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ALAMEDA COUNTY AIR POLLUTION CONTROL DISTRICT

## SITE CLOSURE REQUEST

For:

**Chevron Service Station No. 9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

Submitted to:

**Mr. Amir Gholami**  
**Alameda County Health Care Services Agency**  
**Alameda, California**

March 26, 2004

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San Lorenzo, California**

Prepared by:

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Written By:

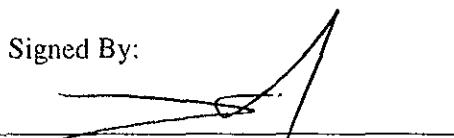


Brett A. Lehman  
Project Geologist

Alameda County  
Environmental Health  
APR 06 2004

All work performed by Cambria Environmental Technology, Inc. for this project was conducted under my supervision. To the best of my knowledge, the data contained herein are true and accurate and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications or professional opinions presented herein were prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

Signed By:



N. Scott MacLeod, R.G.  
Principal Geologist



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## 1 INTRODUCTION

Cambria Environmental Technology, Inc. (Cambria), on behalf of Chevron Products Company (Chevron), is submitting this review of investigative work conducted at the subject site and to evaluate whether residual concentrations of petroleum hydrocarbons in the subsurface are present at concentrations considered detrimental to human health and environment. Our objective is to assess whether the site meets closure criteria as a low-risk groundwater case. The closure evaluation was performed utilizing Appendix B of the Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites, and Requests For Closure, dated March 1, 1994 and under guidance from the Standard Guide for Risk-Based Corrective Action Applied to Petroleum Release Sites (ASTM E 1739 - 91) and the California Regional Water Quality Control Board's *Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater*, Volume 1, Summary Tier 1 Lookup Tables, Interim Final July 2003, The environmental conditions and our review of those conditions with respect to low-risk groundwater case closure criteria are presented below.



## 2 BACKGROUND INFORMATION

### 2.1 Site Description

The site is an operating Chevron Service Station on the north side of Hesperian Blvd., in San Lorenzo, California (Figure 1). The property is located in a mixed commercial-residential district of San Lorenzo and is bounded by commercial lots to the north, east, and south and by residential property to the west-southwest. Facilities currently at the site include a station building, three dispenser islands, and four underground storage tanks (USTs) that share a common pit near the southern site boundary. Pertinent site features are shown on Figure 2.

### 2.2 Site History

**1983 Tank Failure and Replacement:** According to Chevron records, a 10,000-gallon underground storage tank (UST) failed a tank tightness test conducted in December 1983. Following the UST inspection and detected leak, Chevron replaced two 10,000-gallon and one 5,000-gallon steel USTs and associated product lines. During the UST removal activities a hole

was observed at the bottom of the unleaded 10,000-gallon UST. Approximately 120 yards of impacted soil was excavated and removed from the site.

**1983 Well Installation:** Following the UST removal and upgrade, Gettler-Ryan Inc. (GR) installed groundwater monitoring wells C-1 through C-5 to depths of approximately 20 feet below grade (fbg). Three of the five wells were located in the vicinity of the UST basin and dispenser islands, one well was located adjacent to the waste oil UST, and one was located southeast of the station building. Groundwater was encountered at depths ranging from 14 to 15 fbg. No soil samples were collected from the borings. Figures by previous consultants are included in Appendix A. Well construction details and boring logs are presented in Appendix B.



**November 1989 Well Installation:** In November 1989, GeoStrategies, Inc. (GSI) installed groundwater monitoring wells C-6 through C-8 to a depth of approximately 25 fbg. Two of the three wells were installed in Hesperian Boulevard, south of the UST basin, to evaluate the lateral extent of hydrocarbons in soil and groundwater. Well C-6 was installed northwest of the dispenser islands. Soil Analytical Results are included in Appendix C.

**December 1989 NAPL Detection:** During quarterly groundwater sampling on December 8, 1989, GR observed non-aqueous-phase liquid hydrocarbons (NAPL) in wells C-1 and C-2 at thicknesses of 0.01 and 0.15 feet, respectively. A hydrocarbon sheen was also observed in well C-3. Groundwater monitoring and chemical analytical results report are presented in Appendix D.

**August 1990 Well Installation:** In August 1990, GSI installed wells C-9 through C-11 across Hesperian Boulevard to further define the extent of hydrocarbons in groundwater. No hydrocarbons were detected in soil or groundwater.

**August 1990 Well Survey:** GSI reviewed County of Alameda Public Works Agency (CAPWA) files to identify domestic, municipal, or irrigation supply wells within a half-mile of the site. Wells identified include fourteen irrigation wells, three domestic wells, one cathodic well, and one abandoned well. The nearest domestic well is located approximately 2,200 feet northeast (up-gradient) of the site. The nearest irrigation well is located approximately 1,700 feet west (cross-gradient) of the site. Well search data are presented in Appendix E.

**July 1992 Borings:** In July 1992, Weiss Associates (WA) advanced soil borings BH-A through BH-D in the vicinity of the UST basin to an approximate depth of 11.5 fbg to assess the

distribution of hydrocarbons in the source area near the tanks. The highest hydrocarbon concentrations were 660 mg/kg TPHg and 0.82 mg/kg benzene in source area boring BH-C at 10 fbg.

 **August 1992 Groundwater Extraction System Installation:** In August 1992, WA installed a groundwater remediation system extracting groundwater from wells C-1 and C-2 using submersible pumps and treating that water through two 1,000-pound aqueous-phase carbon vessels. Treated groundwater was discharged to the sanitary sewer under permit from the Oro Loma Sanitary District. The groundwater extraction system removed and treated 1,290,430-gallons of groundwater from August 1992 to July 1994. The system was shutdown because benzene concentrations in groundwater approached the maximum contaminant level for drinking water (MCL) of 1.0 µg/L. Chevron formally notified Alameda County Health Care Services (ACHCS) in a letter dated April 6, 1999 that the system had achieved its objective of containment, and that Chevron was proposing to remove the system. The April 6, 1999 letter is presented in Appendix F.

**January 1994 Soil Sampling:** In January 1994, WA conducted soil sampling in the vicinity of the former product lines because Chevron suspected an unauthorized release of fuel had occurred. Six soil samples were collected and analyzed for TPHg and BTEX. Two of the four samples analyzed contained TPHg and benzene at maximum concentrations of 5 mg/kg and 0.018 mg/kg, respectively. Following confirmation sampling, WA supervised the excavation of the former product lines. Impacted soil was excavated during replacement of the former product lines and disposed of at Vasco Road Landfill in Livermore, California. Additional excavation was conducted along the southern end of each dispenser island and on March 11, 1994, the soil was disposed of at Vasco Road Landfill in Livermore, California. WA's soil sample location map is included in Appendix A and soil analytical results are presented in Appendix C.

