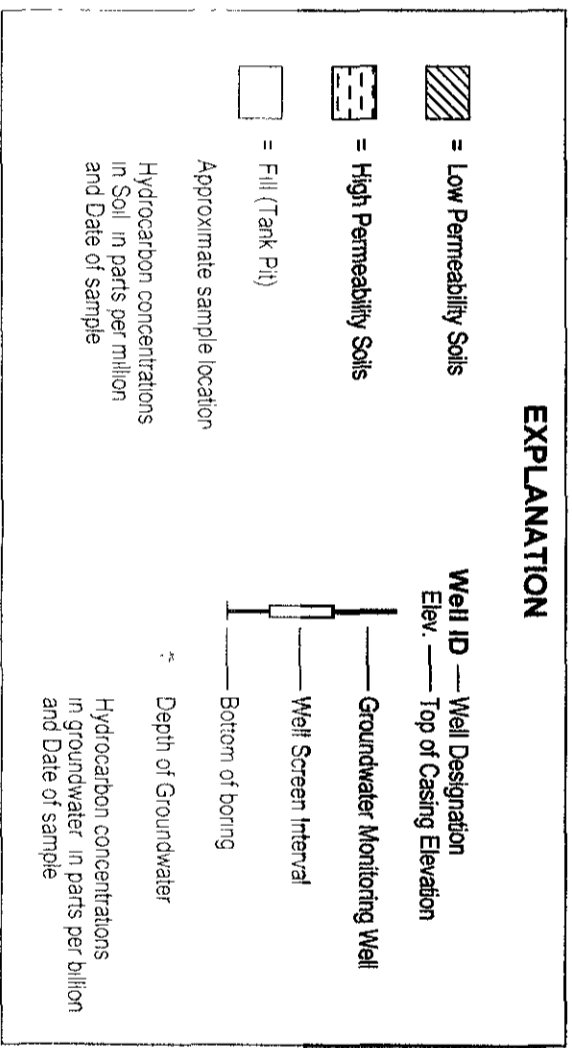
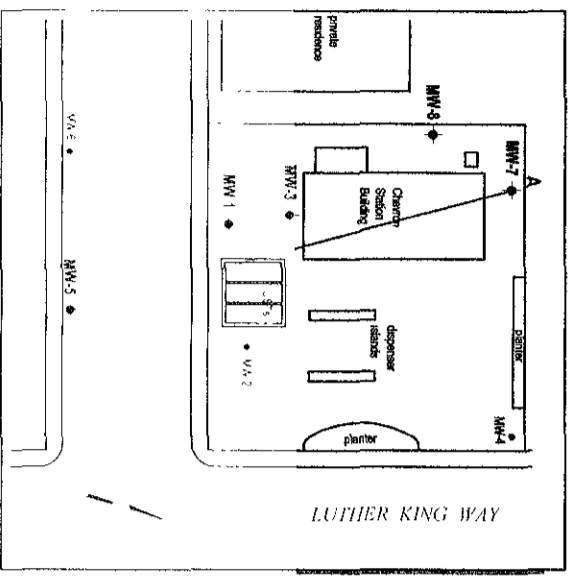
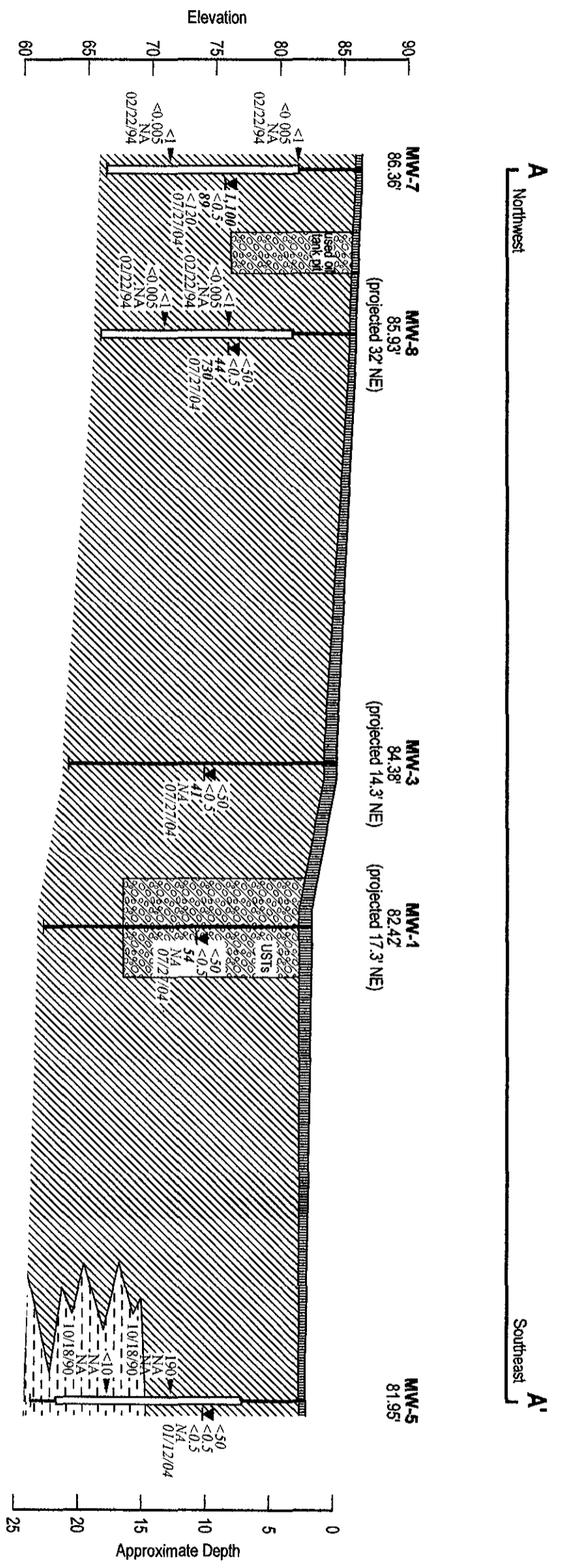
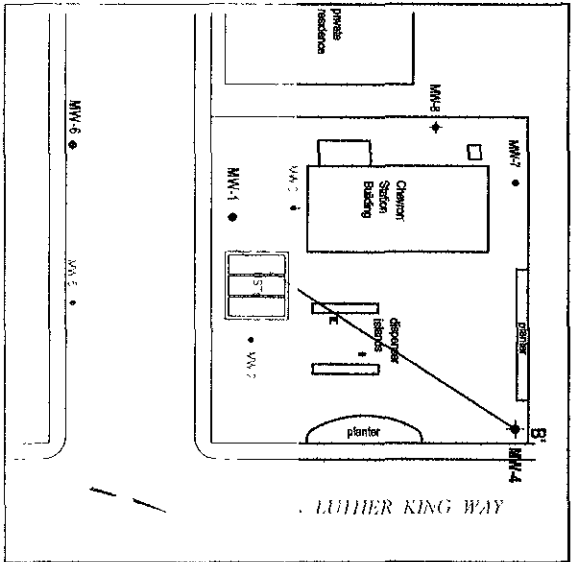
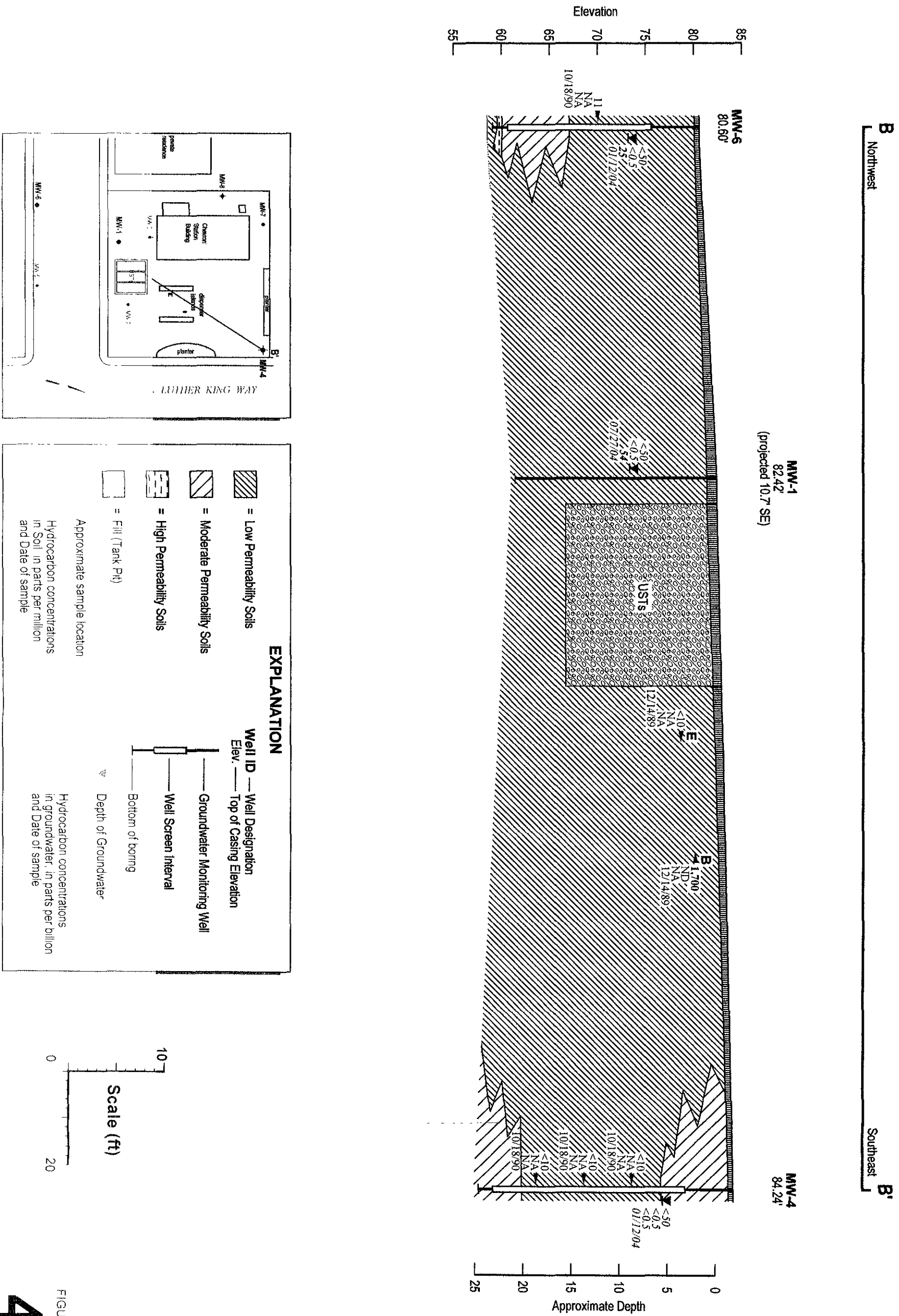


FIGURE 3

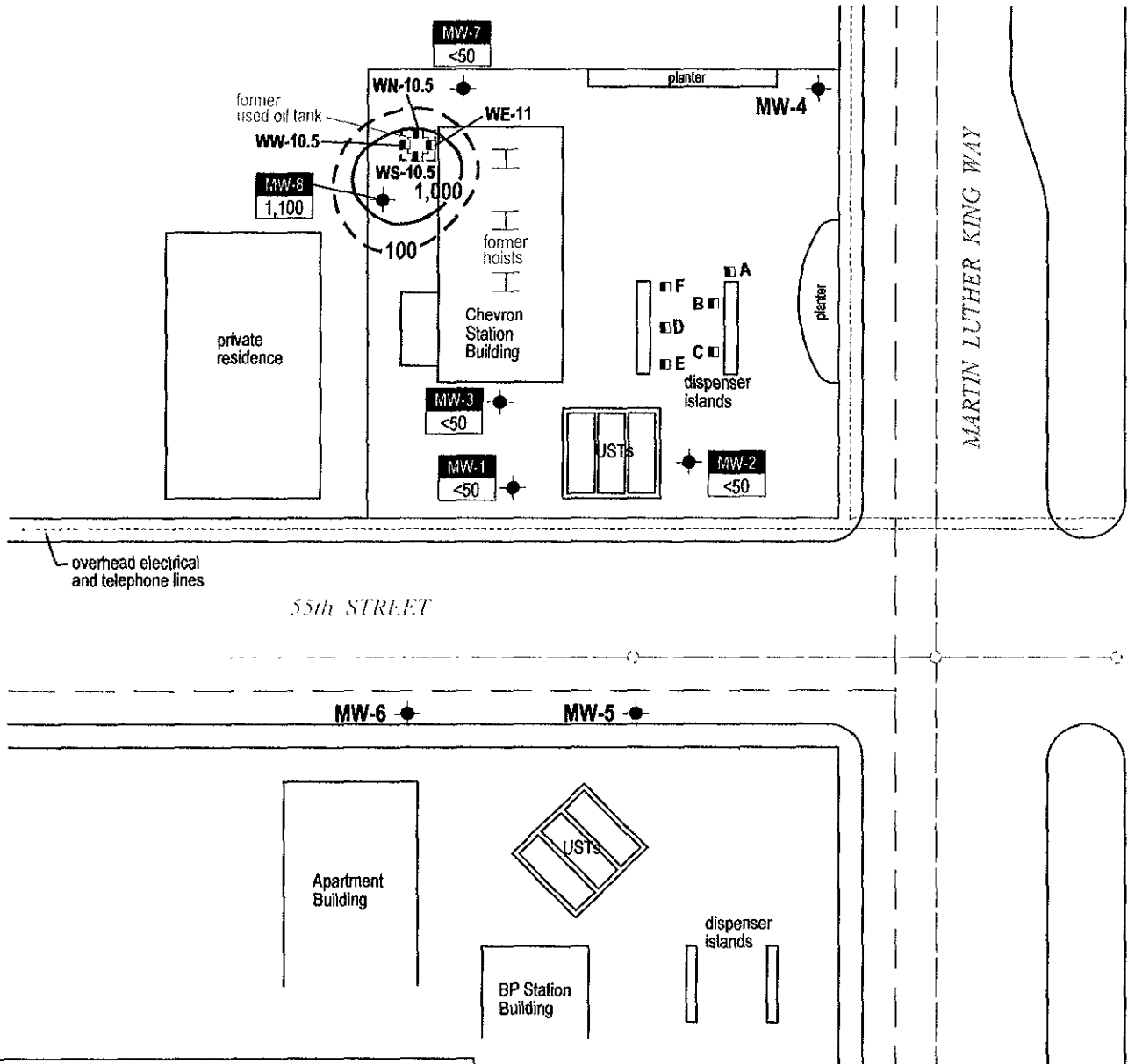


**EXPLANATION**

	= Low Permeability Soils		Well ID	Well Designation
	= Moderate Permeability Soils		Elev.	Top of Casing Elevation
	= High Permeability Soils			Groundwater Monitoring Well
	= Fill (Tank Pit)			Well Screen Interval
	Approximate sample location			Bottom of boring
	Hydrocarbon concentrations in Soil in parts per million and Date of sample			Depth of Groundwater
				Hydrocarbon concentrations in groundwater, in parts per billion and Date of sample

FIGURE 4





**EXPLANATION**

- MW-1 ● Monitoring well location
- A ■ Soil sample location
- Well ID  
TPHg Monitoring well designation  
TPHg concentration in groundwater
- 100 — TPHg concentration contour  
dashed where inferred
- Electrical line (overhead where labeled)
- - - - - Storm drain
- \_\_\_\_\_ Water line

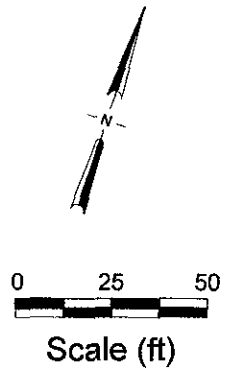


FIGURE 5

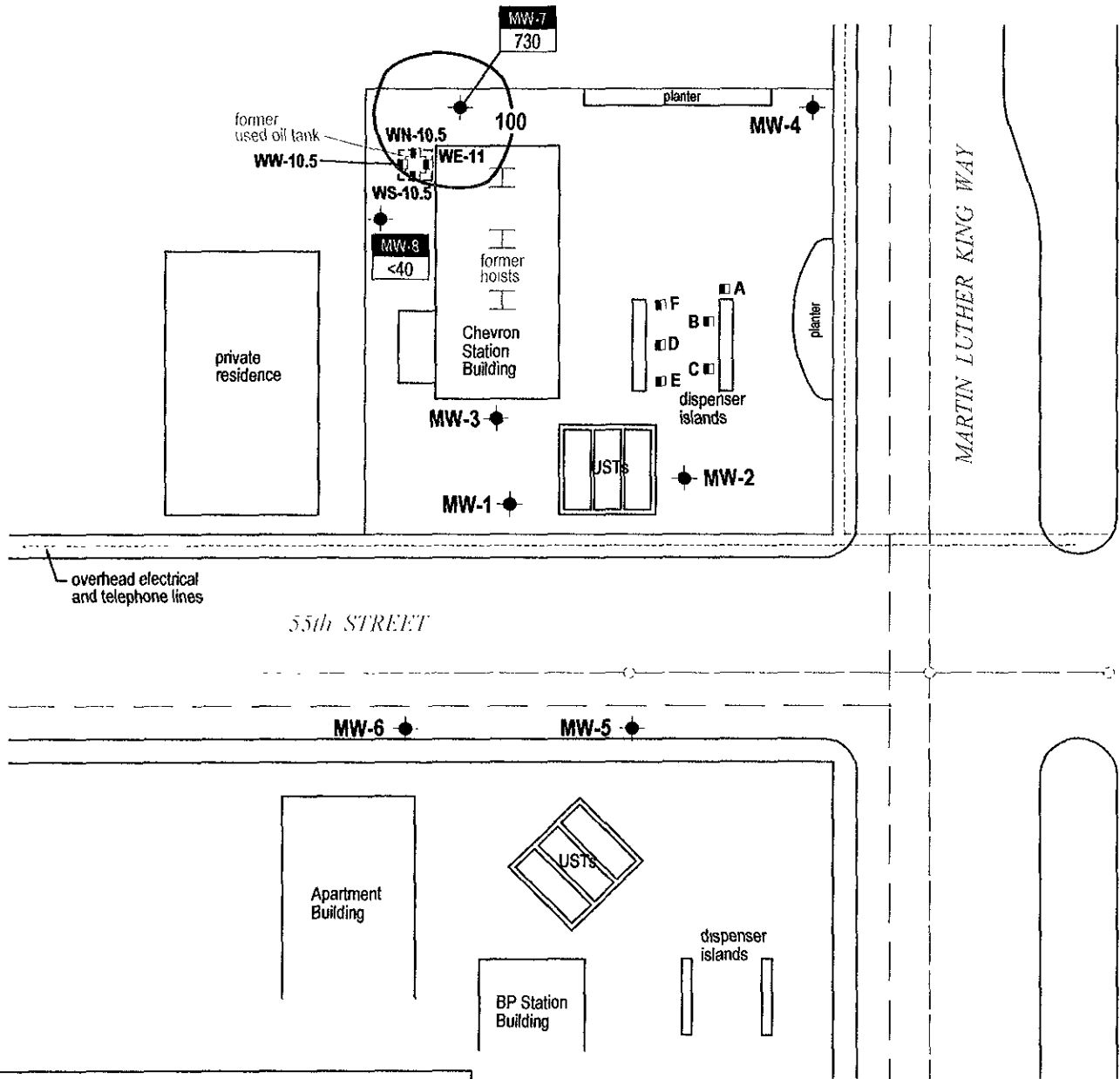
10/04/04 1:56:04 PM C:\WORK\9504\9504.DWG

**Chevron Service Station 9-1583**  
 5509 Martin Luther King Way  
 Oakland, California



C A M B R I A

**TPHg Concentrations  
 in Groundwater**  
 July 27, 2004



**EXPLANATION**

- MW-1 ● Monitoring well location
- A ■ Soil sample location
- Well ID  
TPHmo Monitoring well designation
- TPHmo TPHmo concentration in groundwater
- 100 ——— TPHmo concentration contour dashed where inferred
- Electrical line (overhead where labeled)
- - - - - Storm drain
- \_\_\_\_\_ Water line