**March 1994 Waste Oil Tank Removal:** On March 29, 1994, Filner Construction, Inc. (Filner) removed one 1,000-gallon waste oil UST. Touchstone Developments (Touchstone) observed the UST removal and collected soil samples beneath the former waste oil UST at a depth of 9 fbg. One of the two soil samples analyzed contained total oil and grease (TOG) at 110 mg/kg and dichloromethane at 0.006 mg/kg. Due to the detected concentrations of TOG and dichloromethane, the eastern half of the waste oil tank was overexcavated to an approximate depth of 11 fbg. Following over excavation, Touchstone collected one confirmation soil sample at a depth of 11 fbg. No hydrocarbons or halogenated volatile organic compounds (HVOCs) were detected in the confirmation sample. Approximately 45 cubic yards of stockpiled soil was

disposed of at Forward Landfill in Stockton, California. Touchstones figures are included in Appendix A and soil analytical results are presented in Appendix C.

**June 1995 Records Search:** In June 1995, GR reviewed records of past land uses surrounding the subject site. The record search listed the owner at that time as the David D. Bohannon Organization. According to the June 8, 1995 letter prepared by GR, this organization has owned the property since 1953. The property reportedly consisted of retail businesses. GR's June 8, 1995, letter is presented in Appendix G.



**June 2001 Waste Oil Tank Removal:** On June 8, 2001, GR observed Wendt and Son's Construction, Inc. (Wendt) remove one 1,000-gallon double walled fiberglass waste oil UST. The UST appeared to be in good condition with no observable holes or cracks. Following removal, the UST was transported by Ecology Control Industries (ECI) to their yard in Richmond, California, for disposal. GR collected one confirmation soil sample beneath the former UST at a depth of approximately 11 fbg. TOG was detected at 63 mg/kg in the sample. GR's waste oil UST soil sample location map is included in Appendix A and soil analytical results are presented in Appendix C.

## 2.3 Geology and Hydrogeology

The site is located on the East Bay Plain, approximately one mile east of Roberts Landing on the eastern shore of the San Francisco Bay. The site is relatively flat at an elevation of approximately 35 feet above sea level. Unconsolidated alluvial Quaternary sediments representing fluvial and marginal marine deposits underlie the site. Based on a review of boring logs, sediments encountered beneath the site are generally comprised of interbedded silts, clays, clayey gravels, and sands to the maximum explored depth of 25.5 feet. Geologic cross-sections are presented in Appendix H on cross sections in Figures 3 and 4.

Based on historical monitoring data, depth to groundwater has ranged from approximately 6 to 17 feet below grade and the groundwater flow has been towards the south-southwest at gradients ranging from 0.1 to 0.001. Historical potentiometric maps showing groundwater flow direction and calculated gradients are presented in Appendix I.

### **3 HYDROCARBON DISTRIBUTION IN SOIL AND GROUNDWATER**

#### **3.1 Extent of Hydrocarbons in Soil**

The hydrocarbon source appears to be the UST complex. The highest hydrocarbon concentrations in soil (660 mg/kg TPHg and 0.82 mg/kg benzene) were detected at 10 fbg near the UST complex. As indicated on Figure 3, the vertical and lateral extent of the impacted vadose-zone soil is adequately defined by the existing borings and wells.



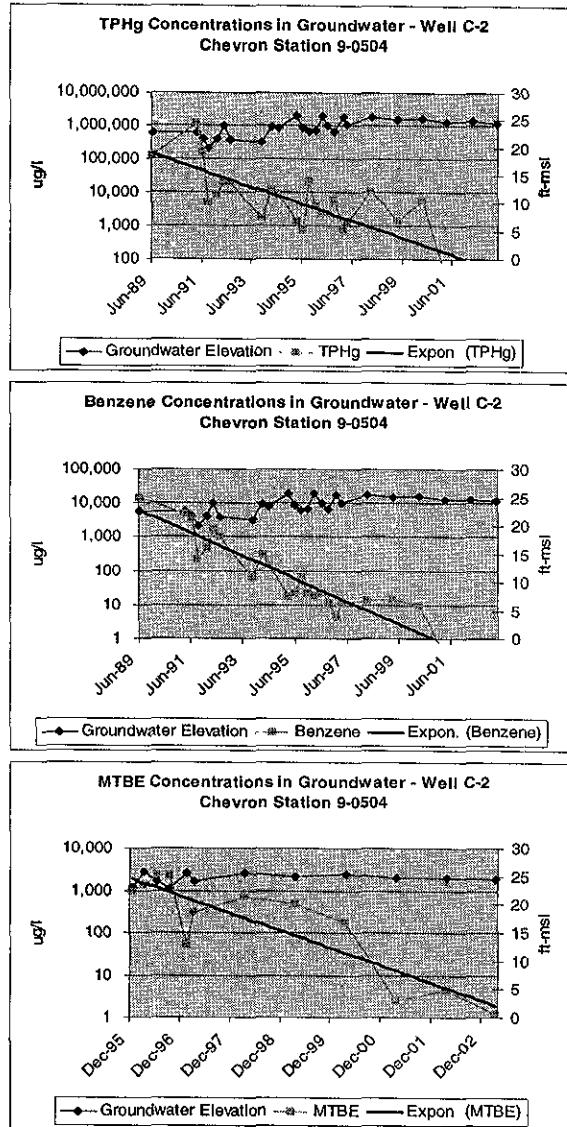
#### **3.2 Extent of Hydrocarbons in Groundwater**

Based on a review of historical groundwater chemical analytical results, the mass of the dissolved hydrocarbon plume appears localized south of the UST basin, in the vicinity of wells C-1, C-2, C-7, and C-8. Historically, the core of the hydrocarbon plume with the highest concentrations was centered on the fuel USTs as indicated on Figures 4 and 5. However, this area had cleaned up to below detection limits and there is a smaller residual hydrocarbon plume down-gradient of the site as shown on Figures 6 and 7. The current distribution of MTBE in groundwater is shown on Figure 8. The extent of hydrocarbons in groundwater is defined by down-gradient wells C-9, C-10 and C-11 and up-gradient wells C-4, C-5 and C-6.

### 3.3 Hydrocarbon Concentration Trends in Groundwater

Source area wells C-1, C-2 and C-3 have historically had the highest hydrocarbon concentrations detected in any wells at the site. Well C-2 had maximum concentrations of 1,200,000 ug/l TPHg on March 15, 1991 and 14,000 ug/l benzene on June 6, 1989. Well C-2 also contained up to 2,300 ug/l MTBE on June 21, 1996. However, no hydrocarbons are currently detected in either of these two wells. TPHg, benzene and MTBE concentrations over time in source area well C-2 are shown in the adjacent figures. Concentration trend graphs for TPHg, benzene and MTBE for wells C-1, C-2, C-3, C-7 and C-8 are presented in Appendix J.

Hydrocarbon concentrations in intermediate wells C-7 and C-8 have not decreased as rapidly as in source area wells C-1, C-2 and C-3. However, most constituents detected in wells C-7 and C-8 are decreasing and, with the removal of hydrocarbons in the former source area, will continue to decrease over time. The remnants of the hydrocarbon plume are beneath Hesperian Boulevard and the plume does not extend to properties on the south side of Hesperian Boulevard.



### 4 MASS BALANCE CALCULATIONS

We commonly estimate residual hydrocarbon mass in soil as part of our closure evaluation. This evaluation is based on historic soil concentrations and apparent hydrocarbon distribution.