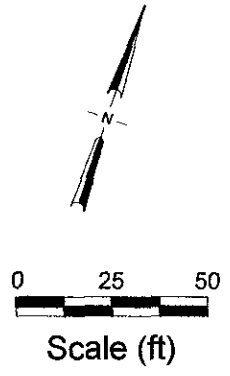


FIGURE 6

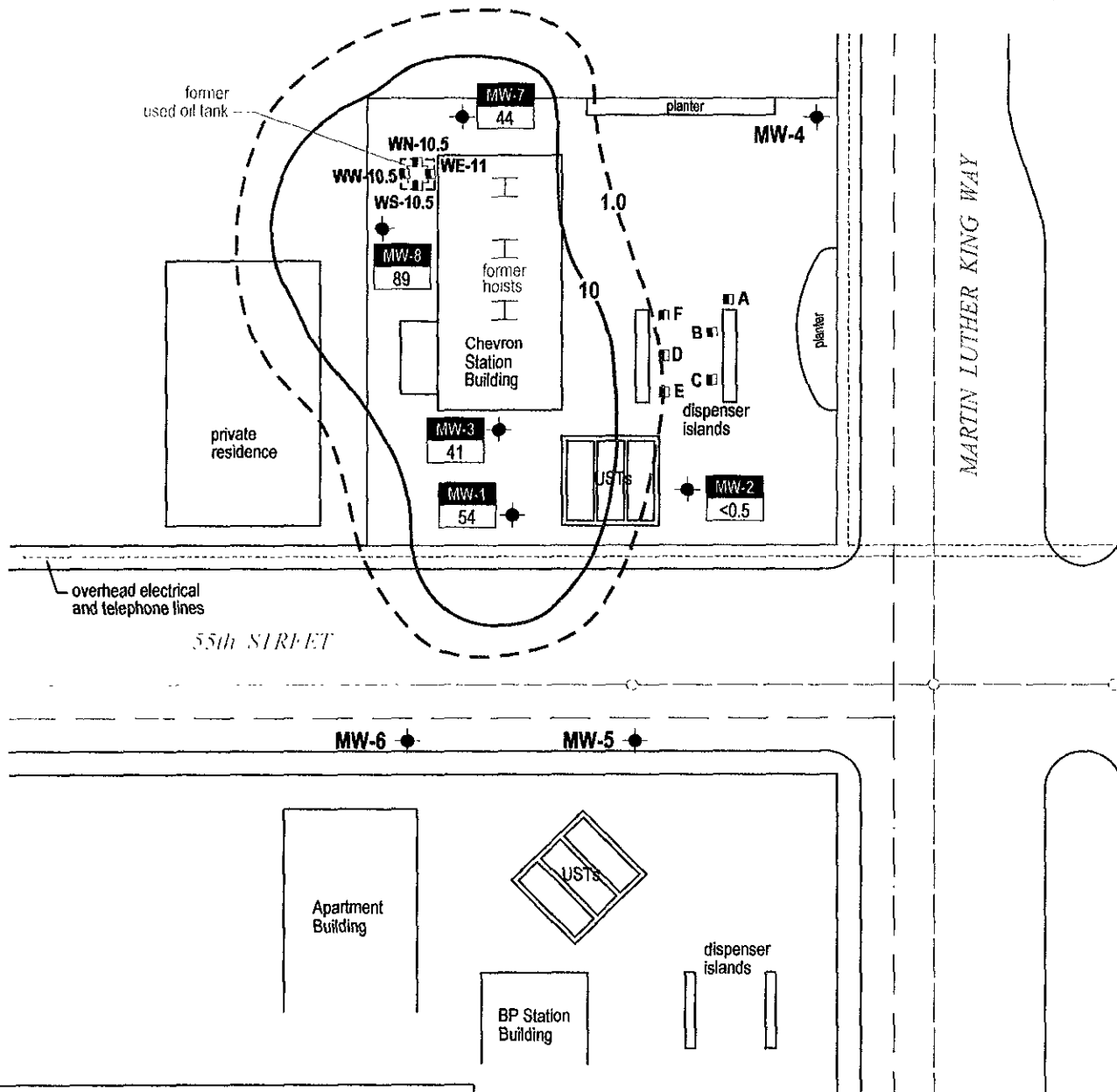
10:0000149-1583 OKLANDPSES3004-TPHmo.DWG

**Chevron Service Station 9-1583**  
 5509 Martin Luther King Way  
 Oakland, California



C A M B R I A

**TPHmo Concentrations  
 in Groundwater**  
 July 27, 2004



**EXPLANATION**

MW-1 • Monitoring well location

A ■ Soil sample location

Well ID  
MTBE Monitoring well designation

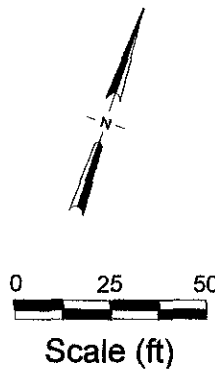
Well ID  
MTBE MTBE concentration in groundwater

100 ——— MTBE concentration contour dashed where inferred

----- Electrical line (overhead where labeled)

- - - - - Storm drain

\_\_\_\_\_ Water line



**FIGURE  
7**

**Chevron Service Station 9-1583**

5509 Martin Luther King Way  
Oakland, California



**C A M B R I A**

**MTBE Concentrations  
in Groundwater**

July 27, 2004

**Table 1  
Historical Soil Results**

Chevron Station 9-1583, 5509 Martin Luther King, Jr. Way, Oakland, California

Sample ID	Depth (ft)	Sample Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE 8020/8260	TPHmo
(Concentrations in mg/kg)									
<b>Piping Upgrade</b>									
A	2	12/14/1989	<10	--	--	--	--	--	--
B	3	12/14/1989	1,700	--	--	--	--	--	--
C	3.5	12/14/1989	<10	--	--	--	--	--	--
D	4.5	12/14/1989	<10	--	--	--	--	--	--
E	4.5	12/14/1989	<10	--	--	--	--	--	--
F	3.5	12/14/1989	<10	--	--	--	--	--	--
<b>Monitoring Well Installations</b>									
MW-4	10.5	10/18/1990	<10	--	--	--	--	--	--
	15.5	10/18/1990	<10	--	--	--	--	--	--
	20.5	10/18/1990	<10	--	--	--	--	--	--
MW-5	10.5	10/18/1990	190	--	--	--	--	--	--
	15.5	10/18/1990	<10	--	--	--	--	--	--
MW-6	10.5	10/18/1990	11	--	--	--	--	--	--
MW-7	5	2/22/1994	<1	<0.005	<0.005	<0.005	<0.015	--	--
	15	2/22/1994	<1	<0.005	<0.005	<0.005	<0.015	--	--
MW-8	10	2/22/1994	<1	<0.005	<0.005	<0.005	<0.015	--	--
	15	2/22/1994	<1	<0.005	<0.005	<0.005	<0.015	--	--
<b>Used-Oil Tank Removal</b>									
WE-11	11.0	4/17/1995	ND	ND	ND	ND	ND	--	770
WW-10.5	10.5	4/17/1995	ND	ND	ND	ND	ND	--	220
WN-10.5	10.5	4/17/1995	--	--	--	--	--	--	2,700
WS-10.5	10.5	4/17/1995	--	--	--	--	--	--	76
<b>Hoist/Clarifier Removal</b>									
H/CLR	7.5	11/5/1998	<1000	<5	<5	<5	<10	<25	<10
H2	8	11/5/1998	--	--	--	--	--	--	<10
H3	8	11/5/1998	--	--	--	--	--	--	<10

**Abbreviations / Notes**

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

TPHmo = Total petroleum hydrocarbons as motor oil/hydraulic oil

BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020

MTBE = methyl tert-butyl ether by EPA Method 8260

Other Oxys = Non-MTBE oxygenates by EPA Method 8260

<x = not detected above reporting limit x

ND = Not detected at varying detection limits

--' = Not analyzed

**Table 2: Site Conceptual Model**  
**Cambria Environmental Technology, Inc.**

<b>Site Address:</b>	5509 Martin Luther King, Jr. Way	<b>Station Number:</b>	Chevron Service Station 9-1583
<b>City:</b>	Oakland, California	<b>Regulator:</b>	Mr. Barney Chan Alameda County Health Care Services, Department of Environmental Health

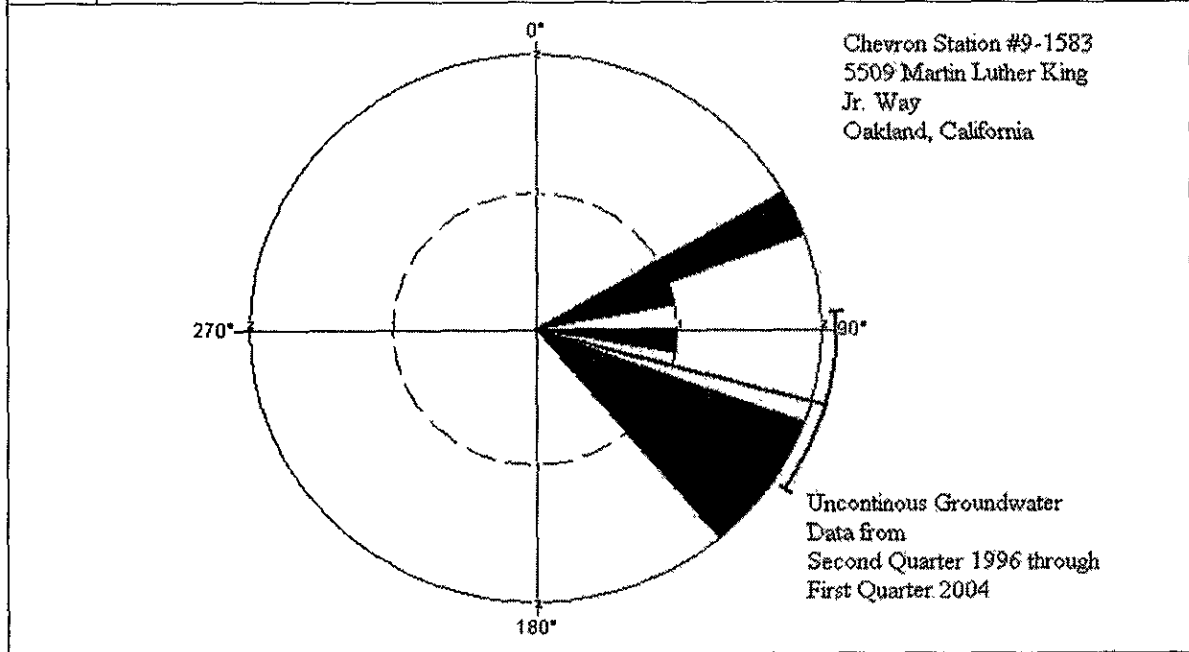
RO Number 2

Item	Evaluation Criteria	Comments/Discussion
<b>1</b>	<b>Hydrocarbon Source</b>	
1.1	Identify/Describe Release Source and Volume (if known)	<b>TPHg/TPHmo/BTEX:</b> A suspected leak occurred prior to December 1983 when MW-1 through MW-3 were installed around the UST pit. However, no documentation exists, and release volumes are unknown. During product piping upgrades in 1989, another source of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) was identified near one product dispenser (Figure 2). The former used-oil tank was also identified as a source of TPHg and TPHmo. <b>MTBE:</b> A source of methyl tertiary butyl ether (MTBE) was not identified, as no sampling for MTBE occurred until late 1995. MTBE concentrations are stable and decreasing.
1.2	Discuss Steps Taken to Stop Release	In 1989, product piping was replaced. The used-oil UST was removed and 80 cubic yards of hydrocarbon-bearing soil from the pit was excavated to 11 fbg.
<b>2</b>	<b>Site Characterization</b>	
2.1	Current Site Use/Status	The site is currently an active non-Chevron branded service station with two dispenser islands, three fuel USTs, and a station mart. The site is likely to remain commercial property for the foreseeable future. It is likely the site has been a service station for at least 20 years.
2.2	Previous Investigations	<b>December 1983 Subsurface Investigation:</b> In December 1983, Gettler-Ryan, Inc. (G-R) advanced three on-site soil borings and installed groundwater monitoring wells MW-1 through MW-3 in these borings. The

Item	Evaluation Criteria	Comments/Discussion
	Previous Investigations (cont.)	<p>borings were drilled to a depth of 21 fbg. Groundwater was encountered in the borings at depths ranging from 13 to 16 fbg. Although reports indicate these wells were installed in response to a suspected leak, no record exists of soil samples being collected and analyzed from MW-1 through MW-3.</p> <p><b>December 1989 Product Upgrade:</b> In December 1989, Geotest removed product piping from the site and collected six soil samples from the piping trenches in the vicinity of the product dispenser islands. The concentration of total petroleum hydrocarbons as gasoline (TPHg) in Sample B, collected at a depth of 3 feet below grade (fbg), was reported at 1,700 mg/kg. For the six samples collected, benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds were not analyzed. Additionally, one stockpiled soil sample (SS-1) was reportedly sampled on December 15, 1989 and analyzed for TPHg and BTEX. Levels of TPHg and BTEX compounds were reported above the laboratory reporting limits.</p> <p><b>March 1990 Well Redevelopment:</b> In March 1990, G-R redeveloped and sampled wells MW-1 through MW-3. Laboratory analyses of the groundwater samples collected indicated the presence of TPHg, with concentrations ranging from 800 to 50,000 micrograms per liter (<math>\mu\text{g/L}</math>) and BTEX concentrations ranging from 18 to 18,000 <math>\mu\text{g/L}</math>.</p> <p><b>October 1990 Subsurface Investigation:</b> In October 1990, H.E.W. Drilling, Inc. advanced soil borings and completed the borings as groundwater monitoring wells, MW-4 through MW-6, to further evaluate the extent of petroleum hydrocarbons beneath the site vicinity. Monitoring well MW-4 was installed in the northeast corner of the property and wells MW-5 and MW-6 were installed off-site, along the southern shoulder of 55<sup>th</sup> Street. The borings were drilled to depths ranging between 20 and 26.5 fbg. In a sample collected from MW-5 at a depth of 10.5 fbg, concentrations of TPHg were reported at 190 mg/kg. Concentrations of</p>

Item	Evaluation Criteria	Comments/Discussion
	Previous Investigations (cont.)	<p>TPHg (11 mg/kg) were also detected in a sample collected from MW-6 at 10.5 fbg. In the remaining samples collected from MW-4 through MW-6, TPHg was not reported at or above the laboratory detection limits.</p> <p><b>February 1994 Subsurface Investigation:</b> In February 1994, Groundwater Technology Inc. (GTI) advanced two on-site soil borings and completed them as groundwater monitoring wells MW-7 and MW-8 to evaluate the extent of petroleum hydrocarbons near the used-oil UST. Wells MW-7 and MW-8 were installed to depths of 20 fbg. Four soil samples collected from borings at depths between 5 and 15 fbg were analyzed for TPHg and BTEX. No TPHg and BTEX concentrations were reported at or above the laboratory detection limits for samples from MW-7 and MW-8. The locations of all soil borings advanced at the site are shown on Figure 2.</p> <p><b>1995 Used-Oil Tank Removal and Soil Excavation:</b> In April 1995, Golden West/American Construction excavated and removed the used-oil UST from the northwest corner of the site. Touchstone Developments (TD) collected four soil samples from the base of the excavation at a depth of approximately 11 fbg and four soil samples were collected from stockpiled soil generated from the excavation. Laboratory analysis of the collected soil samples indicated low concentrations of TPHg, BTEX, and total petroleum hydrocarbons as diesel (TPHd). Total petroleum hydrocarbons as motor oil (TPHmo) occurred at a depth of 12.5 fbg. In May 1995, approximately 80 cubic yards of used-oil bearing soil was transported and disposed of at BFI Waste Systems in Livermore, California.</p> <p><b>November 1998 Hydraulic Hoist and Clarifier Removal and Excavation:</b> In November 1998, Musco Excavators removed two single post semi-hydraulic hoists and one dual post hydraulic hoist with clarifier from the site. TD collected one soil sample from beneath each of the hoists at depths ranging from 7.5 to 8 fbg. The analytical results of the soil samples were below method detection</p>

Item	Evaluation Criteria	Comments/Discussion
	Previous Investigations (cont.)	limits for TPHmo, TPHg, TPHd, BTEX and MTBE. Analytical results from samples collected during site excavation activities are included in Table 1. Locations of soil samples collected during site excavation activities are shown on Figure 3.
2.3	Stratigraphy and Hydrogeology	The soil in the vicinity of the site consists of Pleistocene beach and dune sand deposits consisting of loose, well sorted fine to medium sand. Based on site borings, subsurface lithology consists of sandy silt to clay extending between 8 and 10 fbg. Silty sand is underlying 10 fbg to total explored depth of 26.5 fbg. The nearest surface water is the San Francisco Bay. Based on historical monitoring data, the groundwater flow direction in the vicinity of the site fluctuates between southeast and northeast.
2.4	Groundwater Flow Direction, Depth Trends and Gradient	Groundwater monitoring has been performed at the site since December 1983. The site was last monitored and sampled on July 27, 2004. Historically, depth to groundwater has varied from 6.70 fbg to 14.23 fbg. The groundwater flow direction beneath the site is toward the southeast and northeast at a gradient of approximately 0.01 to 0.03. A copy of the most recent groundwater monitoring and sampling report is presented as Attachment C.





Item	Evaluation Criteria	Comments/Discussion
2.5	Hydrocarbon Distribution in Soil Hydrocarbon Distribution in Soil (cont.)	<p>The highest TPHg concentration detected in soil at the site was 1,700 mg/kg at 3 fbg in piping sample B. TPHg was also detected at elevated concentrations in the soil in MW-5 and MW-6 at 10.5 fbg. Soil samples were not collected from MW-1 through MW-3 near the USTs and thus little is known about the soil in the vicinity of the USTs. The extent of hydrocarbons in soil is defined up-gradient by wells MW-4, MW-7 and MW-8. TOG was identified in all soil samples collected during the used-oil UST removal, with a maximum concentration of 2,700 mg/kg in the northern sample at 10.5 fbg.</p> <p>Over-excavation to 12.5 fbg likely removed the majority of hydrocarbon impacted soil from the used-oil UST pit. Cross-sections, presenting vertical hydrocarbon distribution are presented in Figures 3 and 4.</p> <p>Based on the tanks and piping removal activities, and eight groundwater monitoring wells installed to date, the extent of hydrocarbons in soil is localized and adequately defined vertically. Historical soil data are presented as Table 1.</p>
2.6	Hydrocarbon Distribution in Groundwater	<p>The highest hydrocarbon concentration detected in groundwater was 1,100 µg/L TPHg and 89 µg/L MTBE in well MW-8 during the July 27, 2004 sampling event. All wells have contained intermittent hydrocarbon detections, but concentrations have steadily declined and are currently low. Figures 5 through 7 present recent hydrocarbon concentration distribution in groundwater.</p> <p>Analytical data for groundwater is presented in Attachment C.</p>
2.7	NAPL Source and Distribution	<p>No non-aqueous-phase liquid (NAPL) hydrocarbons have been detected at this site and no NAPL is likely based on the low hydrocarbon concentrations detected in soil and groundwater.</p>

Item	Evaluation Criteria	Comments/Discussion
2.8	Hydrocarbon Concentration Trends in Groundwater	<p>Hydrocarbons near the UST source area (MW-1 and MW-3) have steadily declined to below laboratory detection limits for TPHg and benzene, and below the ESL for MTBE, of 1,800 µg/L, since sampling began. Hydrocarbons in the secondary source area, near the former used-oil UST (MW-7 and MW-8), also appear to be decreasing with time. Although TPHg and MTBE concentrations are still slightly elevated, concentrations likely represent residual hydrocarbons in soil. All trend graphs are presented in Attachment C. Hydrocarbons near the former used-oil tank have steadily declined and are projected to meet ESLs within the next 2 years. TPHg in MW-8 (1,100 µg/L) is predicted to meet the ESL of 500 µg/L by January 2007. TPHmo in MW-7 (730 µg/L) is predicted to meet the ESL of 640 µg/L by December 2004. Attachment E presents degradation rate calculations.</p>
<b>3</b>	<b>Preferential Pathways</b>	
3.1	Preferential Pathways Analysis	<p>Due to the depth of the water table (approximately 6.7 to 14.23 fbg), it is likely utilities could act as lateral conduits to groundwater flow. No wells were identified that would act as a vertical groundwater conduit. Therefore, the only preferential pathway which could affect hydrocarbon migration is adjacent utilities located in 55<sup>th</sup> Street. However, the MTBE plume has diminished in size to just beyond the southern property boundary and is no longer a threat to utilities.</p>
<b>4</b>	<b>Well and Sensitive Receptor Survey</b>	
4.1	Groundwater Use	<p>Two wells were identified within the 2,000-foot radius of the site. One irrigation well, and one cathodic well were identified. The irrigation well is approximately 1,200 feet northwest of the site. Based on these results, it appears groundwater is used for public purposes, but not as a drinking water supply.</p>

Item	Evaluation Criteria	Comments/Discussion
4.2	Well Survey Results and Likelihood of Impact to Wells	The identified irrigation well is located up-gradient of the site, and thus is not at risk from any site hydrocarbons. No major utilities were identified within the search area, yet several minor utilities, Pacific Bell and Pacific Gas & Electric, storm drains, sanitary sewer, cable, and water lines located adjacent to the site, buried between 4 and 22 fbg. The utility trenches could potentially act as potential pathways of dissolved and vapor phase hydrocarbons, as depth to groundwater has historically ranged between 6.70 and 13.99 fbg. Figure 2 shows locations of utility vaults in the site vicinity.
4.3	Likelihood of Impact to Surface Water	The eastern shore of San Francisco Bay, approximately 1.5 miles east, was identified to be the closest surface water to the site, with Lake Merritt approximately 2 miles north. No hydrocarbons down-gradient indicate groundwater flow toward the east southeast makes it unlikely either surface water would be impacted in the future.
<b>5</b>	<b>Risk Assessment</b>	
5.1	Site Conceptual Exposure Model (current and future uses)	The site is an active service station and is likely to remain commercial property for the foreseeable future.
5.2	Risk Assessment Status	A RBCA has not been performed for this site because hydrocarbon concentrations in soil and groundwater are low. Potential exposure risk is low because no exposure pathway is complete.
<b>6</b>	<b>Remediation Status</b>	
6.1	Remedial Actions Taken	<p>A suspected UST leak occurred prior to 1983 and three monitoring wells were installed at the site, however no documentation exists.</p> <p>In 1989, the product lines at the station were upgraded. Subsequently, monitoring wells MW-4 through MW-6 were installed to laterally and vertically define site hydrocarbons.</p> <p>In 1994, MW-7 and MW-8 were installed to assess hydrocarbons in the vicinity of the used-oil UST. Consequently, in 1995, the used-oil UST was removed, the pit was over-excavated to 12.5 fbg, and 80 cy of hydrocarbon-bearing soil was excavated from the pit and disposed of at BFI Landfill in</p>

Item	Evaluation Criteria	Comments/Discussion
		Livermore, California.
6.2	Area Remediated	The area around the used-oil UST pit was over-excavated.
6.3	Remediation Effectiveness	It appears the excavation removed the large majority of impacted soil, however hydrocarbons hydrocarbons remain in the groundwater.
<b>7</b>	<b>Additional Recommended Data or Tasks</b>	
7.1		No data gaps exist for this site.

## **ATTACHMENT A**

### **Figures and Tables from Previous Consultants**

Table 1- Analytical Results For Soil Samples.  
Chevron Service Station #9-1583, Oakland, California.

Sample (A)	Depth (Feet)	Date	TPH(B) (mg/kg)	Benzene (C) (mg/kg)	Toluene (C) (mg/kg)	Xylenes (C) (mg/kg)	Ethyl- benzene (C) (mg/kg)	Organic lead (E) (mg/kg)	Laboratory
A	2	14-Dec-89	ND (<10)	NA	NA	NA	NA	NA	Geotest
B	3	14-Dec-89	1,700	NA	NA	NA	NA	NA	Geotest
C1	3.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	NA	Geotest
D	4.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	NA	Geotest
E	4.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	NA	Geotest
F	3.5	14-Dec-89	ND (<10)	NA	NA	NA	NA	NA	Geotest
SS-1 (C)	—	15-Dec-89	670	0.70	1.20	1.50	0.96	NA	Superior
MW-4B	10.5	18-Oct-90	ND (<10)	NA	NA	NA	NA	NA	GTEL
MW-4C	15.5	18-Oct-90	ND (<10)	NA	NA	NA	NA	NA	GTEL
MW-4D	20.5	18-Oct-90	ND (<10)	NA	NA	NA	NA	NA	GTEL
MW-5B	10.5	18-Oct-90	190	NA	NA	NA	NA	NA	GTEL
MW-5C	15.5	18-Oct-90	ND (<10)	NA	NA	NA	NA	NA	GTEL
MW-6B	10.5	18-Oct-90	11	NA	NA	NA	NA	NA	GTEL
MLK-1	(F)	5-Nov-90	ND (<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<2)	Superior

**Notes:**

(A) Samples A, B, C, D, E, F, and SS-1 were collected by Geotest prior to project involvement by Geraghty & Miller.

(B) Total petroleum hydrocarbons as gasoline. Analyzed by USEPA 8015, Modified.

(C) Analyzed USEPA Method 8020.

(D) Sample location and depth not reported.

(E) Organic lead analyzed by procedures described in California DHS, LUFT manual, May 1988.

(F) Sample MLK-1 was collected from the stockpiled soil generated during drilling activities 10/18/90.

NA - Not analyzed.

ND - Not detected.

(<10) - Reported detection limit.

# TABLE A

## USED OIL TANK REMOVAL SOIL SAMPLE RESULTS

CHEVRON STATION 9-1583  
Results in mg/kg, parts per million (ppm)

SAMPLE ID	DEPTH (ft.)	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH-Diesel	TOG
WE-11	11	Sequoia	4/17/95	ND	ND	ND	ND	ND	75	770
WW-10.5	10.5	Sequoia	4/17/95	ND	ND	ND	ND	ND	ND	220
WN-10.5	10.5	Sequoia	4/17/95	NA	NA	NA	NA	NA	NA	2700
WS-10.5	10.5	Sequoia	4/17/95	NA	NA	NA	NA	NA	NA	76
SP-1-A-D*	NA	Sequoia	4/17/95	ND	ND	0.017	0.0062	0.033	31	490

SAMPLE ID	DEPTH (ft.)	LAB	DATE	Cadmium	Chromium	Lead	Nickel	Zinc	8010	8270
WE-11	11	Sequoia	4/17/95	0.60	45	ND	55	72	ND	ND
WW-10.5	10.5	Sequoia	4/17/95	0.53	46	ND	61	68	ND	ND
SP-1-A-D*	NA	Sequoia	4/17/95	CAR**	CAR	CAR	CAR	CAR	ND	ND

TPH-Gasoline = Total petroleum hydrocarbons calculated as gasoline

TPH-Diesel = Total petroleum hydrocarbons calculated as Diesel

TOG = Total oil and grease, listed as total recoverable petroleum hydrocarbons (TRPH) on laboratory data sheets

8010 = EPA Method 8010 for chlorinated hydrocarbons

8270 = EPA Method 8270 for semivolatile constituents

ND=Not detected at or above the laboratory detection limits

NA = Not applicable

\* = Stockpile sample

\*\* = CAM 17 analysis run - see chemical analytical report (CAR) for results

**TABLE A**  
**Sample Analytical Summary**  
**Results in  $\mu\text{g}/\text{Kg}$  (ppb) unless noted**

Hoists & Clarifier Samples (Date Sampled 11/05/98)												
Sample ID	Depth in Feet	TPH as Hydraulic Oil	TPH as Gasoline	B	T	E	X	MTBE	TOG 5520	8010	8270	8270
H/CLR	7.5	ND < 10	ND < 1000	ND < 5	ND < 5	ND < 5	ND < 10	ND < 25	ND	ND	ND	ND
H2	8	ND < 10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
H3	8	ND < 10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not analyzed  
 ND = Not detected at or above laboratory detection limits  
 TPH = Total petroleum hydrocarbons  
 B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 X = Xylenes  
 CAR = Certified Analytical Reports  
 ppb = parts per billion or  $\mu\text{g}/\text{Kg}$   
 ppm = parts per million mg/Kg  
 TOG = total oil and grease  
 MTBE = methyl tert butyl ether  
 Note = See CAR's in Appendix A for Metal results



**ATTACHMENT B**

**Boring Logs**

COMPANY: CHEVRON U.S.A. #1583JOB NO: OR - 5111LOCATION: 5509 GROVE ST.DATE: 12-22-83CITY: OAKLANDWELL #: 1

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		
3"		A. C. PAVING
8"		BASEROCK
2'		DARK BROWN CLAY & FILLS
8'		BROWN CLAY - DAMP
9'		DARK BROWN CLAY - DAMP
12'		DUNE GREEN SILTY CLAY - MOIST
17'		BROWN SILTY CLAY - WET
21'		DARK GRAY CLAY - BAY MUD - WET

FOREMAN: DAVID BYRONSHEET: 1 OF 1

COMPANY: CHEVRON U.S.A. #1583JOB NO: OR - 5111LOCATION: 5509 GROVE ST.DATE: 12.22.83CITY: OAKLANDWELL #: 2

DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		
3"		A.C. PAVING
1'		BASEROCK
2 1/2'		DARK BROWN CLAY @ FILLS
7'		BROWN CLAY - DAMP
8'		DARK BROWN CLAY - DAMP
13'		OLIVE GREEN SILTY CLAY - MOIST
16'		BROWN SILTY CLAY - WET
21'		DARK GRAY CLAY - BAY MUD - WET

FOREMAN: DAVID BYRONSHEET: 1 OF 1

**Gottler - Ryan Inc.** GENERAL CONTRACTORS

COMPANY: CAEURON U.S.A. #1583 JOB NO: OR - 5111  
LOCATION: 5509 GROVE ST. DATE: 12-22-83  
CITY: OAKLAND WELL #: 3

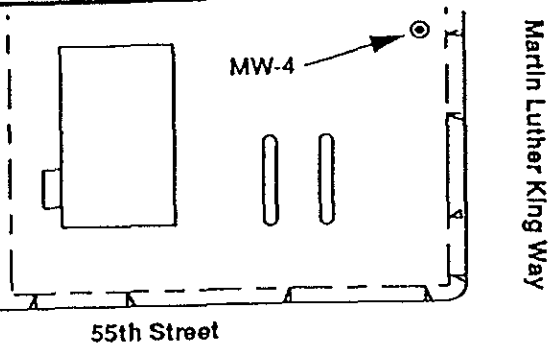
DEPTH	SAMPLE NO.	SOIL DESCRIPTION
0 ft.		
3"		A.C. PAVING
8"		BASEROCK
2'		DARK BROWN CLAY & FILLS
10'		BROWN CLAY - DAMP
11'		DARK BROWN CLAY - STIFF
14'		OLIVE GREEN SILTY CLAY - MOIST
18'		BROWN SILTY CLAY - WET
21'		DARK GRAY CLAY - BAY MUD - WET

# LOG OF BORING MW-4

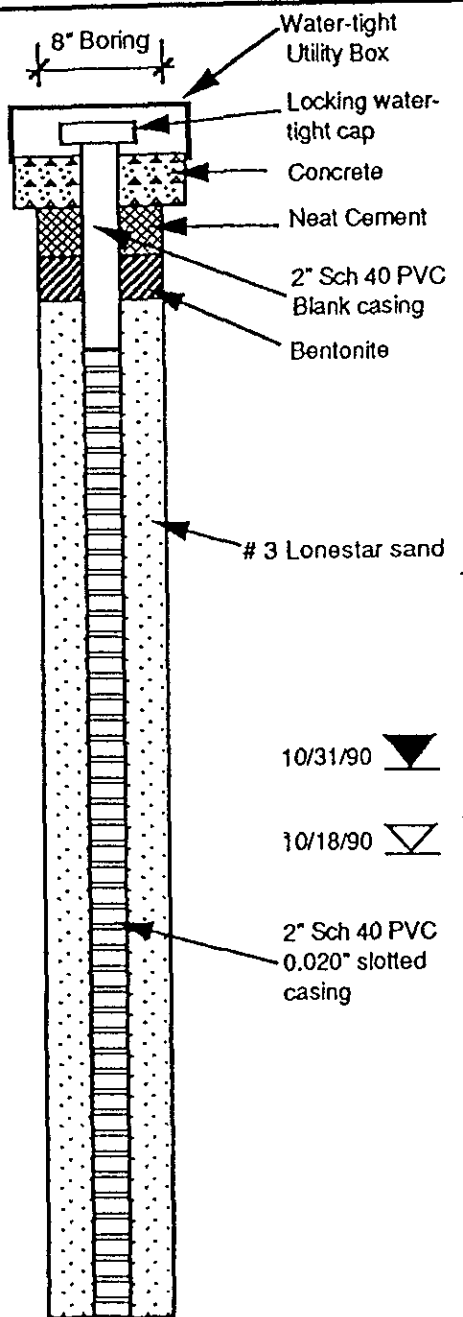
## Chevron Service Station #9-1583 5509 Martin Luther King Way Oakland, California

Project No.: RC2603  
 Logged By: Jim Wilmersher  
 Drilling Co.: HEW  
 Driller: Hanibal

Date Drilled: October 18, 1990  
 Drilling Method: 8" Hollow Stem Auger.  
 Sampling Method: 2" Split spoon  
 Inclination: Vertical



### WELL CONSTRUCTION



Depth (ft.)  
 Blows/ft.  
 Exp (ppm)  
 Samples  
 Graphic

### DESCRIPTION

Surface Elevation: 84.50'  
 Casing Elevation: 84.25'

Asphaltic Concrete

GRAVELLY SILT (ML), dark yellowish brown (10YR 3/4); sand backfill; gravel up to 30mm dia.; 10-20% sand; 10-20% coarse gravel; dry.

CLAYEY SILT (ML), dark grayish brown (2.5Y 4/2); 10-20% clay; firm; moist.

SILTY CLAY (CL), olive brown (2.5Y 4/4) mottled gray (7.5Y 5/1); 10 to 30% silt; firm; moist.

@ 15 feet: gray (7.5Y 5/1) mottled strong brown (7.5YR 4/6); 10 to 20% silt; trace fine sand; ferro-magnesium staining; firm; wet.

@ 20 feet: dark greenish gray (5GY 4/1); 5 to 15% silt; roots; charcoal (less than 5mm dia.); calciferous nodules (less than 5mm dia.); firm; moist to wet.

SILTY SAND (SM), dark greenish gray (5GY 4/1) to (BG 4/1); fine grain; trace to 10% fine to coarse gravel (10 to 30 mm; trace to 10% clay; very dense; wet

**LOG OF BORING MW-4  
(continued)**

**WELL CONSTRUCTION**

**DESCRIPTION**

Depth (ft)  
Blows/ft  
PID  
Samples  
Graphic

← #3 Lonestar sand

52

0

SILTY SAND (SM), continued.

Bottom of Boring: 26.5 Feet.  
Time: 9:25 AM Date: 10/18/90

30

35

40

45

50

55

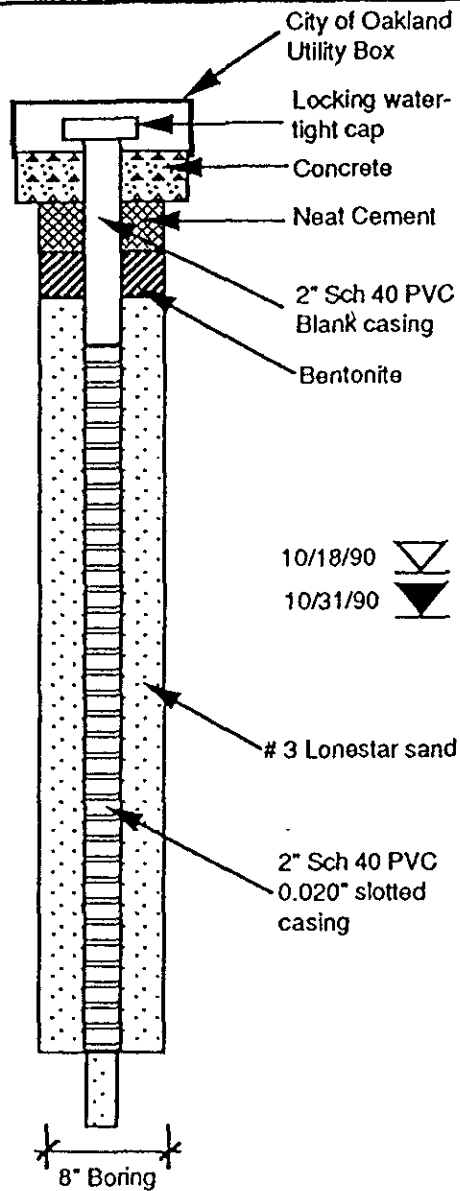
60

# LOG OF BORING MW-5

**Chevron Service Station #9-1583**  
**5509 Martin Luther King Way**  
**Oakland, California**

Project No.: RC2603      Date Drilled: October 18, 1990  
 Logged By: Jim Wilmersher      Drilling Method: 8" Hollow Stem Auger.  
 Drilling Co.: HEW      Sampling Method: 2" Split spoon  
 Driller: Hanibal      Inclination: Vertical

## WELL CONSTRUCTION



Depth (ft.)  
 Blows/ft.  
 Exp (ppm)  
 Samples  
 Graphic

## DESCRIPTION

Surface Elevation: 82.24'  
 Casing Elevation: 81.95'

Asphaltic Concrete

GRAVELLY SILT (ML), backfill, dark yellowish brown (10 YR 3/4); 10 to 20% coarse gravel (less than 30mm dia.); 10 to 20% medium sand; dry.

SANDY CLAY (CL), dark brown (10YR 3/3); 20 to 30% fine to medium sand; trace to 10% silt; stiff; moist.

CLAYEY SAND (SC), dark greenish gray (5GY 4/1); fine grain; 10 to 20% clay; loose; wet.

GRAVELLY CLAY (CL), dark greenish gray (5GY 4/1); 10 to 20% fine gravel; trace to 10% coarse sand; wet.

SAND (SP) light olive brown (2.5Y 5/4); fine to medium grain (30% medium grain); 10 to 20% silt; dense; wet.

@ 16.5 feet: 10 to 20% coarse sand; trace to 5% fine gravel; moist.

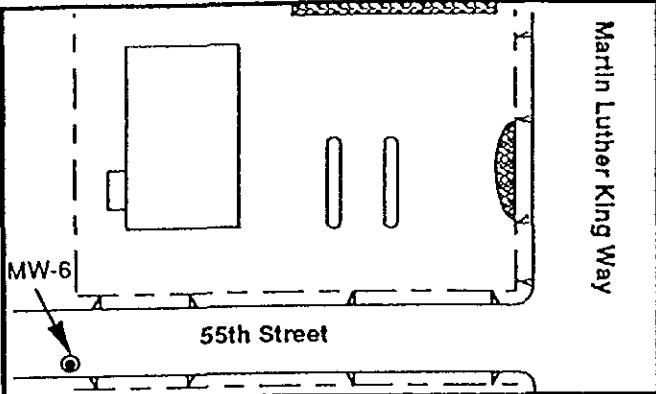
@ 20 feet: medium to coarse sand; trace to 10% fine gravel; trace coarse gravel.

@ 20.5 feet: olive gray (5Y 5/2); trace fine gravel; wet.

@ 21.5 feet: 10 to 15% silt; moist.

CLAYEY GRAVEL (GC), olive gray (5Y 5/2); coarse gravel 20 to 30% clay (gray); 10 to 15% silt; very stiff; moist.

Bottom of Boring: 21.5 feet  
 Time: 12:05 PST Date: 10/18/90



# LOG OF BORING MW-6

Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

Project No.: RC2603      Date Drilled: October 18, 1990  
 Logged By: Jim Wilmersher      Drilling Method: 8" Hollow Stem Auger.  
 Drilling Co.: HEW      Sampling Method: 2" Split spoon  
 Driller: Hanibal      Inclination: Vertical

WELL CONSTRUCTION	Depth (ft.)	Blows/ft.	Exp (ppm)	Samples	Graphic	DESCRIPTION
City of Oakland Utility Box Locking water-tight cap Concrete Neat Cement 2" Sch 40 PVC Blank casing Bentonite # 3 Lonestar sand 2" Sch 40 PVC 0.020" slotted casing 8" Boring	0					Surface Elevation: 80.94' Casing Elevation: 80.60' Asphaltic Concrete SANDY SILT (ML), very dark grayish brown (2.5Y 3/2); 10 to 30% fine to medium sand; roots; worm borings; medium dense; moist.
	10					SILTY CLAY (CL), gray (2.5 N/4) mottled light olive brown (2.5 4/3); 10 to 30% silt; stiff; moist.
	15					SANDY SILT (ML), gray (5Y 6/1) mottled olive brown (2.5Y 4/4); 20 to 30% medium to fine sand; 10 to 20% clay; charcoal; stiff; wet.
	17					CLAYEY SILT (ML), gray (5Y 6/1) mottled olive brown (2.5Y 4/4); 10 to 20% clay; trace to 10% fine gravel; moist to wet
	20					SANDY GRAVEL (GP), yellow brown (10YR 5/3); fine gravel; 20 to 30% coarse sand; dense; wet.
	25					GRAVELLY CLAY (CL), yellowish red (5YR 5/6); 10 to 20% coarse gravel; subangular; trace to 10% medium sand; ferro-magnesium staining; wet.
						Bottom of Boring: 20 feet Time: 07:53 PST Date: 10/18/90





GROUNDWATER  
TECHNOLOGY

# Drilling Log

Monitoring Well MW-7

Project CHV/5509 Martin Luther King Jr. Way Owner Chevron U.S.A., Inc.  
 Location Oakland, CA Proj. No. 020204528  
 Surface Elev. 86.59 ft. Total Hole Depth 20 ft. Diameter 8 in.  
 Top of Casing 86.36 ft. Water Level Initial 14 ft. Static 11.05 ft.  
 Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in.  
 Casing: Dia 2 in. Length 5 ft. Type PVC sch 40  
 Fill Material #3 sand Rig/Core B-61/Split Spoon  
 Drill Co. SES Inc. Method Hollow Stem Auger  
 Driller Mike Duffy Log By Robert Fehr Date 2-22-94 Permit # N/A  
 Checked By Michael Blundell License No. RG# 5146 *MB*

See Site Map  
For Boring Location

COMMENTS:

Depth to water was approximately 14 feet below grade on 2/22/94. Installed under Zone 7 Water Agency, permit No. 94097

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description
							(Color, Texture, Structure)
-2							
0						A/C	Asphalt
2							
4							
6		2.3	MW7 (5)	3 6 9			lean CLAY, dark brown, about 5% medium sand (moist, stiff, no hydrocarbon odor, medium plasticity)
8							
10		1.5		3 5 6		CL	same, grading to medium gray with mottled medium brown, increasing moisture.
12							Water level, 3/9/94
14							Water encountered during drilling 2/22/94
16		35.4	MW7 (15)	1 2 3			same, trace organic matter, (saturated, soft, slight hydrocarbon odor)
18							
20		1.9		2 3 7			lean CLAY, dark gray, (no hydrocarbon odor, high plasticity)
22							End of boring at 20 feet below grade.
24							



GROUNDWATER  
TECHNOLOGY

# Drilling Log

Monitoring Well MW-8

Project CHV/5509 Martin Luther King Jr. Way Owner Chevron U.S.A., Inc.  
 Location Oakland, CA Proj. No. 020204528  
 Surface Elev. 86.30 ft. Total Hole Depth 20 ft. Diameter 8 in.  
 Top of Casing 85.93 ft. Water Level Initial 14 ft. Static 10.59 ft.  
 Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in.  
 Casing: Dia 2 in. Length 5 ft. Type PVC sch 40  
 Fill Material #3 sand Rig/Core B-61/Split Spoon  
 Drill Co. SES Inc. Method Hollow Stem Auger  
 Driller Mike Duffy Log By Robert Fehr Date 2-22-94 Permit # N/A  
 Checked By Michael Blundell License No. RG# 5146 *Sub*

See Site Map  
For Boring Location

COMMENTS:

Depth to water was approximately 14 feet below grade on 2/22/94. Installed under Zone 7 Water Agency permit No. 94097

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2							
0						A/C	Asphalt
2							
4							
6		1.5		3 5 7			lean CLAY, medium brown, (moist, stiff, no hydrocarbon odor, medium plasticity)
8							
10		1.5	MW8 (10)	3 4 5		CL	same, grading to medium gray with mottled medium brown, increasing moisture, medium stiff. Water level, 3/9/94
12							
14							Water encountered during drilling 2/22/94
16		3.2	MW8 (15)	2 3 3			same, medium brown with mottled dark brown, saturated.
18							
20		3.2		1 3 3			lean CLAY, dark gray, (saturated, soft, high plasticity), trace organic matter (0.25-inch wood fragment). End of boring at 20 feet below grade.
22							
24							

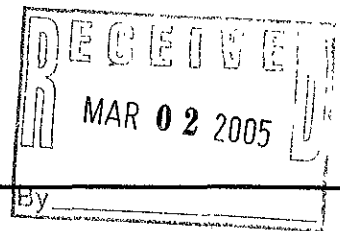
**ATTACHMENT C**

**Groundwater Analytical Data  
and  
Trend Graphs**



# GETTLER-RYAN INC.

## TRANSMITTAL



February 28, 2005

G-R #386506

TO: Mr. Bruce H. Eppler  
Cambria Environmental Technology, Inc.  
4111 Citrus Avenue, Suite 12  
Rocklin, California 95677

FROM: Deanna L. Harding  
Project Coordinator  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

RE: **Former Chevron Service Station  
#9-1583  
5509 Martin Luther King Way  
Oakland, California  
MTI: 61D-1960  
RO 0000002**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
2	February 28, 2005	Groundwater Monitoring and Sampling Report First Semi-Annual - Event of January 25, 2005

COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced report for **your use and distribution to the following:**

Mr. Dana Thurman, ChevronTexaco Company, P.O. Box 6012, Room K2236, San Ramon, CA 94583

Please provide any comments/changes and propose any groundwater monitoring modifications for the next event prior to **March 15, 2005**, at which time the final report will be distributed to the following:

- cc: Mr. Barney Chan, Alameda County Health Care Services, Dept. of Environmental Health, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577
- Mr. Ben Shimek, (Owner), 31 Industrial Way, Greenbrae, CA 94904

Enclosures

trans/9-1583-DT



# GETTLER - RYAN INC.

February 28, 2005  
G-R Job #386506

Mr. Dana Thurman  
ChevronTexaco Company  
P.O. Box 6012, Room K2236  
San Ramon, CA 94583

**RE: First Semi-Annual Event of January 25, 2005**  
Groundwater Monitoring & Sampling Report  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

Dear Mr. Thurman:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

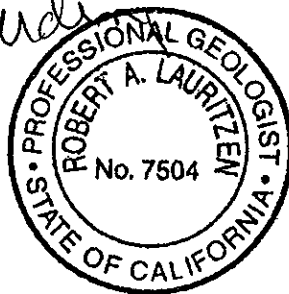
Static groundwater levels were measured and the wells were checked for the presence of separate-phase hydrocarbons. Static water level data, groundwater elevations, and separate-phase hydrocarbon thickness (if any) are presented in the attached Table 1. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. The chain of custody document and laboratory analytical report are also attached.