However, in this case, areas that formerly contained elevated hydrocarbon concentrations in soil currently contain no hydrocarbons in groundwater. Therefore, it appears that the hydrocarbons previously detected in soil in the source area have been degraded to the point that they no longer impact groundwater. Because of this degradation, it is difficult to estimate the current hydrocarbon mass in soil.

The available data are primarily from the late 1980s and early 1990s. To estimate the hydrocarbon mass that was present during ~~at~~ that time, we selected two rectangular areas with an assumed impacted thickness of 11 ft and used hydrocarbon concentrations from the original borings and wells prior to any degradation or remedial efforts. Figures 1 through 4 of Appendix K show isoconcentration contours. Based on the area depicted in Figure 5 of Appendix K, residual concentrations of benzene and TPHg remaining in soil in the late 1980s to early 1990s are estimated at 1.55 lbs and 771.04 lbs, respectively. Table 1 of Appendix K presents the estimated mass of residual benzene and TPHg remaining beneath the site.

Current estimates of hydrocarbon mass in groundwater were determined based on the average hydrocarbon concentrations detected in each well during the last four groundwater sampling events over the impacted area. Based on the area depicted in Figure 6 of Appendix K and assuming a average impacted groundwater thickness of 14 ft, the mass of TPHg, benzene and MTBE remaining in groundwater are estimated at 18.93 lbs, 0.094 lbs, and 0.39 lbs, respectively. Table 2 of Appendix K presents the estimated mass of dissolved benzene, TPHg, and MTBE remaining in groundwater beneath the site.

## 5 SENSITIVE RECEPTOR SURVEY

Delta conducted a search of Department of Water Resources (DWR) files for domestic, municipal, and irrigation supply wells within 2,000 feet of the subject site (Appendix E). Seven well sites were identified from the DWR search, all of which are apparently active. Four of the well sites were listed as irrigation wells, two as domestic wells, and one was listed as unknown. The two domestics wells (#2 and #4 on Figure 1 in Appendix E) are located approximately 1,300 feet northwest (cross-gradient) and 1,700 feet northeast (up-gradient), respectively, of the subject site. The nearest irrigation well is approximately 700 feet southeast (cross-gradient) of the site. An inventory of wells identified within 2,000 feet of the subject site is presented in Table 3. The well locations are presented on Figure 1 in Appendix E.

In addition to the DWR well search, Delta conducted a door-to-door well survey within 500 feet of the subject site. During the survey, an irrigation well was identified approximately 450 feet west (cross-gradient/down-gradient) of the site. During the field search Delta spoke with the property owner to discuss the use of the well. The property owner described the well as inactive. Addresses surveyed are presented in Table 1 and wells located within 500-feet of the subject site are shown on Figure 11 in Appendix E.

Delta conducted a survey of potential sensitive receptors on-site and in the vicinity of the site. This portion of the survey consisted of locating and identifying vapor receptors such as basements, locating and verifying depth of utility vaults, and locating the nearest surface water bodies. There were no basements or man-sized utility vaults identified within the search area. However, several minor utility vaults were identified which included water, Pacific Bell, and PG&E. Other utilities identified adjacent to the site included storm drains and sanitary sewer. Storm drains were located throughout the site and were measured at 3.5 fbg. Sanitary sewers are located in Hesperian Boulevard and are buried between 6 and 8 fbg. Locations of utilities are shown on Figure 12 in Appendix A. The nearest surface water body identified is San Lorenzo Creek, located approximately 1,000 feet north of the subject site as shown on Figure 1.

Based on these sensitive receptor surveys and the current plume distribution, there are no sensitive receptors that are or could be impacted by hydrocarbons originating from the site. The majority of residual mass is in aqueous-phase beneath Hesperian Boulevard at depths deeper than the nearby utilities. As such, it is unlikely that any future potential receptors would be impacted.

## **6 ENVIRONMENTAL SCREENING LEVELS COMPARISON**

To assess potential risks, we compared hydrocarbon concentrations detected in soil and groundwater to Environmental Screening Levels (ESLs). The presumed source areas for hydrocarbons are the vicinity of the dispenser islands and current UST basin (for soil), and groundwater monitoring wells C-1 through C-3, C-7, and C-8 (for groundwater). The vertical and lateral extent of the impacted vadose-zone soil is characterized by soil borings BH-A through BH-D, well borings C-7 and C-8, and dispenser island and trench samples T-1, T-2, D-1, D-2, D-3A, and D-3B. Within the interpreted soil source area, 18 vadose-zone soil samples were compared to ESLs. Potential chemicals of concern identified in the soil beneath the site were TPHg and BTEX. Soil samples collected were not analyzed for the fuel oxygenate MTBE,

however, the low MTBE concentrations detected in groundwater indicate that there is no MTBE source mass of consequence remaining in soil. (100)

Within the interpreted groundwater source area, the highest concentration from the past four monitoring events was compared to the ESLs. Potential chemicals of concern identified in groundwater were TPHg, BTEX and MTBE. Analytical results for the source area soil samples are summarized in Table 3 and analytical results for source area groundwater samples are summarized in Table 4. A value equivalent to 95 percent of the upper confidence level (UCL) on the arithmetic mean concentration of the source area soil samples was used as a representative source concentration in the ESLs comparison. The calculated maximum, mean, and 95% UCL representative concentration for soil and groundwater are summarized in Table 3 and Table 4, respectively. Groundwater maximum concentrations for the past four quarters were used in the ESL comparison.

To assess the potential health risks to occupants of the site and adjacent property, Cambria compared site hydrocarbon concentrations with ESLs developed by the RWQCB-SFBR (Table 5)<sup>1</sup>. The shallow soil exposure pathways evaluated include both commercial and residential scenarios for potential indoor-air impact from impacted shallow soil, direct exposure to impacted soil, and soil leaching to groundwater. The only groundwater exposure pathways evaluated are residential and commercial scenarios for potential indoor-air impacts from impacted groundwater. Given the absence of surface water, and the fact that the plume is not migrating, no water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted by the site hydrocarbons, so these pathways were not evaluated further.

As shown in Table 5, no ESLs are exceeded by the 95% UCL (Table 4) shallow (0 to 10 fbg) soil concentrations. Deep soil concentrations (10 to 20 fbg) only exceed ESLs for residential direct exposure, residential indoor air impacts, and leaching concerns. Residential direct exposure is eliminated in deep soil ESLs comparison. One sample location (C-1) is associated with these exceedances and is located approximately 7 feet from the Hesperian Boulevard right of way in the entrance to the station. This well formerly contained elevated TPHg and benzene concentrations in groundwater, but no TPHg or benzene are currently detected in groundwater. Therefore, it is evident that hydrocarbons in soil that were formerly leaching to groundwater are no longer present. Because of this, ESL exceedances based on historical soil sampling are not considered representative of actual conditions. No ESLs are exceeded by the highest groundwater concentrations for the past four groundwater sampling events. Because the aqueous-phase hydrocarbon plume is limited to the area beneath Hesperian Boulevard it is

unlikely that volatilization from the aqueous-phase plume would impact any residential or commercial development.