Please call if you have any questions or comments regarding this report. Thank you.

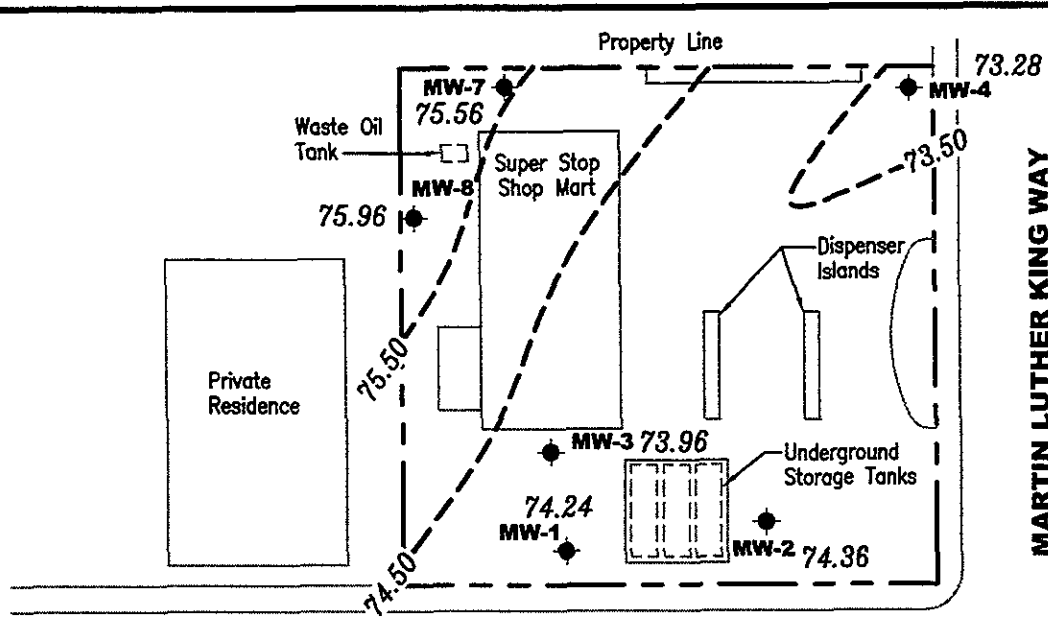
Sincerely,

Deanna L. Harding  
Project Coordinator



Robert A. Lauritzen  
Senior Geologist, P.G. No. 7504

Figure 1: Potentiometric Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Table 2: Groundwater Analytical Results - Oxygenate Compounds  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

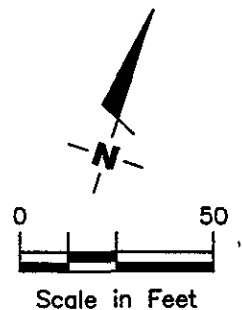
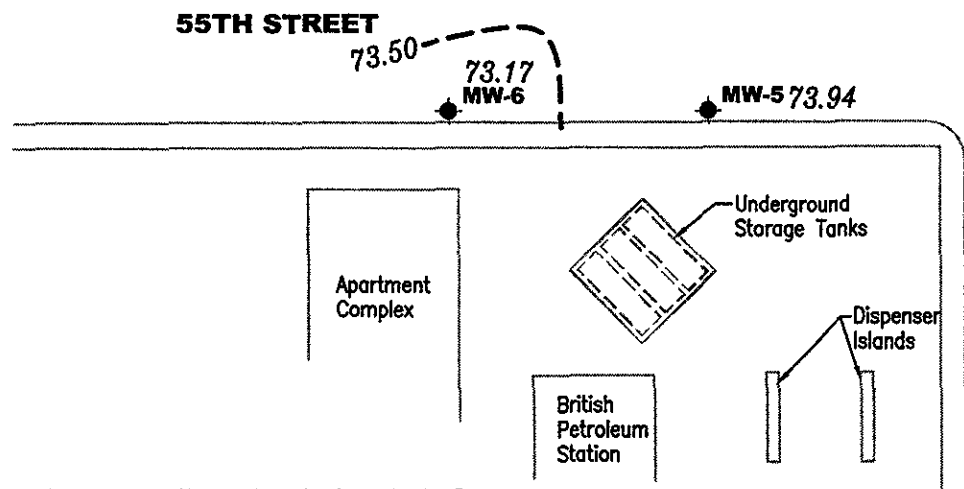


**EXPLANATION**

- Groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level
- 99.99 - Groundwater elevation contour, dashed where inferred.



Approximate groundwater flow direction at a gradient of 0.03 to 0.04 Ft./Ft.



Source: Figure modified from drawing provided by RRM engineering contracting firm.

**GETTLER - RYAN INC.**  
 6747 Sierra Court, Suite J  
 Dublin, CA 94568 (925) 551-7555

**POTENTIOMETRIC MAP**  
 Former Chevron Service Station #9-1583  
 5509 Martin Luther King Way  
 Oakland, California

FIGURE  
**1**

PROJECT NUMBER 386506	REVIEWED BY	DATE January 25, 2005	REVISED DATE
--------------------------	-------------	--------------------------	--------------

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-1</b>													
12/22/83	81.97	71.72	10.25	--	--	--	--	--	--	--	--	--	--
12/30/83	81.97	72.80	9.17	--	--	--	--	--	--	--	--	--	--
03/12/90	81.97	71.89	10.08	--	--	--	50,000	3,000	7,300	1,900	18,000	--	--
03/25/90	82.42	71.51	10.46	--	--	--	--	--	--	--	--	--	--
10/18/90	82.42	--	--	--	--	--	--	--	--	--	--	--	--
10/31/90	82.42	--	--	--	--	--	--	--	--	--	--	--	--
11/16/90	82.42	70.84	11.58	--	--	--	--	--	--	--	--	--	--
02/08/91	82.42	72.31	10.11	--	--	--	100,000	4,200	8,400	16,000	2,600	--	--
05/08/91	82.42	71.97	10.45	--	--	--	31,000	200	66	670	2,000	--	--
08/12/91	82.42	71.19	11.23	--	--	--	17,000	81	7.2	270	710	--	--
11/07/91	82.42	71.72	10.70	--	--	--	7,100	24	6.0	130	170	--	--
02/05/92	82.42	72.05	10.37	--	--	--	110,000	8,900	14,000	2,700	12,000	--	--
05/13/92	82.42	71.84	10.58	--	--	--	19,000	450	85	480	870	--	--
07/17/92	82.42	71.37	11.05	--	--	--	8,500	170	<10	360	600	--	--
10/05/92	82.42	71.01	11.41	--	--	--	22,000	4,300	5,100	570	2,900	--	--
11/11/92	82.42	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	82.42	--	--	--	--	--	--	--	--	--	--	--	--
11/24/92	82.42	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	82.42	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	82.42	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	82.42	--	--	--	--	--	--	--	--	--	--	--	--
01/08/93	82.42	74.31	8.11	--	--	--	14,000,000	12,000	79,000	270,000	1,300,000	--	--
02/02/93	82.42	--	--	--	--	--	--	--	--	--	--	--	--
04/14/93	82.42	72.57	9.85	--	--	--	48,000	670	1,100	1,600	6,300	--	--
08/06/93	82.42	71.59	10.83	--	--	--	44,000	660	990	1,600	6,100	--	--
10/21/93	82.42	71.52	10.90	--	--	--	18,000	270	460	1,300	4,700	--	--
01/05/94	82.42	72.09	10.33	--	--	--	22,000	160	160	630	2,300	--	--
04/08/94	82.42	72.24	10.18	--	--	--	21,000	37	110	570	1,400	--	--
07/06/94	82.42	71.78	10.64	--	--	--	28,000	210	100	540	1,200	--	--
08/04/94	82.42	71.91	10.51	--	--	--	--	--	--	--	--	--	--
10/05/94	82.42	71.51	10.91	--	--	--	120,000	39	22	320	900	--	--
01/18/95	82.42	73.80	8.62	--	--	--	12,000	<20	<20	130	160	--	--
04/07/95	82.42	72.89	9.53	--	--	--	2,500	<2.5	<2.5	71	38	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-1 (cont)</b>													
07/06/95	82.42	72.03	10.39	--	--	--	5,700	<0.5	<0.5	110	110	--	--
10/11/95	82.42	70.54	11.88	--	--	--	2,700	13	<5.0	13	5.7	650	--
01/17/96	82.42	73.14	9.28	--	--	--	4,200	12	<5.0	43	24	300	--
04/05/96	82.42	72.82	9.60	--	--	--	1,300	<1.2	<1.2	7.6	2.8	220	--
07/23/96	82.42	72.19	10.23	--	--	--	700	<1.0	<1.0	7.0	4.8	240	--
10/02/96	82.42	71.67	10.75	--	--	--	1,700	<2.5	9.8	10	13	610	--
01/23/97	82.42	74.75	7.67	--	--	--	1,300	21	<10	<10	<10	2,700	--
04/01/97	82.42	72.22	10.20	--	--	--	670	<2.0	<2.0	4.1	3.6	1,200	--
07/09/97	82.42	72.12	10.30	--	--	--	460	<1.0	<1.0	<1.0	<1.0	440	--
10/07/97	82.42	71.73	10.69	--	--	--	1,100	8.5	<2.0	<2.0	2.0	250	--
01/22/98	82.42	74.20	8.22	--	--	--	460	1.4	5.8	<0.5	<0.5	150	--
04/02/98	82.42	72.89	9.53	--	--	--	220	2.5	1.2	<1.0	1.9	260	--
07/02/98	82.42	72.08	10.34	--	--	--	270	<0.5	0.82	<0.5	<0.5	140	--
10/02/98	82.42	71.70	10.72	--	--	--	170	1.3	<0.5	<0.5	<1.5	320	--
01/18/99	82.42	72.87	9.55	--	--	--	416	<2.5	<2.5	<2.5	<2.5	316/295 <sup>2</sup>	--
07/22/99	82.42	71.61	10.81	--	--	--	186	<0.5	3.94	1.46	2.37	63.7	--
01/17/00	82.42	72.21	10.21	--	--	--	248	1.6	<0.5	<0.5	<0.5	41.0	--
07/05/00	82.42	72.12	10.30	0.00	--	--	76 <sup>3</sup>	<0.50	<0.50	<0.50	0.79	69	--
01/15/01	82.42	73.01	9.41	0.00	--	--	66.6	<0.500	<0.500	<0.500	0.585	22.5	--
07/03/01	82.42	72.13	10.29	0.00	--	--	<50	<0.50	<0.50	<0.50	<0.50	8.8	--
02/28/02	82.42	72.74	9.68	0.00	--	--	58	<0.50	<0.50	<0.50	<1.5	21	--
07/08/02	82.42	72.14	10.28	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	23	--
01/01/03	82.42	74.28	8.14	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	15	--
07/14/03 <sup>8</sup>	82.42	72.12	10.30	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	5	--
01/12/04 <sup>8</sup>	82.42	73.40	9.02	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	61	--
07/27/04 <sup>8</sup>	82.42	72.10	10.32	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	54	--
01/25/05 <sup>8</sup>	82.42	74.24	8.18	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	5	--
<b>MW-2</b>													
12/22/83	83.48	72.98	10.50	--	--	--	--	--	--	--	--	--	--
12/30/83	83.48	73.56	9.92	--	--	--	--	--	--	--	--	--	--
03/12/90	83.48	72.46	11.02	--	--	--	800	400	22	18	55	--	--



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (mst)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
MW-2 (cont)													
03/25/90	83.48	72.15	11.33	--	--	--	--	--	--	--	--	--	--
10/18/90	83.48	71.17	12.31	--	--	--	--	--	--	--	--	--	--
10/31/90	83.48	--	--	--	--	--	--	--	--	--	--	--	--
11/16/90	83.48	--	--	--	--	--	--	--	--	--	--	--	--
02/08/91	83.48	72.43	11.05	--	--	--	4,600	820	440	720	210	--	--
05/08/91	83.48	72.12	11.36	--	--	--	<50	5.0	<0.5	<0.5	<0.5	--	--
08/12/91	83.48	71.51	11.97	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/07/91	83.48	71.98	11.50	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/05/92	83.48	72.29	11.19	--	--	--	1,700	390	170	60	200	--	--
05/13/92	83.48	71.99	11.49	--	--	--	74	9.3	<0.5	<0.5	<0.5	--	--
07/17/92	83.48	71.63	11.85	--	--	--	<50	2.0	<0.5	<0.5	<0.5	--	--
10/05/92	83.48	71.48	12.00	--	--	--	3,500	1,200	530	86	220	--	--
11/11/92	83.48	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	83.48	--	--	--	--	--	--	--	--	--	--	--	--
11/24/92	83.48	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	83.48	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	83.48	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	83.48	--	--	--	--	--	--	--	--	--	--	--	--
01/08/93	83.48	74.65	8.83	--	--	--	390	140	0.8	7.7	26	--	--
02/02/93	83.48	--	--	--	--	--	--	--	--	--	--	--	--
04/14/93	83.48	72.69	10.79	--	--	--	<50	5.0	<0.5	<0.5	<0.5	--	--
08/06/93	83.48	71.77	11.71	--	--	--	<50	1.0	<0.5	<0.5	<0.5	--	--
10/21/93	83.48	71.74	11.74	--	--	--	<50	1.0	<0.5	9.0	<0.5	--	--
01/05/94	83.48	72.30	11.18	--	--	--	<50	0.7	<0.5	<0.5	0.9	--	--
04/08/94	83.48	72.42	11.06	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/94	83.48	71.80	11.68	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/04/94	83.48	72.29	11.19	--	--	--	--	--	--	--	--	--	--
10/05/94	83.48	71.79	11.69	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/18/95	83.48	74.26	9.22	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/07/95	83.48	73.62	9.86	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/95	83.48	72.74	10.74	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/11/95	83.48	72.26	11.22	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/17/96	83.48	73.74	9.74	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-2 (cont)</b>													
04/05/96	83.48	73.52	9.96	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/23/96	83.48	72.57	10.91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/02/96	83.48	72.41	11.07	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/23/97	83.48	75.18	8.30	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	3.4	--
04/01/97	83.48	72.90	10.58	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/09/97	83.48	72.58	10.90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/07/97	83.48	72.52	10.96	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/22/98	83.48	74.73	8.75	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/02/98	83.48	73.66	9.82	--	--	--	89	3.0	5.4	4.1	21	<2.5	--
07/02/98	83.48	72.74	10.74	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/02/98	83.48	72.43	11.05	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/18/99	83.48	73.09	10.39	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
07/22/99	83.48	72.61	10.87	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
01/17/00	83.48	72.89	10.59	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/05/00	83.48	72.84	10.64	0.00	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
01/15/01	83.48	73.77	9.71	0.00	--	--	555 <sup>6</sup>	<0.500	<0.500	<0.500	<0.500	<2.50	--
07/03/01	83.48	73.02	10.46	0.00	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
02/28/02	83.48	73.49	9.99	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
07/08/02	83.48	72.98	10.50	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
01/01/03	83.48	75.33	8.15	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
07/14/03 <sup>8</sup>	83.48	72.96	10.52	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/12/04 <sup>8</sup>	83.48	74.31	9.17	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
07/27/04 <sup>8</sup>	83.48	72.85	10.63	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/25/05 <sup>8</sup>	83.48	74.36	9.12	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>MW-3</b>													
12/22/83	84.36	72.78	11.58	--	--	--	--	--	--	--	--	--	--
12/30/83	84.36	73.19	11.17	--	--	--	--	--	--	--	--	--	--
03/12/90	84.36	72.22	12.14	--	--	--	47,000	1,000	9,900	1,700	9,800	--	--
03/25/90	84.38	71.81	12.55	--	--	--	--	--	--	--	--	--	--
10/18/90	84.38	--	--	--	--	--	--	--	--	--	--	--	--
10/31/90	84.38	--	--	--	--	--	--	--	--	--	--	--	--

**Table 1**  
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Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
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WELL ID/ DATE	TOC (ft.)	GWE (msf)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (pph)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-3 (cont)</b>													
11/16/90	84.38	70.76	13.62	--	--	--	--	--	--	--	--	--	--
02/08/91	84.38	72.20	12.18	--	--	--	58,000	4,900	5,200	9,500	2,000	--	--
05/08/91	84.38	71.86	12.52	--	--	--	50,000	2,100	1,400	2,000	9,400	--	--
08/12/91	84.38	71.11	13.27	--	--	--	15,000	1,300	160	920	1,900	--	--
11/07/91	84.38	71.57	12.81	--	--	--	26,000	1,000	310	1,900	5,900	--	--
02/05/92	84.38	71.91	12.47	--	--	--	35,000	2,800	1,300	1,500	4,700	--	--
05/13/92	84.38	71.76	12.62	--	--	--	47,000	1,500	1,200	1,100	4,800	--	--
07/17/92	84.38	71.25	13.13	--	--	--	15,000	120	11	88	140	--	--
10/05/92	84.38	70.95	13.62	0.24	--	--	--	--	--	--	--	--	--
11/11/92	84.38	71.63	12.89	0.17	--	--	--	--	--	--	--	--	--
11/17/92	84.38	71.54	12.89	0.06	--	--	--	--	--	--	--	--	--
11/24/92	84.38	71.56	12.86	0.05	--	--	--	--	--	--	--	--	--
12/01/92	84.38	71.48	12.92	0.03	--	--	--	--	--	--	--	--	--
12/29/92	84.38	73.14	11.24	Sheen	--	--	--	--	--	--	--	--	--
01/05/93	84.38	73.23	11.15	Sheen	--	--	--	--	--	--	--	--	--
01/08/93	84.38	74.28	10.10	--	--	--	250,000	5,000	17,000	5,500	28,000	--	--
02/02/93	84.38	--	--	--	--	--	--	--	--	--	--	--	--
04/14/93	84.38	72.48	11.91	0.01	--	--	--	--	--	--	--	--	--
08/06/93	84.38	71.49	12.90	0.01	--	--	150,000	3,800	6,600	3,700	17,000	--	--
10/21/93	84.38	71.41	12.97	--	--	--	22,000	2,300	1,700	1,400	5,100	--	--
01/05/94	84.38	71.96	12.42	--	--	--	37,000	1,600	1,100	1,300	6,500	--	--
04/08/94	84.38	72.51	11.87	--	--	--	16,000	250	310	500	2,500	--	--
07/06/94	84.38	71.64	12.74	--	--	--	43,000	660	320	1,900	6,400	--	--
08/04/94	84.38	71.71	12.67	--	--	--	--	--	--	--	--	--	--
10/05/94	84.38	71.43	12.95	--	--	--	12,000	280	90	480	370	--	--
01/18/95	84.38	73.72	10.66	--	--	--	20,000	200	230	700	3,500	--	--
04/07/95	84.38	72.84	11.54	--	--	--	22,000	120	120	810	4,400	--	--
07/06/95	84.38	71.99	12.39	--	--	--	15,000	110	<50	630	2,100	--	--
10/11/95	84.38	72.07	12.31	--	--	--	8,600	24	<10	360	560	1,100	--
01/17/96	84.38	73.68	10.70	--	--	--	9,300	<50	<50	230	1,100	2,300	--
04/05/96	84.38	73.35	11.03	--	--	--	8,700	16	<10	110	650	990	--
07/23/96	84.38	72.38	12.00	--	--	--	5,400	20	<5.0	190	480	2,300	--
10/02/96	84.38	72.20	12.18	--	--	--	6,200	43	<20	130	140	2,800	--