## 7 CONCLUSIONS/RECOMMENDATIONS

The site appears to meet the RWQCB – San Francisco Bay Region criteria for a low-risk fuel site. A low-risk groundwater case has the following general characteristics:

- The leak has stopped and the hydrocarbon source has been removed;
- 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 and the environment.

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

***The Leak Has Stopped and the Hydrocarbon Source Has Been Removed:*** The primary source of petroleum hydrocarbons was removed when the former tanks and piping were replaced in December 1983 and when additional upgrades were performed in 1994. Hydrocarbon concentrations in groundwater in the source area have decreased to below detection limits, indicating that there is no residual hydrocarbon mass in soil in the source area. Therefore, the leak has been stopped and the hydrocarbon source has been removed.

***The Site Has Been Adequately Characterized:*** Plume configurations presented in Figures 5 through 7 indicate a stable, confined plume that is limited in extent to the area beneath Hesperian Boulevard. The plume is well defined up-gradient and down-gradient of the source area and is steadily shrinking.

***The Hydrocarbon Plume Is Not Migrating:*** The hydrocarbon plume has been monitored since 1989 (for 15 years) and there is no evidence that the plume is migrating past its historic limits. Hydrocarbon concentrations in the source area have decreased to below detection limits and hydrocarbon concentrations in the intermediate down-gradient wells are also decreasing. In

addition, the lack of hydrocarbons in the down-gradient wells indicates that these concentration reductions are a result of degradation and not due to plume migration.

***No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted:*** The water well surveys indicates that there are no wells, surface water or other sensitive receptors that are likely to be impacted.

***The Site Presents No Significant Risk to Human Health or the Environment:*** The risk assessment indicates that the plume is contained beneath Hesperian Boulevard and does not pose a risk to human health or the environment. The risk assessment further demonstrated that even if residential or commercial development were to occur within the Hesperian Boulevard right of way (i.e. the road were moved and the location of the plume was developed for either commercial or residential use), there is no risk to human health.

Based on this evaluation, Cambria requests that this site be considered for regulatory closure.



## 8 REFERENCES

American Society of Testing Materials (ASTM), 1991. *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites*, ASTM E-1739, Philadelphia, PA.

Conner, J.A., J.P. Nevin, M. Malander, C. Stanley, G. DeVaul, 1995, *Tier 2 RBCA Guidance Manual for Risk-Based Corrective Action*, Groundwater Services, Inc.



Gettler-Ryan Inc., July 13, 2001, *Underground Storage Tank Removal Observation Report*

Gettler-Ryan Inc., June 8, 1995, *Record Search*

Weiss Associates, August 4, 1994, *Monthly Discharge Compliance Report*

Weiss Associates, March 30, 1994, *Soil Sampling and Disposal*

Touchstone Developments, April 14, 1994, *Underground Storage Tank Removal Report*

Weiss Associates, August 14, 1992, *Soil Sampling Results*

GeoStrategies Inc., November 15, 1990, *Interim Remediation*

Gettler-Ryan Inc., October 19, 1990, *Well Installation Report*

GeoStrategies Inc., September 10, 1990, *Site Summary*

Gettler-Ryan Inc., January 9, 1984, *Well Installation Report*

**TABLE 1**  
**WATER SUPPLY WELL SEARCH**

Chevron Facility No. 9-0504  
 15900 Hesperian Blvd.  
 San Lorenzo, California

Map Location	Property Owner	Address	Year Drilled	Well Use	State Well ID	Total Depth (ft)
1	Kenneth T. Larson	16138 Via Segundo	unknown	Irrigation	3S2W18B	34
2	Paul R. Frink	754 Grant Avenue	1977	Domestic	3S2W7M3	31
3	Kurt Teschke	15939 Via Cordoba	1977	Irrigation	3S2W7J6	37
4	William D. Santos	16068 Via Cordoba	1977	Domestic	3S2W7J7	31
5	San Lorenzo High School	50 East Lewelling Blvd.	1951	Irrigation	3S2W7G2	600
				Unknown	3S2W7G3	616
6	Horace Robertson	17127 Via Flores	1977	Irrigation	3S2W18C1	25

**TABLE 2**  
**DOOR-TO-DOOR WELL SURVEY**

Former Chevron Facility No. 9-0504  
 15900 Hesperian Blvd.  
 San Lorenzo, California

Residence	Street Address	Responses	Well Status
Montoya	15897 Hesperian Boulevard	No Well	
Rodriguez	15891 Hesperian Boulevard	No Well	
Unknown	15885 Hesperian Boulevard	No Response	
Unknown	15879 Hesperian Boulevard	No Response	
Hales	15873 Hesperian Boulevard	No Well	
Unknown	15867 Hesperian Boulevard	No Response	
Unknown	15861 Hesperian Boulevard	No Response	
Unknown	15855 Hesperian Boulevard	No Response	
Unknown	15849 Hesperian Boulevard	No Response	
Unknown	15843 Hesperian Boulevard	No Response	
Unknown	15837 Hesperian Boulevard	No Response	
Unknown	15822 Pase Largavista Road	No Response	
Black	15826 Pase Largavista Road	Irrigation	Inactive*
Unknown	15830 Pase Largavista Road	No Response	
Unknown	15834 Pase Largavista Road	No Response	
Unknown	15838 Pase Largavista Road	No Response	
Unknown	15842 Pase Largavista Road	No Response	
Unknown	15846 Pase Largavista Road	No Response	
Unknown	15850 Pase Largavista Road	No Response	
Majeno	15854 Pase Largavista Road	No Well	
Unknown	15858 Pase Largavista Road	No Response	
Unknown	15920 Via Des Canso	No Response	
Unknown	15917 Via Des Canso	No Response	
Unknown	15909 Via Des Canso	No Response	
Unknown	15901 Via Des Canso	No Response	
Unknown	15893 Via Des Canso	No Response	
Unknown	15885 Via Des Canso	No Response	
Unknown	15877 Via Des Canso	No Response	
Unknown	15869 Via Des Canso	No Response	

\* Well status based on conversation with property owner October 7, 2001

**TABLE 3**  
**SOURCE AREA SOIL ANALYTICAL SUMMARY**

Chevron Service Station 9-0504

Sample ID	Depth (ft)	Date	TPHg mg/kg	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)
C-7	10.5	11/29/89	<b>3.70</b>	0.025	0.025	0.025	0.025	NA
	15.5	11/29/89	<1.0	<.05	<0.05	<0.05	<0.05	NA
	20.5 <sup>a</sup>	11/29/89	<b>4.00</b>	<b>0.11</b>	0.025	0.025	<b>0.11</b>	NA
C-8	10.5	11/29/89	<1.0	<.05	<0.05	<0.05	<0.05	NA
	15.5	11/29/89	<b>37.00</b>	0.025	0.025	<b>0.14</b>	<b>0.24</b>	NA
	20.5 <sup>a</sup>	11/29/89	<1.0	<.05	<0.05	<0.05	<0.05	NA
BH-A	5.0	07/28/92	<b>1.00</b>	<b>0.039</b>	<b>0.083</b>	<b>0.023</b>	<b>0.099</b>	NA
	10.0	07/28/92	<b>5.00</b>	<b>0.052</b>	<b>0.013</b>	<b>0.14</b>	<b>0.066</b>	NA
BH-B	5.0	07/28/92	<b>0.50</b>	<b>0.01</b>	0.0025	0.0025	<b>0.006</b>	NA
	10.0	07/28/92	6.00	<b>0.043</b>	0.0025	<b>0.059</b>	<b>0.29</b>	NA
BH-C	5.0	07/28/92	<1.0	<.005	<0.05	<0.05	<0.05	NA
	10.0	07/28/92	<b>660.00</b>	<b>0.82</b>	<b>0.33</b>	<b>9.1</b>	<b>47</b>	NA
BH-D	5.0	07/28/92	<b>1.00</b>	<b>0.019</b>	0.0025	0.0025	<b>0.009</b>	NA
	10.0	07/28/92	<b>11.00</b>	<b>0.057</b>	0.0025	<b>0.22</b>	<b>0.36</b>	NA
T-1	---	01/06/94	<1.0	<.005	<0.005	<0.005	<0.005	NA
T-2	---	01/06/94	<1.0	<.005	<0.005	<0.005	<0.005	NA
D-1	---	01/06/94	<1.0	<.005	<0.005	<0.005	<0.005	NA
D-2	---	01/06/94	<b>2.00</b>	<b>0.01</b>	<b>0.011</b>	0.0025	<b>0.23</b>	NA
D-3A	---	01/06/94	<b>5.00</b>	<b>0.018</b>	<b>0.061</b>	0.0025	<b>0.14</b>	NA
D-3B	---	01/06/94	<1.0	<.005	<0.005	<0.005	<0.005	NA

**Shallow Soil**

Ave Soil Concentration 0 to 10 fbg	1.90	0.02	0.03	0.01	0.10
Standard Deviation	1.82	0.01	0.04	0.01	0.09
Number of samples	5.00	5.00	5.00	5.00	5.00
95% confidence	1.59	0.01	0.03	0.01	0.08
95% upper confidence	<b>3.49</b>	<b>0.03</b>	<b>0.06</b>	<b>0.01</b>	<b>0.18</b>

**Deep Soil**

Ave Soil Concentration 10 to 20.5 fbg	103.81	0.16	0.06	1.39	6.87
Standard Deviation	245.54	0.29	0.12	3.40	17.70
Number of samples	7.00	7.00	7.00	7.00	7.00
95% confidence	181.89	0.22	0.09	2.52	13.11
95% upper confidence	<b>285.71</b>	<b>0.38</b>	<b>0.15</b>	<b>3.91</b>	<b>19.98</b>

*Note: Numbers highlighted were used in the 95% upper confidence concentration calculation.*

*Concentrations in bold print are detected concentrations.*

*For samples that did not have detected concentrations, the detection limit was halved.*

*Only samples with hydrocarbon impact were used in the 95% upper confidence concentration calculation.*

NA = Not Analyzed

ND = Not Detected

MTBE = Methyl tertiary butyl ether.

mg/kg = Milligrams per kilogram.

--- = Sample collected at 3 feet bgs or less.

**TABLE 4**  
**SOURCE AREA GROUNDWATER ANALYTICAL SUMMARY**

Chevron Service Station No. 9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

Sample ID	Date	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)
C-1	03/21/00	432	0.25	2.04	5.33	0.658	154
	03/02/01	25	0.25	0.25	0.25	0.25	32.8
	03/21/02	25	0.25	0.25	0.25	0.75	20
	03/31/03	25	0.25	0.25	0.25	0.75	40
C-2	03/21/00	5420	9.690	0.25	76.5	125.00	168
	03/02/01	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/21/02	25	0.25	0.25	0.25	0.75	4.5
	03/31/03	25	0.25	1.0	2	2.6	1.25
C-3	03/21/00	122	0.25	0.25	4.96	11.70000	6.13
	03/02/01	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/21/02	<50	<0.50	<0.50	<0.50	<1.50	<2.5
	03/31/03	<50	<0.50	<0.50	<0.50	<1.50	<2.5
C-7	03/21/00	2830	19.5	5.14	116	206	11.7
	03/02/01	7620	<b>54.7</b>	12.5	<b>522</b>	<b>945</b>	125
	03/21/02	<b>9300</b>	31.0	8.4	460	850	10
	03/31/03	3300	17.0	3.9	92	190	31
C-8	03/21/00	4300	8.45	42.30	61.10	20.30	33.8
	03/02/01	2980	37.40	41.12	22.30	11.30	40.4
	03/21/02	3500	0.25	2.00	15.00	8.30	5
	03/31/03	4700	0.25	2.10	22.00	11.00	25
<b>Groundwater Upper Confidence Calculations</b>							
Ave Concentration		2789.31	11.25	5.31	87.51	149.02	44.29
Standard Deviation		2946.87	16.66	10.45	162.14	300.58	54.12
Number of samples		16.00	16.00	16.00	16.00	16.00	16.00
95% confidence		1443.94	8.16	5.12	79.44	147.28	26.52
95% upper confidence		<b>4233.25</b>	<b>19.41</b>	<b>10.43</b>	<b>166.96</b>	<b>296.30</b>	<b>70.81</b>

*Note: Numbers highlighted were used in the 95% upper confidence concentration calculation.*

*Concentrations in bold print are maximum concentrations detected.*

*For samples that did not have detected concentrations, the detection limit was halved.*

*Only samples with hydrocarbon impact were used in the 95% upper confidence concentration calculation.*

NA = Not Analyzed

ND = Not Detected

<sup>a</sup> = Assuming lognormal distribution.

<sup>b</sup> = UCL = 95 percent upper confidence limit on the mean concentration.

MTBE = Methyl tertiary butyl ether.

mg/L = Milligrams per liter.

**Table 5. ESL Analysis - Chevron Station #9-0504, 15900 Hesperian Blvd.San Lorenzo, California**

<b>Soil ESLs</b>	<b>TPHg</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylenes</b>	<b>MTBE</b>
<b>(concentrations reported in mg/kg)</b>						
95% Upper Confidence Vadose Zone (0 to 10 $\mu\text{g}$ ) Soil Concentrations	3.49	0.03	0.060	0.01	0.18	NA
95% Upper Confidence Vadose Zone (10 to 20 $\mu\text{g}$ ) Soil Concentrations	285.71	0.38	0.150	3.91	19.98	NA
ESLs-Soil Screening Levels for evaluation of potential indoor-air impacts for Residential Exposure (Table E-1b)	10,000	0.18	180	4.7	45	2
ESLs-Soil Screening Levels for evaluation of potential indoor-air impacts for Commercial/Industrial Exposure (Table E-1b)	29,000	0.5	420	13	100	5.6
ESLs for Direct-Exposure for Residential Exposure (Table K-1)	500	0.18	130	8.7	54	31
ESLs for Direct-Exposure for a Commercial/Industrial Worker (Table K-2)	5,800	0.38	440	19	180	70
ESLs for Direct-Exposure for a Construction/Trench Worker (Table K-3)	23,000	17	650	400	420	2,800
ESLs for Leaching Concerns for a Drinking Water Resource (Table G)	100	0.044	2.9	3.3	1.5	0.023
ESLs for Leaching Concerns for a Non-Drinking Water Resource (Table G)	400	2	9.3	320	1.5	8.4
<b>Groundwater ESLs</b>	<b>TPHg</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylenes</b>	<b>MTBE</b>
<b>(concentrations reported in <math>\mu\text{g}/\text{L}</math>)</b>						
Highest Groundwater Concentration From the Last four Monitoring Events	9,300	54	42	522	945	168
ESLs - Groundwater Screening Levels for evaluation of potential indoor-air impacts for residential land use in high permeability vadose soil (Table E-1a & E-2)	10,000	530	500,000	14,000	150,000	24,000
ESLs - Groundwater Screening Levels for evaluation of potential indoor-air impacts for Commercial/Industrial land use in high permeability vadose soil (Table E-1a & E-2)	29,000	1,800	530,000	47,000	160,000	80,000