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<b>MW-3 (cont)</b>													
01/23/97	84.38	75.12	9.26	--	--	--	5,600	<5.0	<5.0	39	160	550	--
04/01/97	84.38	72.75	11.63	--	--	--	6,900	17	<10	150	330	3,900	--
07/09/97	84.38	72.38	12.00	--	--	--	5,300	31	<5.0	100	180	2,300	--
10/07/97	84.38	72.27	12.11	--	--	--	2,400	15	<2.0	30	15	900	--
01/22/98	84.38	74.73	9.65	--	--	--	3,200	2.5	7.9	70	220	660	--
04/02/98	84.38	73.49	10.89	--	--	--	1,300	14	9.7	25	63	430	--
07/02/98	84.38	72.69	11.69	--	--	--	750	6.9	<5.0	18	9.1	370	--
10/02/98	84.38	72.23	12.15	--	--	--	1,400	5.3	0.73	18	6.6	900	--
01/18/99	84.38	74.05	10.33	--	--	--	1,270	<1.0	<1.0	7.95	<1.0	100/99.7 <sup>2</sup>	--
07/22/99	84.38	72.08	12.30	--	--	--	2,240	<1.0	<1.0	29.4	13.7	189	--
01/17/00	84.38	72.78	11.60	--	--	--	848	6.72	2.53	5.02	2.49	90	--
07/05/00	84.38	72.67	11.71	0.00	--	--	90 <sup>3</sup>	5.3	<0.50	0.70	<0.50	770	--
01/15/01	84.38	73.93	10.45	0.00	--	--	206	<0.500	<0.500	<0.500	1.09	4.04	--
07/03/01	84.38	72.62	11.76	0.00	--	--	<50	0.53	<0.50	<0.50	1.1	20	--
02/28/02	84.38	73.29	11.09	0.00	--	--	170	<1.0	<1.0	<1.0	1.6	45	--
07/08/02	84.38	71.38	13.00	0.00	--	--	430	0.60	<0.50	0.79	<1.5	42	--
01/01/03	84.38	74.89	9.49	0.00	--	--	140	<0.50	<0.50	<0.50	<1.5	6.1	--
07/14/03 <sup>8</sup>	84.38	71.36	13.02	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	43	--
01/12/04 <sup>8</sup>	84.38	74.00	10.38	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	2	--
07/27/04 <sup>8</sup>	84.38	72.60	11.78	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	41	--
01/25/05 <sup>8</sup>	84.38	73.96	10.42	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	27	--
<b>MW-4</b>													
10/18/90	84.25	68.50	15.75	--	--	--	--	--	--	--	--	--	--
10/31/90	84.25	70.35	13.90	--	--	--	<50	<0.5	<0.5	<0.5	1.0	--	--
11/16/90	84.25	70.00	14.25	--	--	--	--	--	--	--	--	--	--
02/08/91	84.25	71.93	12.32	--	--	--	60	17	2.0	12	<0.5	--	--
05/08/91	84.25	72.02	12.23	--	--	--	65	<0.5	<0.5	<0.5	<0.5	--	--
08/12/91	84.25	70.32	13.93	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/07/91	84.25	70.83	13.42	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/05/92	84.25	71.42	12.83	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/13/92	84.25	70.97	13.28	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--

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MW-4 (cont)													
07/17/92	84.25	70.27	13.98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/05/92	84.25	70.02	14.23	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/11/92	84.25	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	84.25	--	--	--	--	--	--	--	--	--	--	--	--
11/24/92	84.25	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	84.25	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	84.25	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	84.25	--	--	--	--	--	--	--	--	--	--	--	--
01/08/93	84.25	74.09	10.16	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/02/93	84.25	--	--	--	--	--	--	--	--	--	--	--	--
04/14/93	84.25	72.21	12.04	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/06/93	84.25	70.34	13.91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/21/93	84.25	70.26	13.99	--	--	--	<50	<0.5	<0.5	<0.5	1.0	--	--
01/05/94	84.25	71.30	12.95	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/08/94	84.25	71.31	12.94	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/94	84.25	70.57	13.68	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/04/94	84.25	70.71	13.54	--	--	--	--	--	--	--	--	--	--
10/05/94	84.25	70.65	13.60	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/18/95	84.25	74.77	9.48	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/07/95	84.25	72.70	11.55	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/95	84.25	71.25	13.00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/11/95	84.25	70.27	13.98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/17/96	84.25	73.17	11.08	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/05/96	84.25	72.65	11.60	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/23/96	84.25	70.86	13.39	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/02/96	84.25	70.27	13.98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/23/97	84.25	74.72	9.53	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/01/97	84.25	71.68	12.57	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/09/97	84.25	70.64	13.61	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/07/97	84.25	70.51	13.74	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/22/98	84.25	74.90	9.35	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/02/98	84.25	73.00	11.25	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/02/98	84.25	71.84	12.41	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--

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5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-4 (cont)</b>													
10/02/98	84.25	71.00	13.25	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/18/99	84.25	72.65	11.60	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
07/22/99	84.25	70.70	13.55	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
01/17/00	84.25	71.32	12.93	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
07/05/00	84.25	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/15/01	84.25	72.73	11.52	0.00	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--
07/03/01	84.25	71.30	12.95	0.00	--	--	--	--	--	--	--	--	--
02/28/02	84.25	72.54	11.71	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
07/08/02	84.24	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/01/03	84.24	INACCESSIBLE - VEHICLE PARKED OVER WELL				--	--	--	--	--	--	--	--
07/14/03	84.24	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/12/04 <sup>s</sup>	84.24	73.23	11.01	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/25/05 <sup>s</sup>	84.24	73.28	10.96	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>MW-5</b>													
10/18/90	81.95	71.17	10.78	--	--	--	--	--	--	--	--	--	--
10/31/90	81.95	71.32	10.63	--	--	--	110	<0.5	<0.5	<0.5	<0.5	--	--
11/16/90	81.95	71.27	10.68	--	--	--	--	--	--	--	--	--	--
02/08/91	81.95	72.78	9.17	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/08/91	81.95	73.27	8.68	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/12/91	81.95	71.62	10.33	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/07/91	81.95	72.19	9.76	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/05/92	81.95	72.48	9.47	--	--	--	69	<0.5	<0.5	<0.5	<0.5	--	--
05/13/92	81.95	72.25	9.70	--	--	--	74	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	81.95	71.74	10.21	--	--	--	880	2.6	<1.2	4.6	11	--	--
10/05/92	81.95	71.34	10.61	--	--	--	120	<0.5	<0.5	0.6	4.9	--	--
11/11/92	81.95	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	81.95	--	--	--	--	--	--	--	--	--	--	--	--
11/24/92	81.95	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	81.95	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	81.95	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	81.95	--	--	--	--	--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC ( <i>µ</i> L)	GWE ( <i>mst</i> )	DTW ( <i>ft.</i> )	SPHT ( <i>ft.</i> )	TPH-D ( <i>ppb</i> )	TPH-MO ( <i>ppb</i> )	TPH-G ( <i>ppb</i> )	B ( <i>ppb</i> )	T ( <i>ppb</i> )	E ( <i>ppb</i> )	X ( <i>ppb</i> )	MTBE ( <i>ppb</i> )	TOG ( <i>ppb</i> )	
<b>MW-5 (cont)</b>														
01/08/93	81.95	74.61	7.34	--	--	--	61	<0.5	<0.5	<0.5	<0.5	--	--	
02/02/93	81.95	--	--	--	--	--	--	--	--	--	--	--	--	
04/14/93	81.95	--	--	--	--	--	--	--	--	--	--	--	--	
08/06/93	81.95	71.99	9.96	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
10/21/93	81.95	71.89	10.06	--	--	--	<50	<0.5	<0.5	2.0	4.0	--	--	
01/05/94	81.95	72.52	9.43	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
04/08/94	81.95	72.56	9.39	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
07/06/94	81.95	72.19	9.76	--	--	--	<50	0.6	<0.5	<0.5	<0.5	--	--	
08/04/94	81.95	72.13	9.82	--	--	--	--	--	--	--	--	--	--	
10/05/94	81.95	71.89	10.06	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
01/18/95	81.95	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--	
04/07/95	81.95	73.31	8.64	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
07/06/95	81.95	72.52	9.43	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	
10/11/95	81.95	72.12	9.83	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
01/17/96	81.95	73.63	8.32	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
04/05/96	81.95	73.23	8.72	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
07/23/96	81.95	72.25	9.70	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
10/02/96	81.95	72.06	9.89	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
01/23/97	81.95	74.72	7.23	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
04/01/97	81.95	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--	
07/09/97	81.95	72.27	9.68	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
10/07/97	81.95	72.14	9.81	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
01/22/98	81.95	74.80	7.15	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
04/02/98	81.95	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--	
07/02/98	81.95	72.43	9.52	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
10/02/98	81.95	72.14	9.81	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--	
01/18/99	81.95	73.11	8.84	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--	
07/22/99	81.95	72.01	9.94	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--	
01/17/00	81.95	72.70	9.25	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	
07/05/00	81.95	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--	--
01/15/01	81.95	73.41	8.54	0.00	--	--	423 <sup>6</sup>	<0.500	<0.500	<0.500	<0.500	<2.50	--	
07/03/01	81.95	72.62	9.33	0.00	--	--	--	--	--	--	--	--	--	
02/28/02	81.95	73.24	8.71	0.00	--	--	270	<0.50	<0.50	<0.50	<1.5	<2.5	--	

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MG (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-5 (cont)</b>													
07/08/02	81.95	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--	--	--
01/01/03	81.95	INACCESSIBLE - VEHICLE PARKED OVER WELL			--	--	--	--	--	--	--	--	--
07/14/03	81.95	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--	--	--
01/12/04 <sup>8</sup>	81.95	73.91	8.04	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/25/05 <sup>8</sup>	81.95	73.94	8.01	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>MW-6</b>													
10/18/90	80.60	70.81	9.79	--	--	--	--	--	--	--	--	--	--
10/31/90	80.60	70.91	9.69	--	--	--	<50	<0.5	<0.5	<0.5	3.0	--	--
11/16/90	80.60	70.86	9.74	--	--	--	--	--	--	--	--	--	--
02/08/91	80.60	--	--	--	--	--	--	--	--	--	--	--	--
05/08/91	80.60	71.06	9.54	--	--	--	56	<0.5	<0.5	<0.5	<0.5	--	--
08/12/91	80.60	71.10	9.50	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/07/91	80.60	71.71	8.89	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/05/92	80.60	72.01	8.59	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/13/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
07/17/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
10/05/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
11/11/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
11/24/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	80.60	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	80.60	--	--	--	--	--	--	--	--	--	--	--	--
01/08/93	80.60	--	--	--	--	--	--	--	--	--	--	--	--
02/02/93	80.60	72.89	7.71	--	--	--	<50	2.1	<0.5	<0.5	2.2	--	--
04/14/93	80.60	72.41	8.19	--	--	--	<50	1.0	<0.5	<0.5	<0.5	--	--
08/06/93	80.60	71.52	9.08	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/21/93	80.60	71.46	9.14	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/05/94	80.60	72.06	8.54	--	--	--	<50	4.0	<0.5	<0.5	<0.5	--	--
04/08/94	80.60	--	--	--	--	--	--	--	--	--	--	--	--
07/06/94	80.60	INACCESSIBLE			--	--	--	--	--	--	--	--	--



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC ( <i>ft.</i> )	GWE ( <i>msf</i> )	DTW ( <i>ft.</i> )	SPHT ( <i>ft.</i> )	TPH-D ( <i>ppb</i> )	TPH-MO ( <i>ppb</i> )	TPH-G ( <i>ppb</i> )	B ( <i>ppb</i> )	T ( <i>ppb</i> )	E ( <i>ppb</i> )	X ( <i>ppb</i> )	MTBE ( <i>ppb</i> )	TOG ( <i>ppb</i> )
<b>MW-6 (cont)</b>													
08/04/94	80.60	71.66	8.94	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/05/94	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
01/18/95	80.60	73.50	7.10	--	--	--	<50	0.69	<0.5	<0.5	0.57	--	--
04/07/95	80.60	72.77	7.83	--	--	--	<50	1.8	<0.5	<0.5	<0.5	--	--
07/06/95	80.60	72.03	8.57	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/11/95	80.60	71.54	9.06	--	--	--	<125	<1.2	<1.2	<1.2	<1.2	540	--
01/17/96	80.60	73.20	7.40	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	180	--
04/05/96	80.60	72.70	7.90	--	--	--	<125	1.4	<1.2	<1.2	<1.2	700	--
07/23/96	80.60	71.86	8.74	--	--	--	<500	<5.0	<5.0	<5.0	<5.0	540	--
10/02/96	80.60	71.62	8.98	--	--	--	<100	<1.0	<1.0	<1.0	1.8	910	--
01/23/97	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
04/01/97	80.60	72.22	8.38	--	--	--	<250	<2.5	<2.5	<2.5	<2.5	640	--
07/09/97	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
10/07/97	80.60	71.71	8.89	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	640	--
01/22/98	80.60	73.90	6.70	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	200	--
04/02/98	80.60	72.79	7.81	--	--	--	<250	<2.5	<2.5	<2.5	<2.5	480	--
07/02/98	80.60	71.62	8.98	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	420	--
10/02/98	80.60	71.68	8.92	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	270	--
01/18/99	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
07/22/99	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
01/17/00	80.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
07/05/00	80.60	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/15/01	80.60	INACCESSIBLE - CAR PARKED OVER WELL				--	--	--	--	--	--	--	--
07/03/01	80.60	INACCESSIBLE - CAR PARKED OVER WELL				--	--	--	--	--	--	--	--
02/28/02	80.60	72.70	7.90	0.00	--	--	<50	<0.50	<0.50	<0.50	<1.5	55	--
07/08/02	80.60	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/01/03	80.60	INACCESSIBLE - VEHICLE PARKED OVER WELL				--	--	--	--	--	--	--	--
07/14/03	80.60	MONITORED/SAMPLED ANNUALLY				--	--	--	--	--	--	--	--
01/12/04 <sup>8</sup>	80.60	73.23	7.37	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	25	--
01/25/05 <sup>8</sup>	80.60	73.17	7.43	0.00	--	--	<50	<0.5	<0.5	<0.5	<0.5	3	--

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Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msf)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
MW-7													
03/08/94	86.36	74.99	11.37	--	<10	4,100	1,200	440	31	73	200	--	--
07/06/94	86.36	--	--	--	--	--	--	--	--	--	--	--	--
08/04/94	86.36	73.86	12.50	--	--	--	120	15	<0.5	3.8	1.8	--	--
10/05/94	86.36	73.99	12.37	--	--	--	150	1.2	<0.5	1.2	1.7	--	--
01/18/95	86.36	74.82	11.54	--	--	--	260	11	<1.0	17	6.8	--	--
04/07/95	86.36	75.63	10.73	--	--	--	230	<0.5	<0.5	25	0.93	--	--
07/06/95	86.36	74.36	12.00	--	--	--	320	<1.0	<1.0	<1.0	<1.0	--	6,900
10/11/95	86.36	73.56	12.80	--	--	2,300 <sup>1</sup>	<50	<0.5	<0.5	<0.5	<0.5	120	--
01/17/96	86.36	75.90	10.46	--	--	1,700	<50	<0.5	<0.5	<0.5	<0.5	460	--
04/05/96	86.36	76.56	9.80	--	--	590	130	<0.5	<0.5	<0.5	<0.5	120	--
07/23/96	86.36	74.57	11.79	--	--	820	<500	<5.0	<5.0	<5.0	<0.5	1,200	--
10/02/96	86.36	73.10	13.26	--	--	1,500	<100	<1.0	<1.0	<1.0	<1.0	360	--
01/23/97	86.36	77.64	8.72	--	--	<500	<100	<1.0	<1.0	<1.0	<1.0	490	--
04/01/97	86.36	75.09	11.27	--	--	1,600	<250	<2.5	<2.5	<2.5	<2.5	1,200	--
07/09/97	86.36	73.92	12.44	--	--	5,700	<250	5.9	<2.5	<2.5	<2.5	1,200	--
10/07/97	86.36	73.44	12.92	--	--	<500	<50	<0.5	<0.5	<0.5	<0.5	240	--
01/22/98	86.36	75.14	11.22	--	--	<500	<50	<0.5	<0.5	<0.5	<0.5	400	--
04/02/98	86.36	75.67	10.69	--	--	<500	56	<0.5	<0.5	<0.5	<0.5	290	--
07/02/98	86.36	75.94	10.42	--	--	<500	<50	<0.5	<0.5	<0.5	<0.5	380	--
10/02/98	86.36	74.14	12.22	--	--	1,700	<50	<0.5	<0.5	<0.5	<1.5	660	--
01/18/99	86.36	75.36	11.00	--	--	543	<100	<1.0	<1.0	<1.0	<1.0	281/296 <sup>2</sup>	--
07/22/99	86.36	74.06	12.30	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	155	--
01/17/00	86.36	75.84	10.52	--	256 <sup>1</sup>	1,040	<50	<0.5	<0.5	<0.5	<0.5	104	--
07/05/00	86.36	74.23	12.13	0.00	--	1,400 <sup>4</sup>	<50	<0.50	<0.50	<0.50	<0.50	110	--
01/15/01	86.36	75.23	11.13	0.00	--	2,700	<50.0	<0.500	<0.500	<0.500	<0.500	84.3	--
07/03/01	86.36	74.47	11.89	0.00	--	760 <sup>7</sup>	<50	<0.50	<0.50	<0.50	<0.50	27	--
02/28/02	86.36	75.26	11.10	0.00	--	<1,000	<50	<0.50	<0.50	<0.50	<1.5	66	--
07/08/02	86.36	74.05	12.31	0.00	--	1,400	<50	<0.50	<0.50	<0.50	<1.5	49	--
01/01/03	86.36	76.65	9.71	0.00	--	1,300	<50	<0.50	<0.50	<0.50	<1.5	35	--
07/14/03 <sup>8</sup>	86.36	74.01	12.35	0.00	--	130	<50	<0.5	<0.5	<0.5	<0.5	20	--
01/12/04 <sup>8</sup>	86.36	75.66	10.70	0.00	--	250	<50	<0.5	<0.5	<0.5	<0.5	27	--
07/27/04 <sup>8</sup>	86.36	74.08	12.28	0.00	--	730	<50	<0.5	<0.5	<0.5	<0.5	44	--
01/25/05 <sup>8</sup>	86.36	75.56	10.80	0.00	--	980	<50	<0.5	<0.5	<0.5	<0.5	34	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>MW-8</b>													
03/08/94	85.93	75.06	10.87	--	<10	<100	28,000	2,900	1,300	1,200	6,800	--	--
07/06/94	85.93	--	--	--	--	--	--	--	--	--	--	--	--
08/04/94	85.93	73.77	12.16	--	--	--	22,000	3,000	260	870	4,400	--	--
10/05/94	85.93	72.71	13.22	--	--	--	12,000	1,800	34	4.6	890	--	--
01/18/95	85.93	75.51	10.42	--	--	--	19,000	1,000	65	1,100	3,500	--	--
04/07/95	85.93	75.48	10.45	--	--	--	14,000	310	<25	720	1,700	--	--
07/06/95	85.93	74.30	11.63	--	--	--	19,000	280	<50	1,200	2,600	--	--
10/11/95	85.93	73.51	12.42	--	--	--	6,100	140	5.5	320	280	1,200	--
01/17/96	85.93	75.95	9.98	--	--	<500	12,000	86	<20	590	1,400	1,100	--
04/05/96	85.93	75.60	10.33	--	--	<500	7,500	180	23	410	480	560	--
07/23/96	85.93	74.56	11.37	--	--	<500	3,800	47	<5.0	350	84	1,800	--
10/02/96	85.93	73.90	12.03	--	--	<500	4,400	65	<5.0	140	28	1,500	--
01/23/97	85.93	77.73	8.20	--	--	<500	3,800	36	5.9	140	36	910	--
04/01/97	85.93	75.80	10.13	--	--	<500	6,100	43	<20	380	76	1,800	--
07/09/97	85.93	73.77	12.16	--	--	<500	7,300	48	<25	120	<25	2,400	--
10/07/97	85.93	73.77	12.16	--	--	<500	3,100	<10	<10	67	<10	1,400	--
01/22/98	85.93	75.83	10.10	--	--	<500	1,900	5.5	8.3	120	17	780	--
04/02/98	85.93	75.55	10.38	--	--	<500	2,900	43	19	110	<10	800	--
07/02/98	85.93	74.78	11.15	--	--	<500	5,000	31	<10	120	15	780	--
10/02/98	85.93	74.03	11.90	--	--	--	1,200 <sup>1</sup>	2,200	6.5	<0.5	21	2.6	140
01/18/99	85.93	75.12	10.81	--	--	554	<250	2,870	<5.0	<5.0	9.02	<5.0	476/478 <sup>2</sup>
07/22/99	85.93	74.38	11.55	--	--	--	--	2,190	<1.0	<1.0	3.51	1.61	228
01/17/00	85.93	75.06	10.87	--	--	955 <sup>1</sup>	<500	1,220	1.3	1.56	1.56	1.87	344
07/05/00	85.93	74.55	11.38	0.00	--	--	260 <sup>5</sup>	1,900 <sup>3</sup>	15	6.6	<5.0	<5.0	170
01/15/01	85.93	75.59	10.34	0.00	--	--	<250	2,820	<1.00	<1.00	5.13	3.90	110
07/03/01	85.93	74.77	11.16	0.00	--	--	<250	1,900 <sup>3</sup>	6.0	<5.0	<5.0	<5.0	46
02/28/02	85.93	75.26	10.67	0.00	--	--	<1,000	1,500	4.6	<2.0	0.80	2.2	56
07/08/02	85.93	74.30	11.63	0.00	--	--	<400	2,500	4.2	0.85	0.68	2.5	46
01/01/03	85.93	76.01	9.92	0.00	--	--	<400	1,300	2.1	0.66	1.1	2.1	45
07/14/03 <sup>8</sup>	85.93	74.27	11.66	0.00	--	--	160	1,900	<0.5	<0.5	<0.5	<0.5	58
01/12/04 <sup>8</sup>	85.93	75.92	10.01	0.00	--	--	<40	1,400	<0.5	<0.5	<0.5	<0.5	110
07/27/04 <sup>8</sup>	85.93	74.33	11.60	0.00	--	--	<40	1,100	<0.5	<0.5	<0.5	<0.5	89
01/25/05 <sup>8</sup>	85.93	75.96	9.97	0.00	--	--	130	900	<0.5	<0.5	<0.5	<0.5	52

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>TRIP BLANK</b>													
03/12/90	--	--	--	--	--	--	<50	<0.3	<0.3	<0.3	<0.6	--	--
02/08/91	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/08/91	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/12/91	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/07/91	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/05/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/13/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/05/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/11/92	--	--	--	--	--	--	--	--	--	--	--	--	--
11/17/92	--	--	--	--	--	--	--	--	--	--	--	--	--
11/29/92	--	--	--	--	--	--	--	--	--	--	--	--	--
12/01/92	--	--	--	--	--	--	--	--	--	--	--	--	--
12/29/92	--	--	--	--	--	--	--	--	--	--	--	--	--
01/05/93	--	--	--	--	--	--	--	--	--	--	--	--	--
01/08/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/02/93	--	--	--	--	--	--	--	--	--	--	--	--	--
04/14/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/06/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/21/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/05/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/08/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/04/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/05/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/18/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/07/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/06/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/11/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/17/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/05/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/23/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/02/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (mst)	DTW (ft.)	SPHT (ft.)	TPH-D (ppb)	TPH-MO (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TOG (ppb)
<b>TRIP BLANK (cont)</b>													
01/23/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/01/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/09/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/07/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
01/22/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
04/02/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
07/02/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
10/02/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/18/99	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
07/05/00	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
01/15/01	--	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.500	--
07/03/01	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
<b>QA</b>													
02/28/02	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
07/08/02	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
01/01/03	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
07/14/03 <sup>8</sup>	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/12/04 <sup>8</sup>	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
07/27/04 <sup>8</sup>	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
01/25/05 <sup>8</sup>	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to July 5, 2000, were compiled from reports prepared by Blaine Tech Services, Inc.