**Abbreviations/Notes:**

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

MTBE = Methyl-tertiary butyl ether

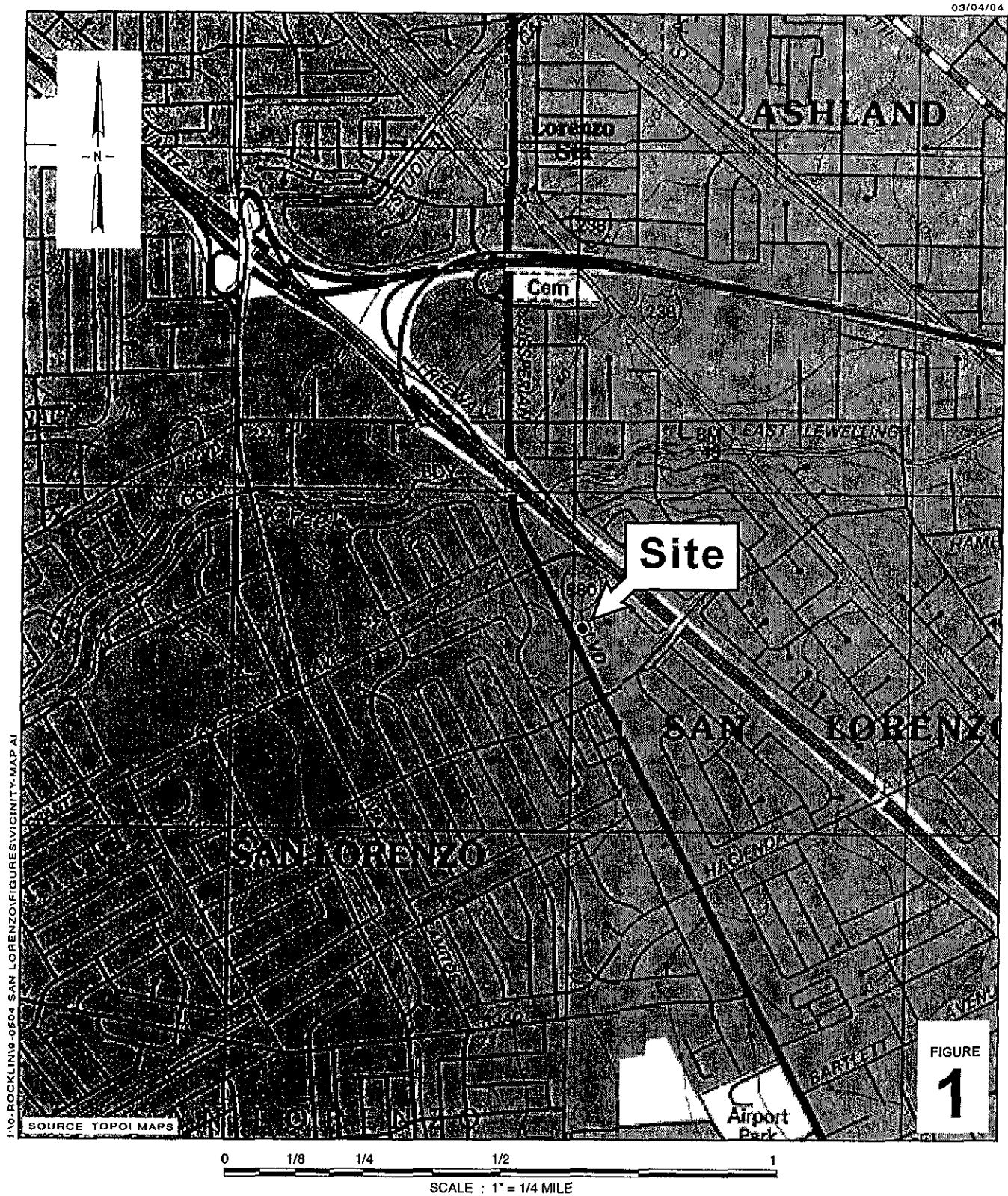
mg/kg = milligrams per kilogram

ug/L = micrograms per liter

NA = Not available

\* = Average concentration not 95% Upper Confidence Concentration

ESL = Environmental screening level, from. *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater*, dated July 2003, by the Regional Water Quality Control Board-San Francisco Bay Region.