TOC = Top of Casing

(ft.) = Feet

GWE = Groundwater Elevation

(msl) = Mean sea level

DTW = Depth to Water

SPHT = Separate Phase Hydrocarbon Thickness

TPH-D = Total Petroleum Hydrocarbons as Diesel

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil

TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

TOG = Total Oil & Grease

(ppb) = Parts per billion

-- = Not Measured/Not Analyzed

QA = Quality Assurance/Trip Blank

<sup>1</sup> Laboratory report indicates an unidentified hydrocarbon.

<sup>2</sup> Confirmation run.

<sup>3</sup> Laboratory report indicates gasoline C6-C12.

<sup>4</sup> Laboratory report indicates motor oil C16-C36.

<sup>5</sup> Laboratory report indicates unidentified hydrocarbons C9-C24.

<sup>6</sup> Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.  
The pattern more closely resembles that of a heavier fuel.

<sup>7</sup> Laboratory report indicates unidentified hydrocarbons >C16.

<sup>8</sup> BTEX and MTBE by EPA Method 8260.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)
MW-1	07/14/03	<50	--	5	--	--	--
	01/12/04	<50	--	61	--	--	--
	07/27/04	<50	--	54	--	--	--
	01/25/05	<50	--	5	--	--	--
MW-2	07/14/03	<50	--	<0.5	--	--	--
	01/12/04	<50	--	<0.5	--	--	--
	07/27/04	<50	--	<0.5	--	--	--
	01/25/05	<50	--	<0.5	--	--	--
MW-3	07/14/03	<50	--	43	--	--	--
	01/12/04	<50	--	2	--	--	--
	07/27/04	<50	--	41	--	--	--
	01/25/05	<50	--	27	--	--	--
MW-4	07/14/03	SAMPLED ANNUALLY	--	--	--	--	--
	01/12/04	<50	--	<0.5	--	--	--
	01/25/05	<50	--	<0.5	--	--	--
MW-5	07/14/03	SAMPLED ANNUALLY	--	--	--	--	--
	01/12/04	<50	--	<0.5	--	--	--
	01/25/05	<50	--	<0.5	--	--	--
MW-6	07/14/03	SAMPLED ANNUALLY	--	--	--	--	--
	01/12/04	<50	--	25	--	--	--
	01/25/05	<50	--	3	--	--	--

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)
MW-7	07/14/03	<50	--	20	--	--	--
	01/12/04	<50	--	27	--	--	--
	07/27/04	<50	--	44	--	--	--
	01/25/05	<50	--	34	--	--	--
MW-8	07/14/03	<50	--	58	--	--	--
	01/12/04	<50	--	110	--	--	--
	07/27/04	<50	--	89	--	--	--
	01/25/05	<50	--	52	--	--	--



**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
Former Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, California

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**EXPLANATIONS:**

TBA = Tertiary butyl alcohol  
MTBE = Methyl tertiary butyl ether  
DIPE = Di-isopropyl ether  
ETBE = Ethyl tertiary butyl ether  
TAME = Tertiary amyl methyl ether  
(ppm) = Parts per million  
(ppb) = Parts per billion  
-- = Not Analyzed

**ANALYTICAL METHODS:**

EPA Method 8260 for Oxygenate Compounds

## STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by ChevronTexaco Company, the purge water and decontamination water generated during sampling activities is transported by IWM to McKittrick Waste Management located in McKittrick, California.



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: Joe

Well ID: MW-1 Date Monitored: 1-25-05 Well Condition: o.k.  
 Well Diameter: 2 1/8 in.  
 Total Depth: 19.38 ft.  
 Depth to Water: 8.18 ft.  
 Volume Factor (VF) table:  

3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

 Calculation:  $11.20 \times VF\ 0.38 = 4.26 \times 3\ case\ volume = Estimated\ Purge\ Volume: 13\ gal.$

Purge Equipment:  
 Disposable Bailor \_\_\_\_\_  
 Stainless Steel Bailor \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump  \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment:  
 Disposable Bailor  \_\_\_\_\_  
 Pressure Bailor \_\_\_\_\_  
 Discrete Bailor \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0855 Weather Conditions: Overcast  
 Sample Time/Date: 0932 1-25-05 Water Color: clear Odor: none  
 Purging Flow Rate: 1.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (u mhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0900</u>	<u>4</u>	<u>6.76</u>	<u>1420</u>	<u>7.20</u>		
<u>0915</u>	<u>8</u>	<u>6.72</u>	<u>1430</u>	<u>7.29</u>		
<u>0917</u>	<u>13</u>	<u>7.75</u>	<u>1437</u>	<u>7.31</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>6 x vial</u>	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>x 1 Liter Amber</u>	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MQ</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: See

Well ID: MW-2 Date Monitored: 1.25.05 Well Condition: O.K.  
 Well Diameter: 2 1/8 in.  
 Total Depth: 18.23 ft.  
 Depth to Water: 9.12 ft.  
9.11 xVF 0.38 = 3.46 x3 case volume = Estimated Purge Volume: 10.5 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump  \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment:  
 Disposable Bailer  \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0715 Weather Conditions: Over cast  
 Sample Time/Date: 0742/1-25-05 Water Color: clear Odor: none  
 Purging Flow Rate: 1.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0725</u>	<u>3.5</u>	<u>7.67</u>	<u>1487</u>	<u>72.1</u>		
<u>0729</u>	<u>7</u>	<u>7.52</u>	<u>1466</u>	<u>72.0</u>		
<u>0732</u>	<u>10.5</u>	<u>7.47</u>	<u>1469</u>	<u>71.7</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>6 x vovial</u>	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>x 1 Lliter Amber</u>	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MO</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: Joc

Well ID: MW-3 Date Monitored: 1-25-05 Well Condition: OK  
 Well Diameter: 2 1/3 in.  
 Total Depth: 19.05 ft.  
 Depth to Water: 10.42 ft.  
 $8.63 \times VF \times 0.38 = 3.28 \times 3 \text{ case volume} = \text{Estimated Purge Volume: } 10 \text{ gal.}$

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

**Purge Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump   
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

**Sampling Equipment:**  
 Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0750 Weather Conditions: Overcast  
 Sample Time/Date: 0818 1-25-05 Water Color: clear Odor: none  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0758</u>	<u>3.5</u>	<u>7.61</u>	<u>1352</u>	<u>70.3</u>	_____	_____
<u>0801</u>	<u>5</u>	<u>7.36</u>	<u>1355</u>	<u>69.9</u>	_____	_____
<u>0804</u>	<u>10</u>	<u>7.37</u>	<u>1358</u>	<u>60.7</u>	_____	_____
_____	_____	_____	_____	_____	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>6</u> x vovial	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>x 1 Liter Amber</u>	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MQ</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583  
 Site Address: 5509 Martin Luther King Way  
 City: Oakland, CA

Job Number: 386506  
 Event Date: 1-25-05 (inclusive)  
 Sampler: 500

Well ID: MW-4 Date Monitored: 1-25-05 Well Condition: OK  
 Well Diameter: 213 in.  
 Total Depth: 24.25 ft.  
 Depth to Water: 10.96 ft.  
13.29 xVF 0.17 = 226 x3 case volume = Estimated Purge Volume: 7 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

### Purge Equipment:

Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump  \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

### Sampling Equipment:

Disposable Bailer  \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0820 Weather Conditions: Overcast  
 Sample Time/Date: 0850 1-25-05 Water Color: clear Odor: none  
 Purging Flow Rate: 1 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0834</u>	<u>2.5</u>	<u>6.88</u>	<u>1716</u>	<u>69.6</u>	_____	_____
<u>0837</u>	<u>5</u>	<u>6.72</u>	<u>1802</u>	<u>71.2</u>	_____	_____
<u>0840</u>	<u>7</u>	<u>6.81</u>	<u>1797</u>	<u>70.4</u>	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>6</u> x vov vial	YES	HCL	LANCASTER	TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)
	<u>x 1</u> Liter Amber	YES	NP	LANCASTER	TPH-MQ

### COMMENTS:

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: S. S.

Well ID: MW-5 Date Monitored: 1-25-05 Well Condition: OK  
 Well Diameter: 213 in.  
 Total Depth: 18.95 ft.  
 Depth to Water: 8.01 ft.  
 $10.94 \times VF \ 0.17 = 1.86 \times 3 \text{ case volume} = \text{Estimated Purge Volume: } 5.5 \text{ gal.}$

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

**Purge Equipment:**  
 Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

**Sampling Equipment:**  
 Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: 8 ft  
 Hydrocarbon Thickness: \_\_\_\_\_ ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0638 Weather Conditions: Overcast  
 Sample Time/Date: 0705 1-25-05 Water Color: clear Odor: none  
 Purging Flow Rate: 0.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0642</u>	<u>1.5</u>	<u>7.18</u>	<u>1892</u>	<u>63.6</u>	_____	_____
<u>0646</u>	<u>3.5</u>	<u>7.15</u>	<u>1867</u>	<u>65.7</u>	_____	_____
<u>0659</u>	<u>5.5</u>	<u>7.21</u>	<u>1842</u>	<u>65.9</u>	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>6 x voa vial</u>	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>x 1 Liter Amber</u>	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MO</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: Joc

Well ID: MW-06 Date Monitored: 1-25-05 Well Condition: OK  
 Well Diameter: 2 1/3 in.  
 Total Depth: 19.75 ft.  
 Depth to Water: 7.43 ft.  
12.32 xVF 0.17 = 2.09 x3 case volume = Estimated Purge Volume: 6 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:  
 Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment:  
 Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 0940 Weather Conditions: Overcast  
 Sample Time/Date: 0952 11-25-05 Water Color: Clear Odor: none  
 Purging Flow Rate: 0.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0946</u>	<u>2</u>	<u>6.87</u>	<u>1413</u>	<u>64.0</u>		
<u>0949</u>	<u>4</u>	<u>6.97</u>	<u>1392</u>	<u>64.7</u>		
<u>0953</u>	<u>6</u>	<u>7.02</u>	<u>1397</u>	<u>65.1</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-06</u>	<u>6 x vva vial</u>	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>x 1 Liter Amber</u>	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MO</u>

### COMMENTS:

Add/Replaced Lock: \_\_\_\_\_

Add/Replaced Plug: \_\_\_\_\_ Size: \_\_\_\_\_





# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: Joe

Well ID: MW-7 Date Monitored: 1-25-05 Well Condition: O.K.  
 Well Diameter: 213 in.  
 Total Depth: 19.10 ft.  
 Depth to Water: 10.80 ft.  
8.30 x VF 0.17 = 1.41 x3 case volume = Estimated Purge Volume: 4.5 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:  
 Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment:  
 Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1005 Weather Conditions: Overcast  
 Sample Time/Date: 1036 1-25-05 Water Color: clear Odor: yes  
 Purging Flow Rate: 0.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1016</u>	<u>1.5</u>	<u>6.57</u>	<u>1042</u>	<u>64.7</u>		
<u>1020</u>	<u>3</u>	<u>6.55</u>	<u>1108</u>	<u>65.1</u>		
<u>1024</u>	<u>4.5</u>	<u>6.51</u>	<u>1117</u>	<u>65.4</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>6</u> x vovial	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>2</u> x 1 Liter Amber	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MO</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock:

Add/Replaced Plug:  Size: 2



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: ChevronTexaco #9-1583 Job Number: 386506  
 Site Address: 5509 Martin Luther King Way Event Date: 1-25-05 (inclusive)  
 City: Oakland, CA Sampler: Joe

Well ID: MW-8 Date Monitored: 1-25-05 Well Condition: OK  
 Well Diameter: 213 in.  
 Total Depth: 18.74 ft.  
 Depth to Water: 9.97 ft.  
 $8.77 \times VF \ 0.17 = 1.49 \times 3 \text{ case volume} = \text{Estimated Purge Volume: } 4.5 \text{ gal.}$

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Purge Equipment:  
 Disposable Bailer   
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Other: \_\_\_\_\_

Sampling Equipment:  
 Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Discrete Bailer \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: 0 ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1042 Weather Conditions: Overcast  
 Sample Time/Date: 112/1-25-05 Water Color: clear Odor: yes  
 Purging Flow Rate: 0.5 gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1050</u>	<u>1.5</u>	<u>6.76</u>	<u>1558</u>	<u>65.2</u>	_____	_____
<u>1053</u>	<u>3</u>	<u>6.70</u>	<u>1546</u>	<u>65.5</u>	_____	_____
<u>1058</u>	<u>4.5</u>	<u>6.69</u>	<u>1542</u>	<u>65.8</u>	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-8</u>	<u>6</u> x vovial	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>TPH-G(8015)/BTEX+MTBE(8260)/ETHANOL(8260)</u>
	<u>2</u> x 1 Liter Amber	<u>YES</u>	<u>NP</u>	<u>LANCASTER</u>	<u>TPH-MO</u>

COMMENTS: \_\_\_\_\_

Add/Replaced Lock:    Add/Replaced Plug:    Size: 2



## ANALYTICAL RESULTS

Prepared for:

ChevronTexaco c/o Cambria  
Suite 9  
4111 Citrus Avenue  
Rocklin CA 95677  
916-630-1855

Prepared by:

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

### SAMPLE GROUP

The sample group for this submittal is 929490. Samples arrived at the laboratory on Wednesday, January 26, 2005. The PO# for this group is 99011184 and the release number is MT1.

<u>Client Description</u>			<u>Lancaster Labs Number</u>
QA-T-050125	NA	Water	4453422
MW-1-W-050125	Grab	Water	4453423
MW-2-W-050125	Grab	Water	4453424
MW-3-W-050125	Grab	Water	4453425
MW-4-W-050125	Grab	Water	4453426
MW-5-W-050125	Grab	Water	4453427
MW-6-W-050125	Grab	Water	4453428
MW-7-W-050125	Grab	Water	4453429
MW-8-W-050125	Grab	Water	4453430

1 COPY TO  
ELECTRONIC  
COPY TO

Cambria C/O Gettler- Ryan  
Gettler-Ryan

Attn: Deanna L. Harding  
Attn: Cheryl Hansen



## **Analysis Report**

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • [www.lancasterlabs.com](http://www.lancasterlabs.com)

Questions? Contact your Client Services Representative  
Megan A Moeller at (717) 656-2300.

Respectfully Submitted,

A handwritten signature in cursive script that reads "Dana M. Kauffman".

Dana M. Kauffman  
Group Leader

Lancaster Laboratories Sample No. WW 4453422

QA-T-050125 NA Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 QA  
 Collected: 01/25/2005

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 15:59  
 Discard: 03/10/2005

ChevronTexaco c/o Cambria  
 Suite 9  
 4111 Citrus Avenue  
 Rocklin CA 95677

MLKQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.						
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01728	TPH-GRO - Waters	N. CA LUFT Gasoline	1	01/30/2005 11:50	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	01/31/2005 22:42	Dawn M Harle	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 11:50	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 22:42	Dawn M Harle	n.a.

Lancaster Laboratories Sample No. WW 4453423

MW-1-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-1  
 Collected: 01/25/2005 09:32 by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

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 Suite 9  
 4111 Citrus Avenue  
 Rocklin CA 95677

MLK01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.						
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	5.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 12:47	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 14:35	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 12:47	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 14:35	Ginelle L Haines	n.a.

Lancaster Laboratories Sample No. WW 4453424

 MW-2-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-2  
 Collected: 01/25/2005 07:42 by JA

Account Number: 10904

 Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

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 4111 Citrus Avenue  
 Rocklin CA 95677

MLK02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.						
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 21:13	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 15:00	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 21:13	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 15:00	Ginelle L Haines	n.a.





# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 4453425

MW-3-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-3  
 Collected: 01/25/2005 08:18 by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

ChevronTexaco c/o Cambria  
 Suite 9  
 4111 Citrus Avenue  
 Rocklin CA 95677

MLK03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	27.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 21:47	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 15:26	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 21:47	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 15:26	Ginelle L Haines	n.a.



# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 4453426

MW-4-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-4  
 Collected: 01/25/2005 08:50 by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

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 Rocklin CA 95677

MLK04

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Result	Method		
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 22:16	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 15:51	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 22:16	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 15:51	Ginelle L Haines	n.a.

Lancaster Laboratories Sample No. **WW 4453427**

MW-5-W-050125                      Grab                      Water  
 Facility# 91583    Job# 386506    MTI# 61H-1960    GRD  
 5509 Martin Luther-Oaklan T0600100348    MW-5  
 Collected: 01/25/2005 07:05                      by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

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MLK05

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Result	Method		
01728	TPH-GRO - Waters	n.a.	N.D.	Detection Limit 50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 22:45	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 16:16	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 22:45	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 16:16	Ginelle L Haines	n.a.

Lancaster Laboratories Sample No. WW 4453428

MW-6-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-6  
 Collected: 01/25/2005 09:58 by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

ChevronTexaco c/o Cambria  
 Suite 9  
 4111 Citrus Avenue  
 Rocklin CA 95677

MLK06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.	n.a.	N.D.	50.	ug/l	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	3.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/30/2005 23:14	K. Robert Caulfeild-James	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 16:41	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/30/2005 23:14	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 16:41	Ginelle L Haines	n.a.

Lancaster Laboratories Sample No. WW 4453429

MW-7-W-050125                      Grab                      Water  
 Facility# 91583    Job# 386506    MTI# 61H-1960    GRD  
 5509 Martin Luther-Oaklan T0600100348    MW-7  
 Collected: 01/25/2005 10:36                      by JA

Account Number: 10904

Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

ChevronTexaco c/o Cambria  
 Suite 9  
 4111 Citrus Avenue  
 Rocklin CA 95677

MLK07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
02500	TPH Fuels by GC (Waters)					
02501	Total TPH	n.a.	980.	40.	ug/l	1
02508	TPH Motor Oil C16-C36	n.a.	980.	40.	ug/l	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	34.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	N. CA LUFT Gasoline	1	01/30/2005 23:43	K. Robert Caulfeild-James	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B, modified	1	02/01/2005 19:55	Matthew E Barton	1
01594	BTEX+5	SW-846 8260B	1	01/31/2005 17:06	Ginelle L Haines	1
01146	Oxygenates+EDC+EDB+ETOH GC VOA Water Prep	SW-846 5030B	1	01/30/2005 23:43	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 17:06	Ginelle L Haines	n.a.
07003	Extraction - DRO (Waters)	SW-846 3510C	1	01/28/2005 15:20	Claudia M Tabora	1

Lancaster Laboratories Sample No. WW 4453430

 MW-8-W-050125 Grab Water  
 Facility# 91583 Job# 386506 MTI# 61H-1960 GRD  
 5509 Martin Luther-Oaklan T0600100348 MW-8  
 Collected: 01/25/2005 11:12 by JA

Account Number: 10904

 Submitted: 01/26/2005 09:00  
 Reported: 02/07/2005 at 16:00  
 Discard: 03/10/2005

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MLK08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	900.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
02500	TPH Fuels by GC (Waters)					
02501	Total TPH	n.a.	130.	40.	ug/l	1
02508	TPH Motor Oil C16-C36	n.a.	130.	40.	ug/l	1
	TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH					
01587	Ethanol	64-17-5	N.D.	50.	ug/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	52.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01728	TPH-GRO - Waters	N. CA LUFT Gasoline Method	1	01/31/2005 00:12	K. Robert Caulfeild-James	1
02500	TPH Fuels by GC (Waters)	SW-846 8015B, modified	1	02/01/2005 19:28	Matthew E Barton	1
01594	BTEX+5 Oxygenates+EDC+EDB+ETOH	SW-846 8260B	1	01/31/2005 17:31	Ginelle L Haines	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/31/2005 00:12	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/31/2005 17:31	Ginelle L Haines	n.a.
07003	Extraction - DRO (Waters)	SW-846 3510C	1	01/28/2005 15:20	Claudia M Tabora	1

## Quality Control Summary

 Client Name: ChevronTexaco c/o Cambria  
 Reported: 02/07/05 at 04:00 PM

Group Number: 929490

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD_Max</u>
Batch number: 050280005A Total TPH TPH Motor Oil C16-C36	N.D.	80.	ug/l	84	81	62-122	4	20
Batch number: 05030A08A TPH-GRO - Waters	N.D.	50.	ug/l	106	107	70-130	1	30
Batch number: 05030A08B TPH-GRO - Waters	N.D.	50.	ug/l	106	107	70-130	1	30
Batch number: Z050311AA Ethanol Methyl Tertiary Butyl Ether Benzene Toluene Ethylbenzene Xylene (Total)	N.D.	50.	ug/l	106		46-145 77-127		
Batch number: Z050314AA Methyl Tertiary Butyl Ether Benzene Toluene Ethylbenzene Xylene (Total)	N.D.	0.5	ug/l	96		77-127 85-117 85-115 82-119 83-113		

### Sample Matrix Quality Control

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 05030A08A TPH-GRO - Waters	127	63	63-154						
Batch number: 05030A08B TPH-GRO - Waters	127	63	63-154						
Batch number: Z050311AA Ethanol Methyl Tertiary Butyl Ether Benzene Toluene Ethylbenzene	96	88	33-153	8	30				
	105	105	69-134	0	30				
	110	110	83-128	1	30				
	113	112	83-127	1	30				
	114	114	82-129	0	30				

\*- Outside of specification

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

## Quality Control Summary

 Client Name: ChevronTexaco c/o Cambria  
 Reported: 02/07/05 at 04:00 PM

Group Number: 929490

### Sample Matrix Quality Control

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup RPD</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>MAX</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>	<u>Max</u>
Xylene (Total)	113	113	82-130	0	30				
Batch number: Z050314AA	Sample number(s): 4453422								
Methyl Tertiary Butyl Ether	99	99	69-134	0	30				
Benzene	101	101	83-128	0	30				
Toluene	105	107	83-127	2	30				
Ethylbenzene	108	109	82-129	1	30				
Xylene (Total)	106	107	82-130	1	30				

### Surrogate Quality Control

Analysis Name: TPH Fuels by GC (Waters)

Batch number: 050280005A

	Chlorobenzene	Orthoterphenyl
4453429	62	78
4453430	71	89
Blank	75	87
LCS	70	105
LCSD	69	103

Limits: 33-146 53-155

Analysis Name: TPH-GRO - Waters

Batch number: 05030A08A

	Trifluorotoluene-F
4453422	101
4453423	100
Blank	98
LCS	102
LCSD	102
MS	101

Limits: 57-146

Analysis Name: TPH-GRO - Waters

Batch number: 05030A08B

	Trifluorotoluene-F
4453424	99
4453425	100
4453426	101
4453427	101
4453428	98
4453429	101
4453430	111
Blank	100
LCS	102
LCSD	102
MS	101

\*- Outside of specification

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



## Quality Control Summary

Client Name: ChevronTexaco c/o Cambria  
Reported: 02/07/05 at 04:00 PM

Group Number: 929490

### Surrogate Quality Control

Limits: 57-146

Analysis Name: BTEX+5 Oxygenates+EDC+EDB+ETOH

Batch number: Z050311AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4453423	92	93	95	91
4453424	93	94	95	90
4453425	93	95	95	91
4453426	93	95	95	91
4453427	93	94	96	91
4453428	93	95	96	91
4453429	92	95	95	91
4453430	93	96	96	101
Blank	92	94	96	92
LCS	91	96	96	95
MS	92	94	96	93
MSD	93	94	96	93

Limits: 81-120                      82-112                      85-112                      83-113

Analysis Name: BTEX+MTBE by 8260B

Batch number: Z050314AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4453422	99	99	102	92
Blank	98	99	100	94
LCS	97	101	101	97
MS	98	101	100	97
MSD	99	102	101	99

Limits: 81-120                      82-112                      85-112                      83-113

\*- Outside of specification

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

# Explanation of Symbols and Abbreviations

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

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>ug</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>ml</b>	milliliter(s)	<b>l</b>	liter(s)
<b>m3</b>	cubic meter(s)	<b>ul</b>	microliter(s)
<b>&lt;</b>	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>J</b>	estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

## U.S. EPA CLP Data Qualifiers:

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

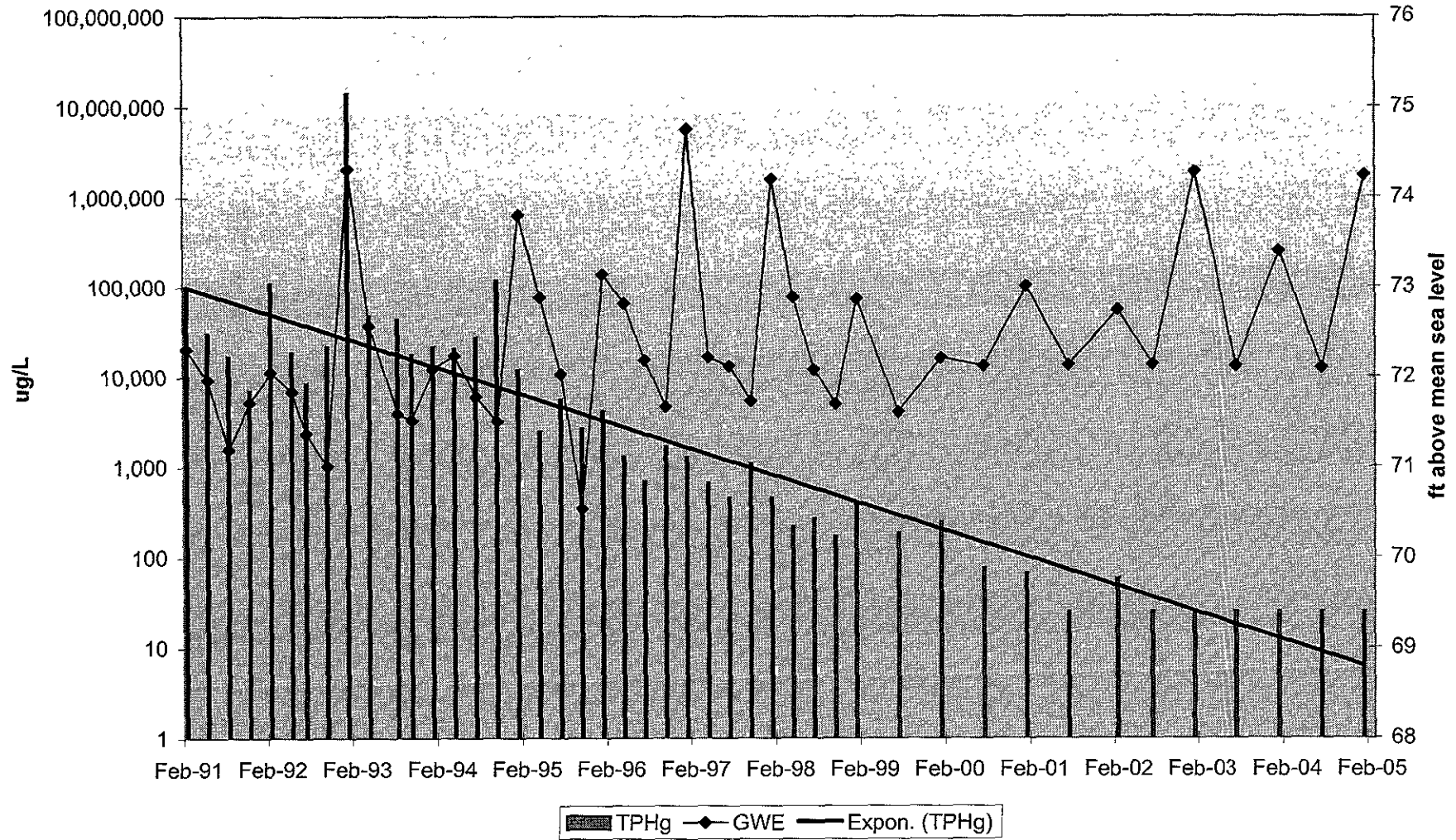
Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

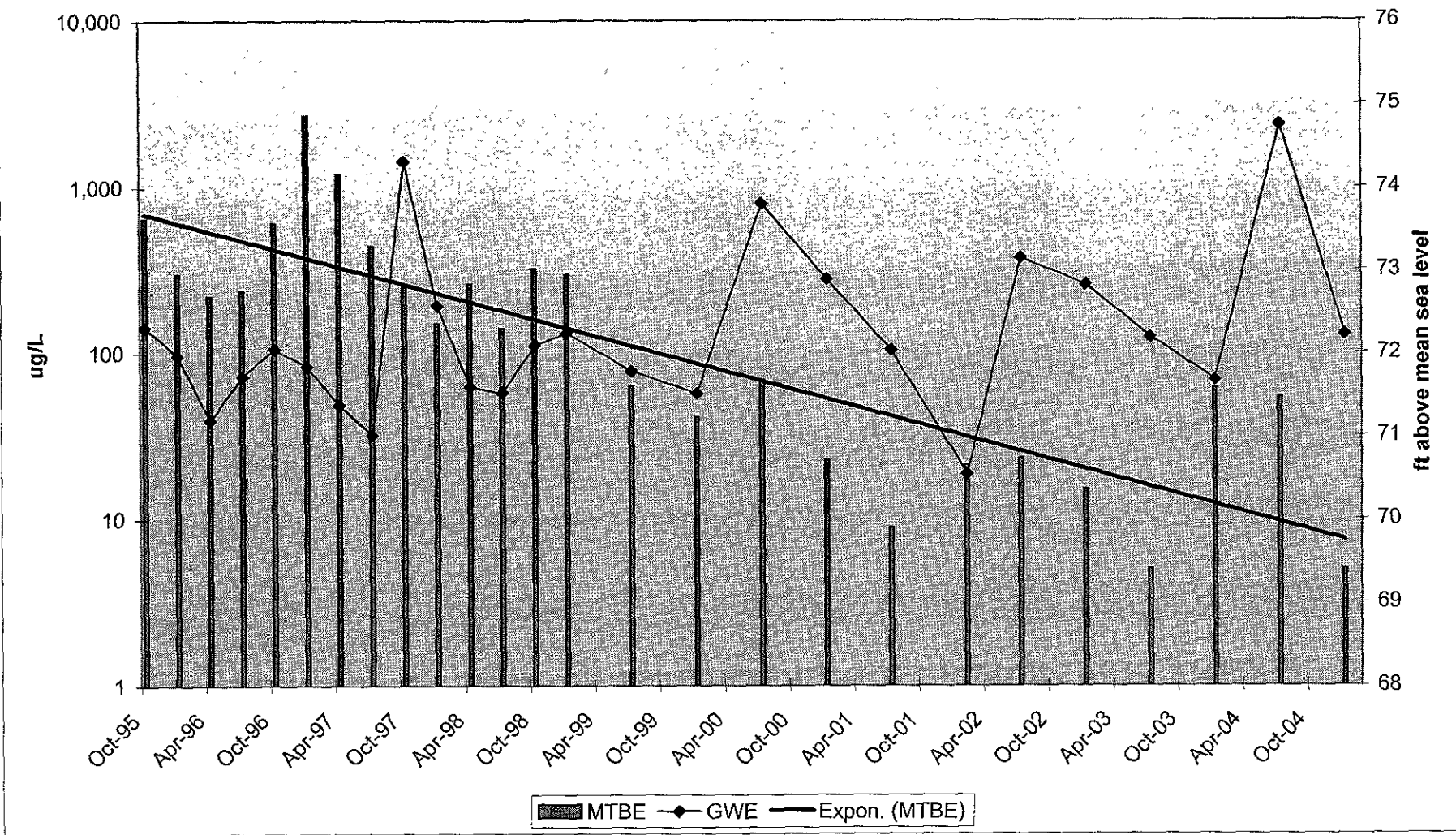
Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have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

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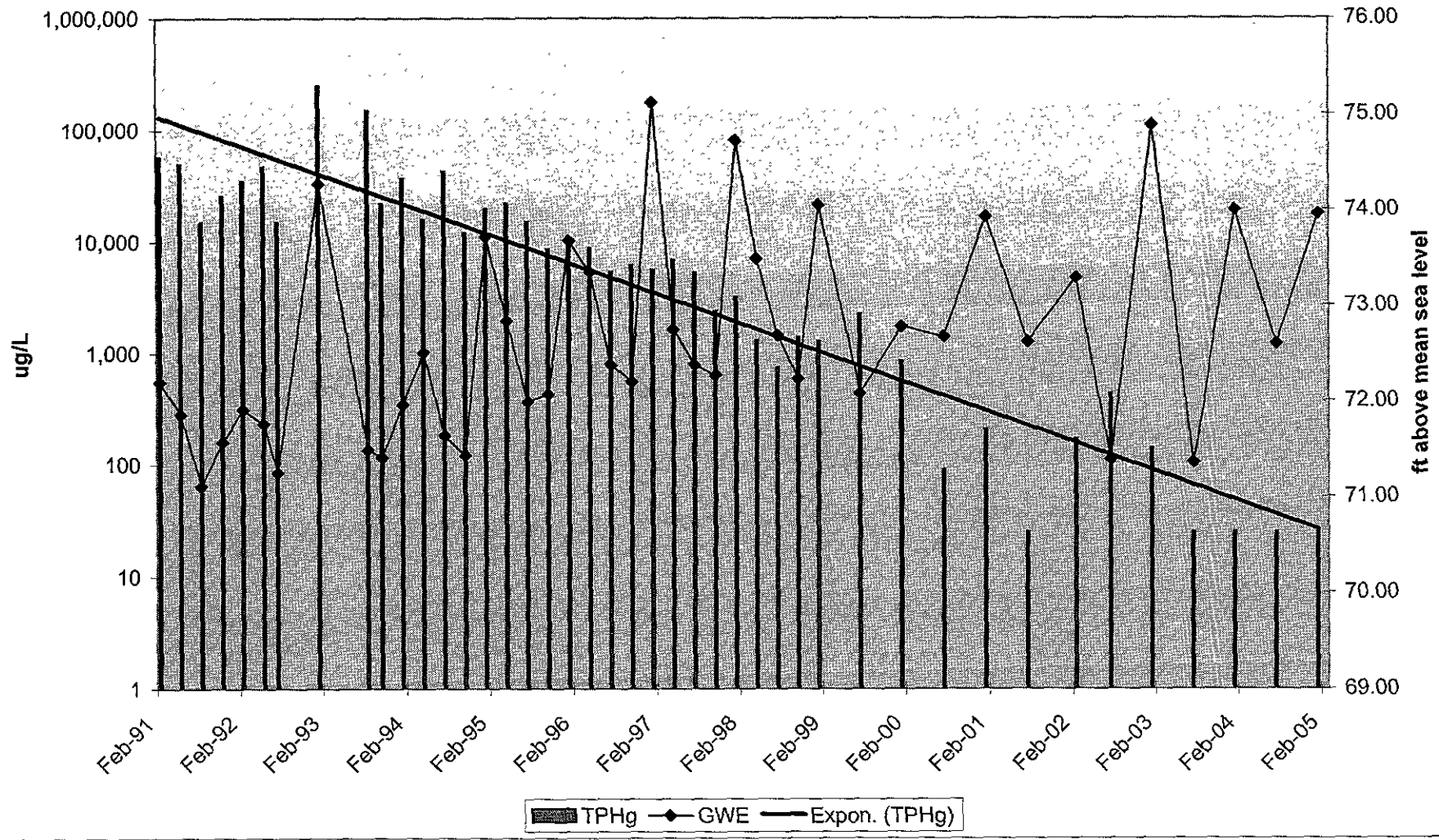
9-1583  
 TPHg Concentrations in Groundwater  
 (MW-1)