**Chevron Service Station 9-0504**

15900 Hesperian Boulevard  
San Lorenzo, California



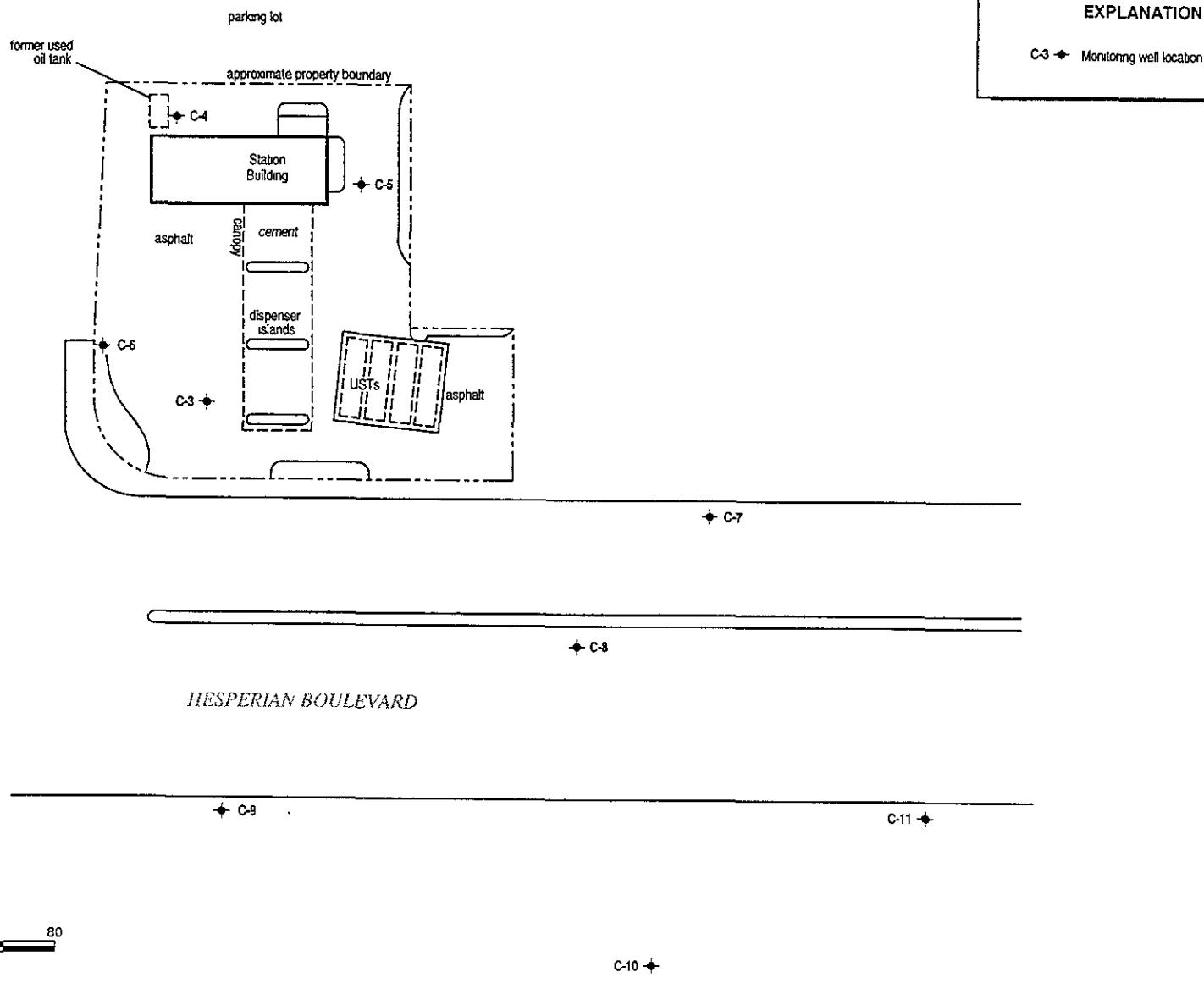
C A M B R I A

**Vicinity Map**

Site Plan



FIGURE  
2  
**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California



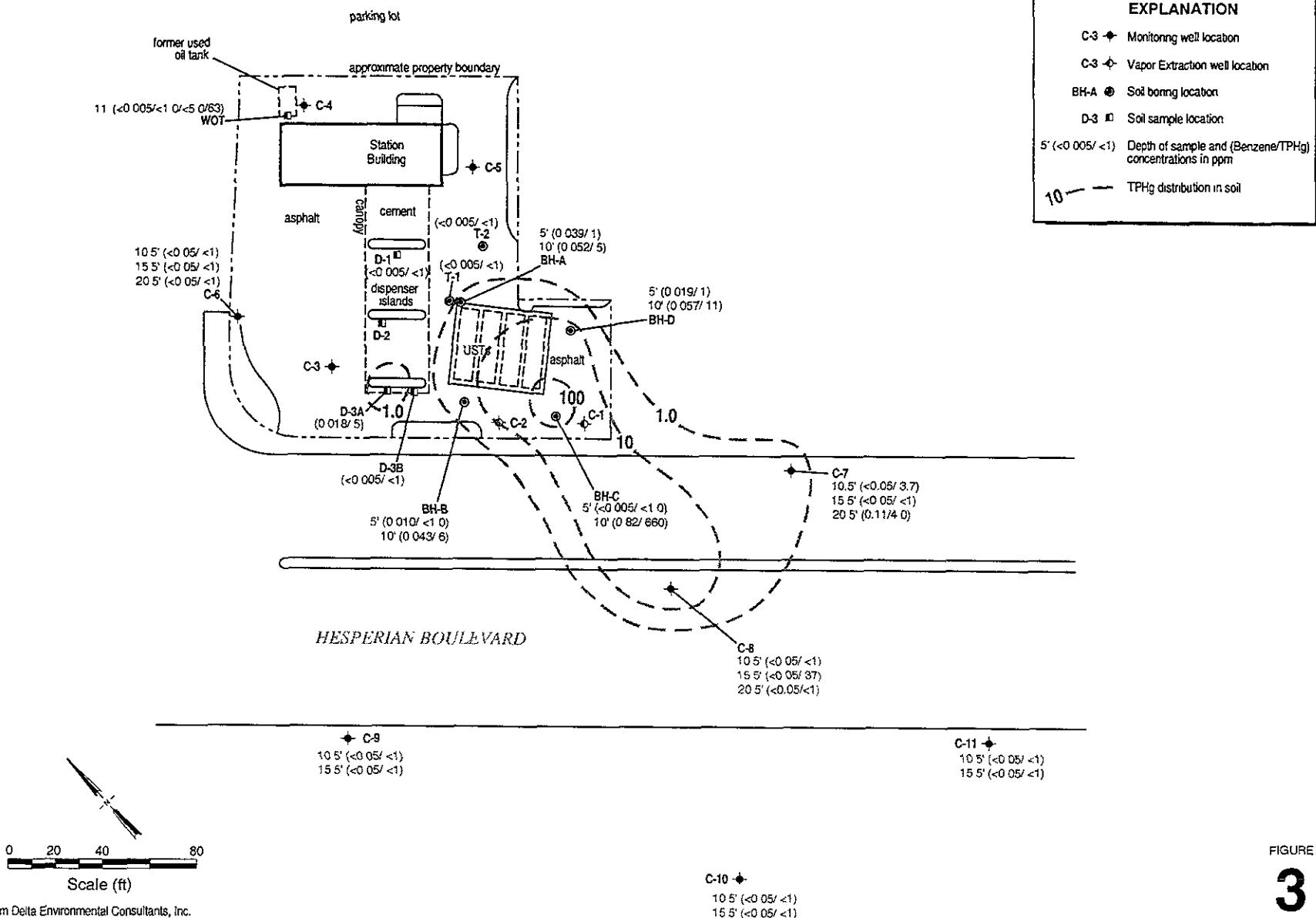
09/24/04

### Historical Hydrocarbon Distribution In Soil

C  
C A M B R I A

FIGURE  
**3**

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

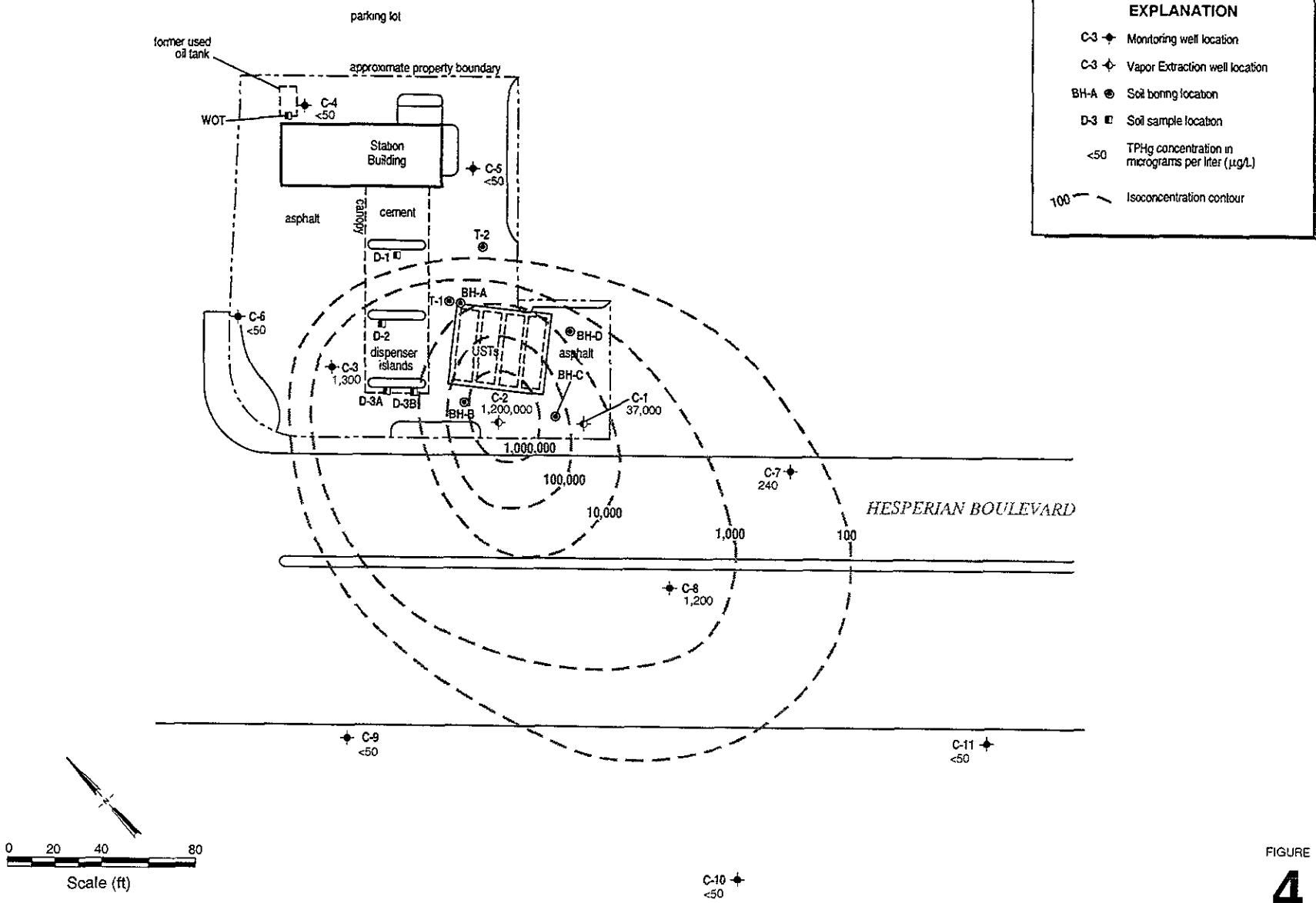