**9-1583**  
**MTBE Concentrations in Groundwater**  
**(MW-1)**

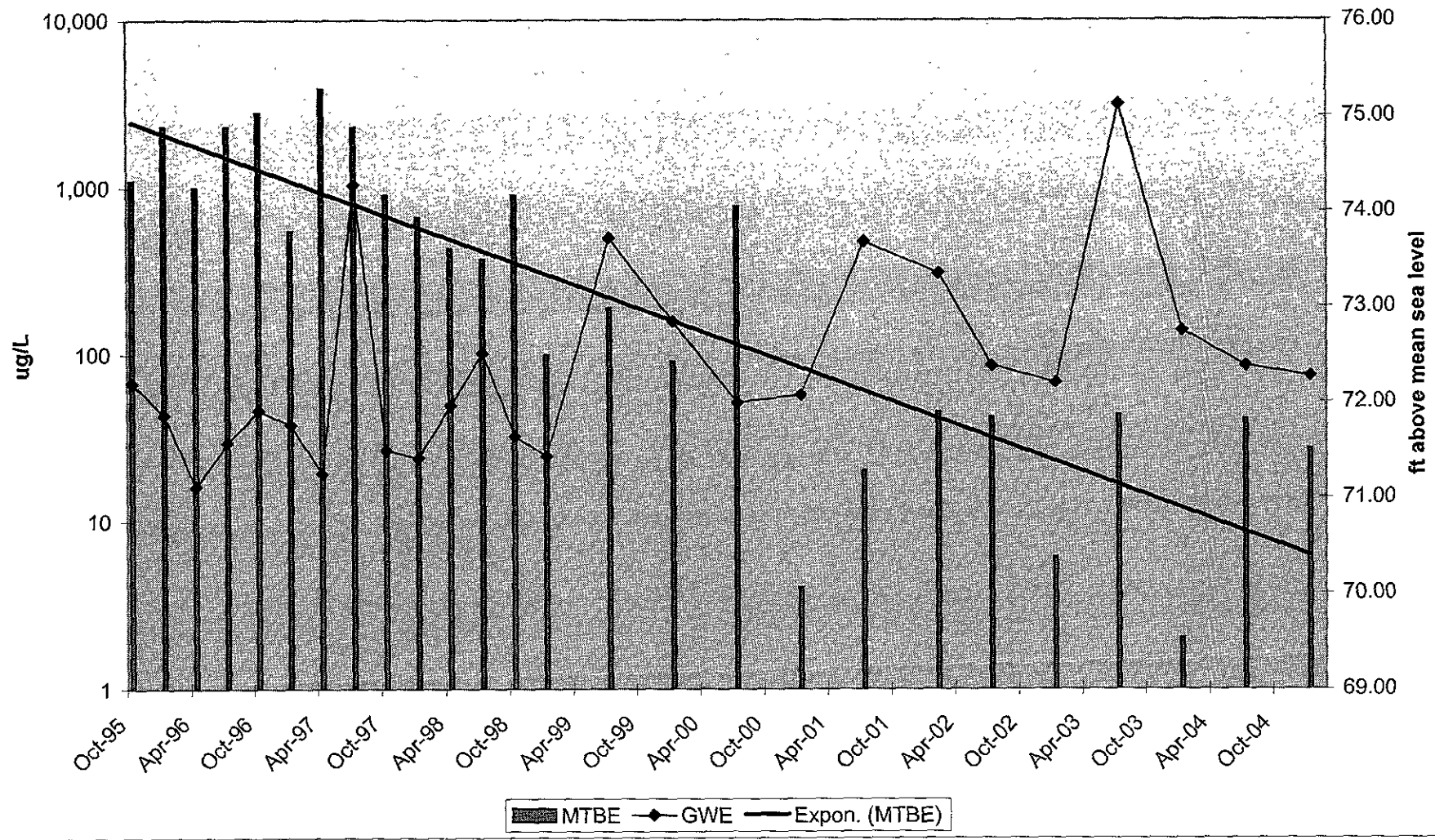


**9-1583**  
**TPHg Concentrations in Groundwater**  
**(MW-3)**

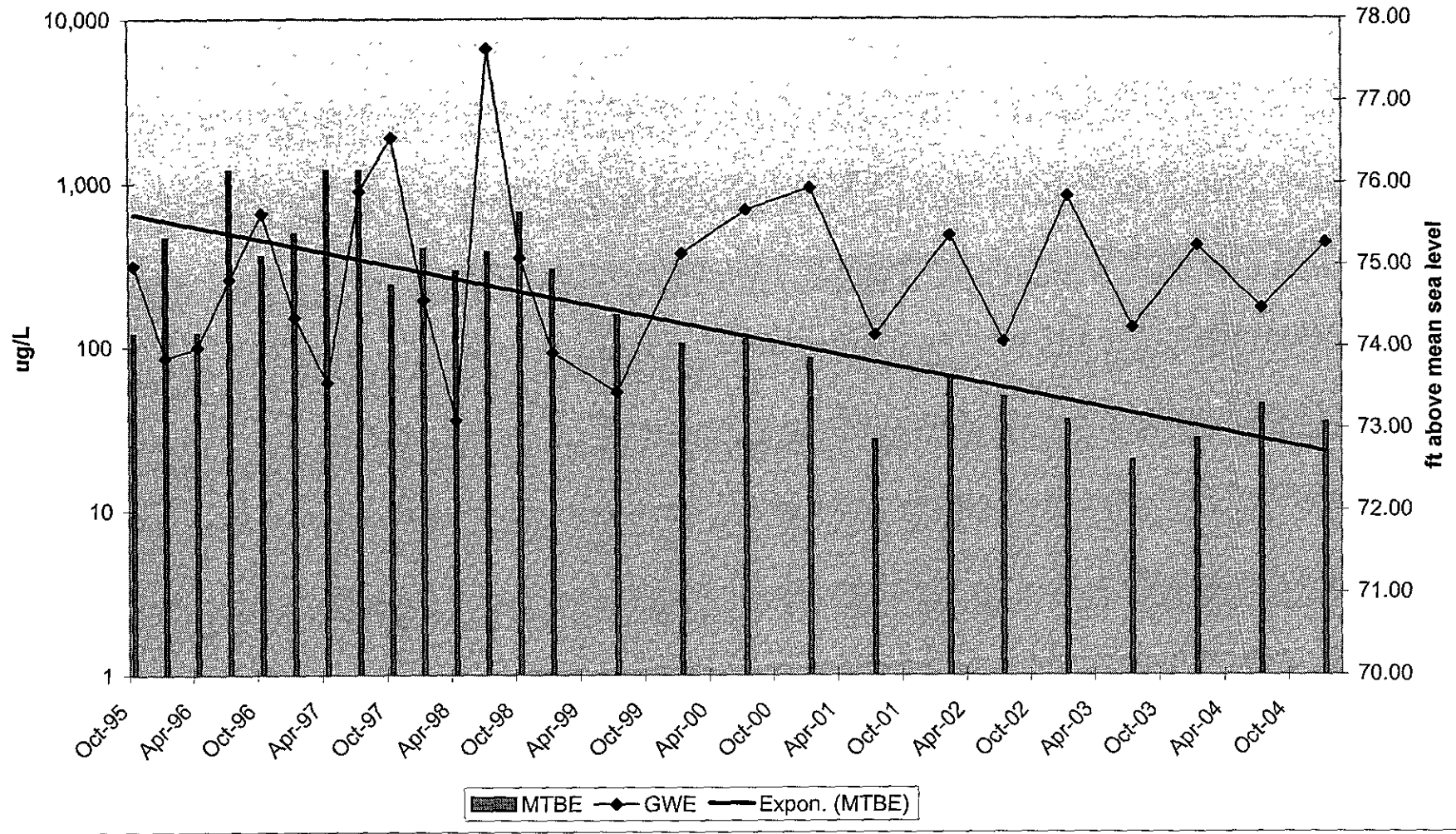




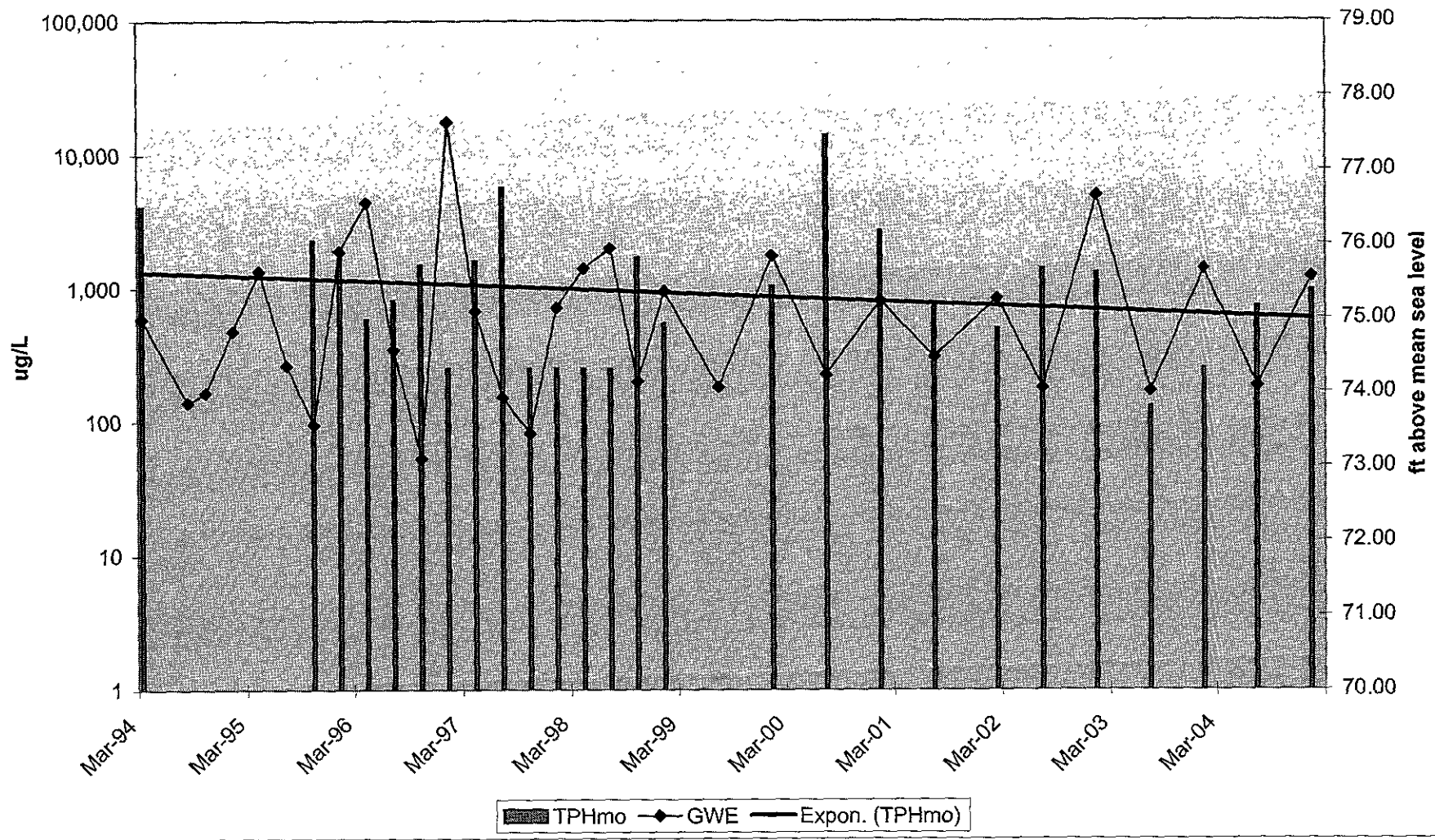
**9-1583**  
**MTBE Concentrations in Groundwater**  
**(MW-3)**



**9-1583**  
**MTBE Concentrations in Groundwater**  
**(MW-7)**



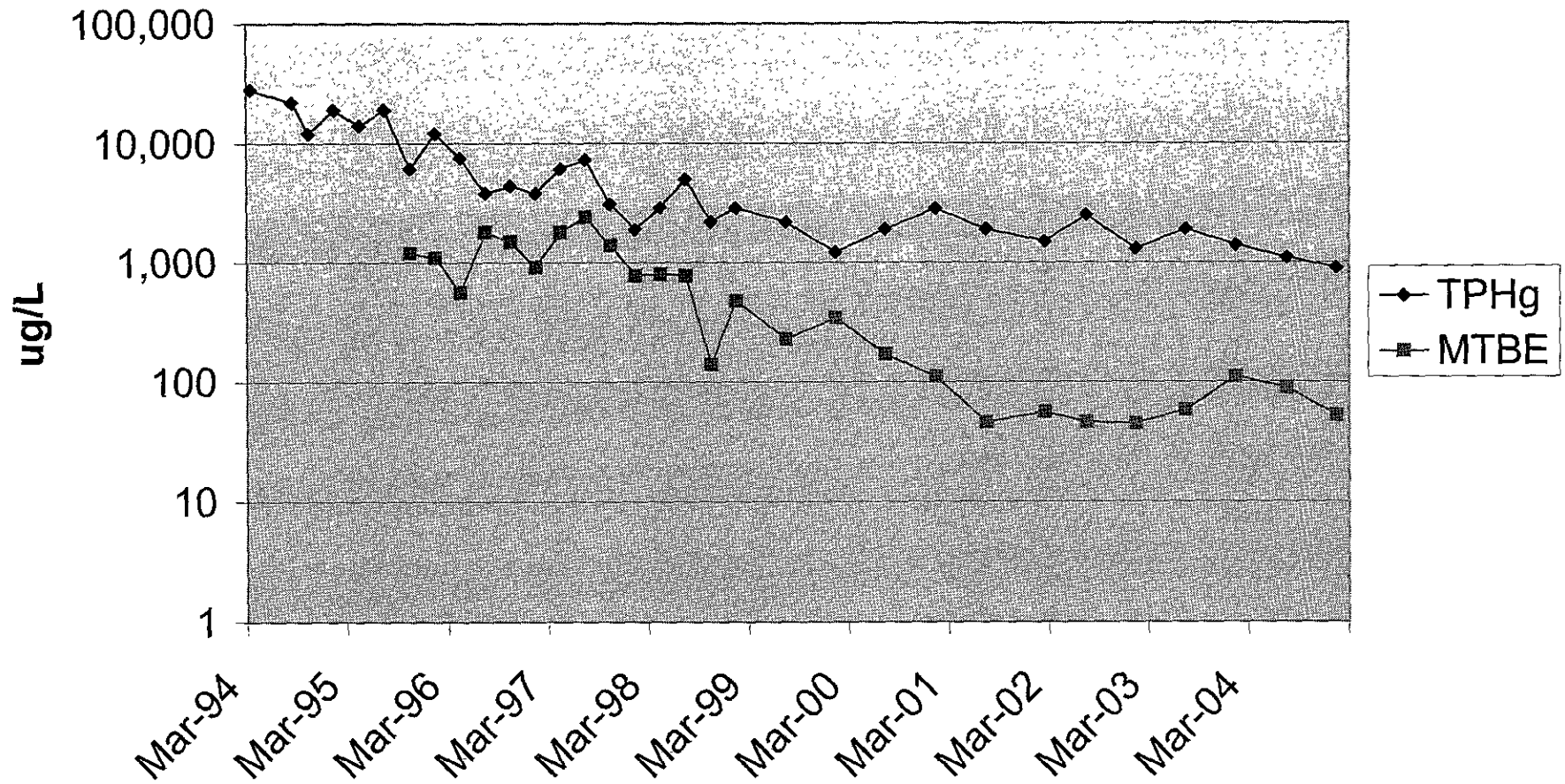
9-1583  
 TOG Concentrations in Groundwater  
 (MW-7)





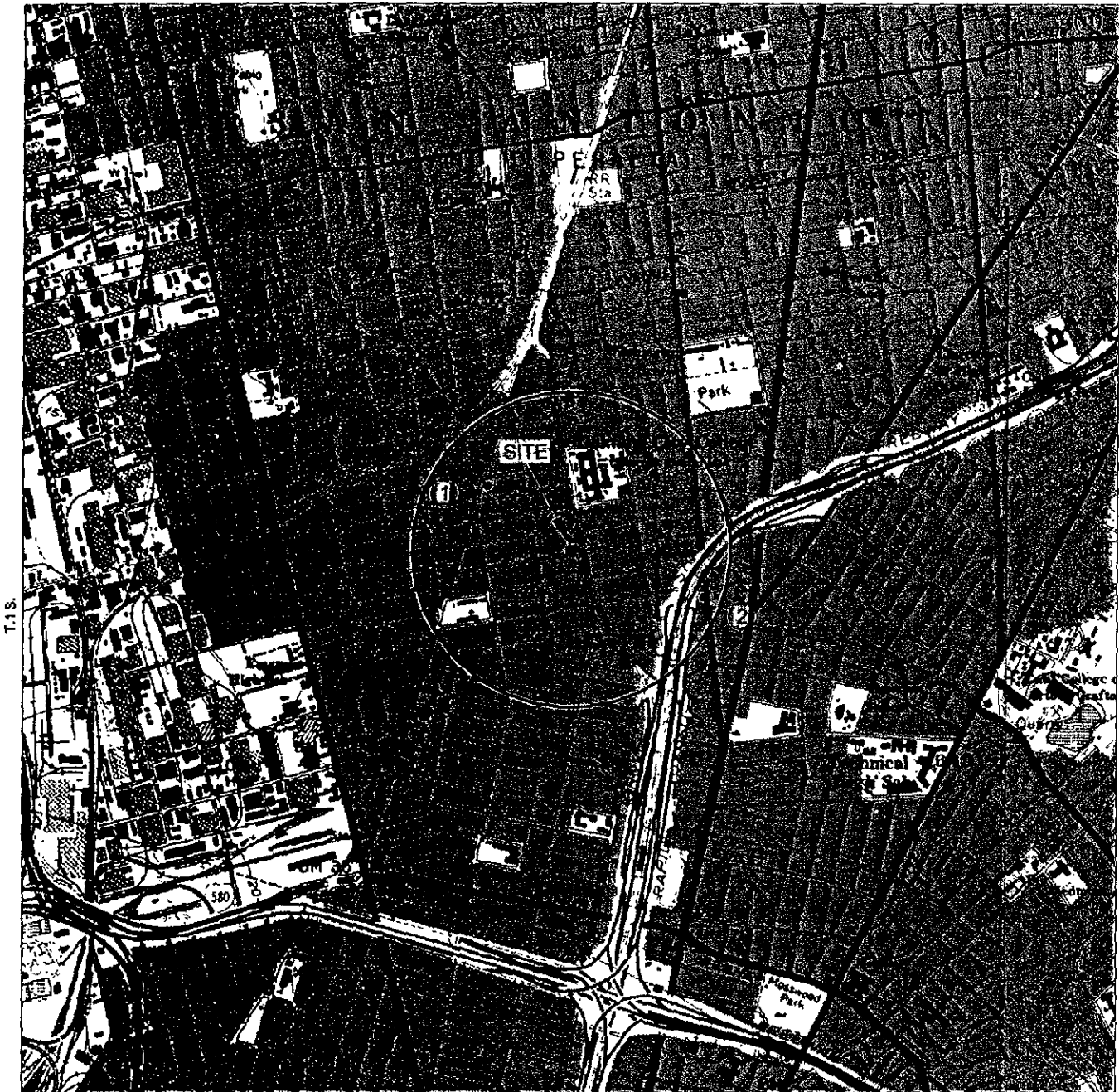
# 9-1583

## Hydrocarbon Concentrations in Groundwater (MW-8)



**ATTACHMENT D**

**Delta's Well Survey**



R 4 W.

LEGEND

- ① WATER WELL LOCATION

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



SCALE



QUADRANGLE LOCATION

**FIGURE 3**  
 WATER WELL LOCATION MAP WITHIN  
 A 2,000 FOOT RADIUS OF SITE  
 CHEVRON SERVICE STATION NO. 9-1583  
 5509 MARTIN LUTHER KING WAY  
 OAKLAND, CA.

PROJECT NO. DG91-583	DRAWN BY M.L. 6/21/02
FILE NO DG91583A	PREPARED BY BAB
REVISION NO 1	REVIEWED BY



TABLE 1

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE

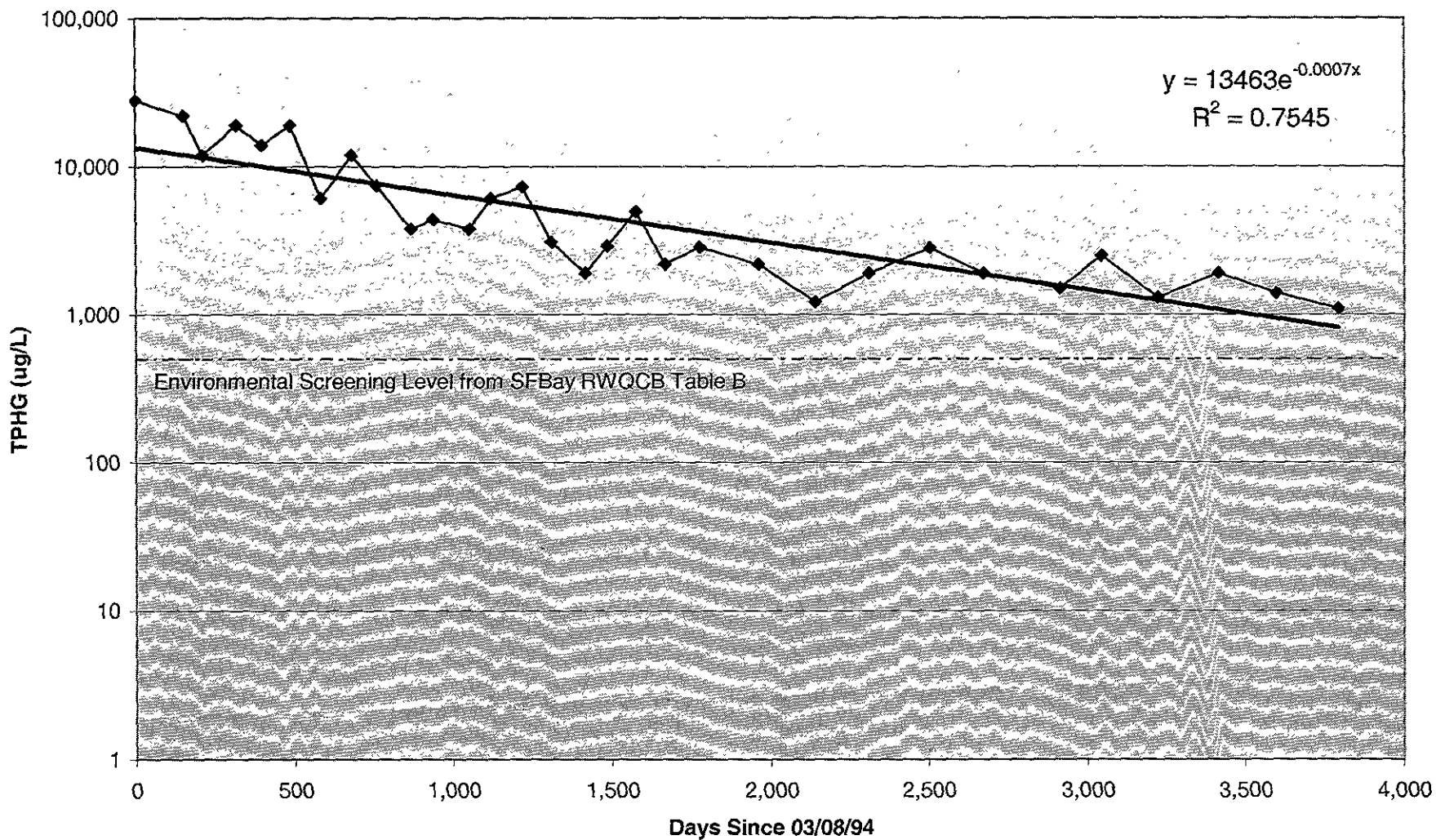
Chevron Service Station No. 9-1583  
5509 Martin Luther King Way,  
Oakland, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Proposed Use	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal Depth	Status
1	1S/4W 14L1	5702 B Adeline Street	07/26/77	Industrial	92	42-88	20	Active
2	1S/4W 14P1	4801 Oakport Street	04/11/74	Cathodic	120	None	93	Active

## **ATTACHMENT E**

### **Degradation Rate Calculations**

**TPHg Concentrations in Groundwater (Well MW-7)  
Former Chevron Station 9-1583, 5509 Martin Luther King, Jr Way, Oakland, CA**



Predicted Time to Cleanup of for TPHmo in Well MW-7 Former Chevron Station 9-1583, 5509 Martin Luther King Jr Way, Oakland, CA

Calculate "time to cleanup" given the first-order decay equation:

$$y = b e^{ax} \implies x = \ln(y/b) / a$$

Site: **Former Chevron Site 9-1583**  
 Well: **MW-7**  
 Constituent: **TPHmo**

$$y = 37687 e^{-0.0026x} \implies x = \ln(y/37687) / -0.0026$$

Given:

Water Quality Objective	y	640 ug/L
Constant:	b	1409.1
Constant:	a	-0.0002
Date of first sample:		3/8/94

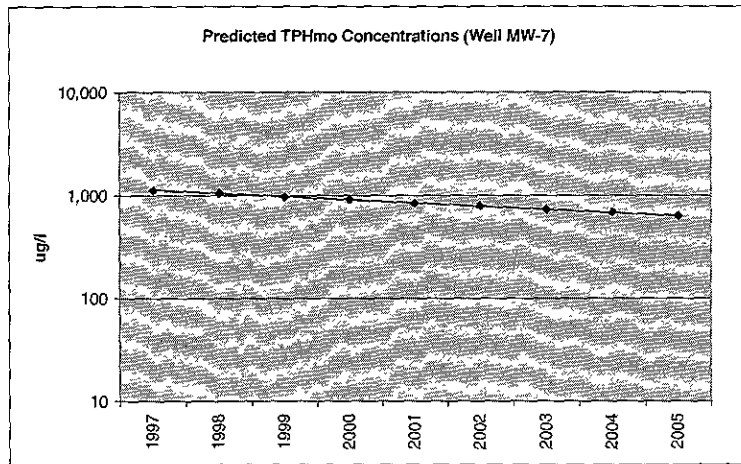
Calculate:

Days from first sample:	x	3,946 Days
Years from first sample:		10.8 Years
Estimated date of cleanup		Dec-2004

Calculated Half Life =  $-\ln(2)/a$   
 3,466 Days

Concentration Trend Prediction

Date	Days from First Sample	Predicted Concentration (ug/l)
3/8/94	0	1,409
3/8/1995	365	1,310
3/7/1996	730	1,218
3/7/1997	1,095	1,132
3/8/1998	1,461	1,052
3/8/1999	1,826	978
3/7/2000	2,191	909
3/7/2001	2,556	845
3/7/2002	2,921	786
3/7/2003	3,286	730
3/6/2004	3,651	679
3/6/2005	4,016	631



Predicted Time to Cleanup of TPHg in Well MW-8, Former Chevron Station 9-1583, 5509 Martin Luther King Jr Way, Oakland, CA

Calculate "time to cleanup" given the first-order decay equation:

$$y = b e^{ax} \implies x = \ln(y/b) / a$$

Site: **Former Chevron Site 9-1583**  
 Well: **MW-8**  
 Constituent: **TPHg**

$$y = 95924 e^{-0.0077x} \implies x = \ln(y/95924) / -0.0077$$

Given

Water Quality Objective:	y	<b>500</b> ug/L
Constant:	b	<b>13463</b>
Constant:	a	<b>-0.0007</b>
Date of first sample:		<b>3/8/94</b>

Calculate

Days from first sample:	x	<b>4,704</b> Days
Years from first sample:		<b>12.9</b> Years
Estimated date of cleanup:		<b>Jan-2007</b>

Calculated Half Life =  $-\ln(2)/a$   
**990** Days

Concentration Trend Prediction

Date	Days from First Sample	Predicted Concentration (ug/l)
<b>3/8/94</b>	0	13,463
3/8/1995	365	10,427
3/7/1996	730	8,076
3/7/1997	1,095	6,255
3/7/1998	1,460	4,845
3/7/1999	1,825	3,753
3/6/2000	2,190	2,906
3/6/2001	2,555	2,251
3/6/2002	2,920	1,744
3/6/2003	3,285	1,350
3/5/2004	3,650	1,046
3/5/2005	4,015	810
3/5/2006	4,380	627
3/5/2007	4,745	486