## Historical TPHg Concentrations Groundwater

C A M B R I A

FIGURE  
**4**

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

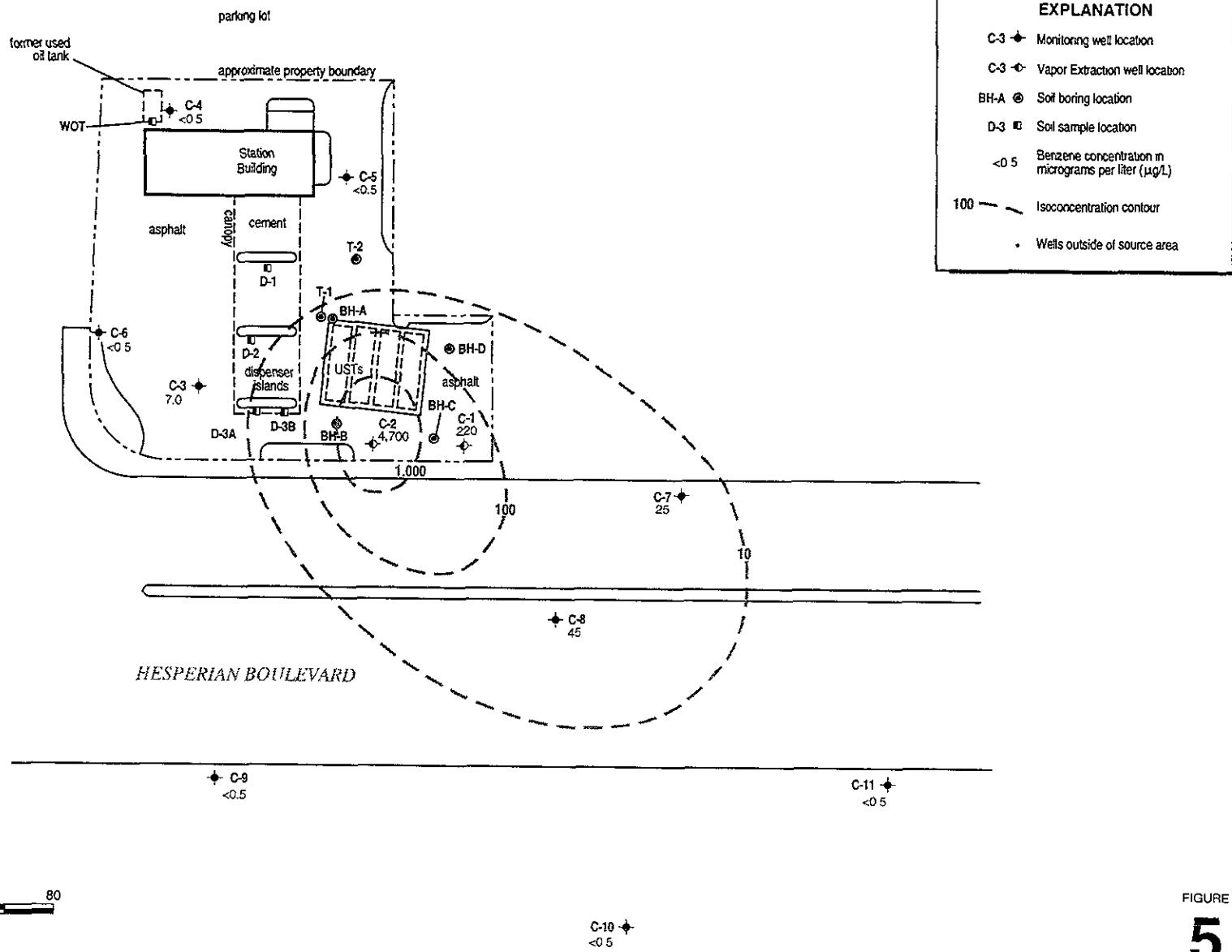


CD 25-04

**Historical Benzene Concentrations  
In Groundwater**

C  
A  
M  
B  
R  
I  
A

**FIGURE 5**  
**Chevron Service Station 9-0504**  
 15900 Hesperian Boulevard  
 San Lorenzo, California



Map from Delta Environmental Consultants, Inc.

## TPHg Concentrations Groundwater

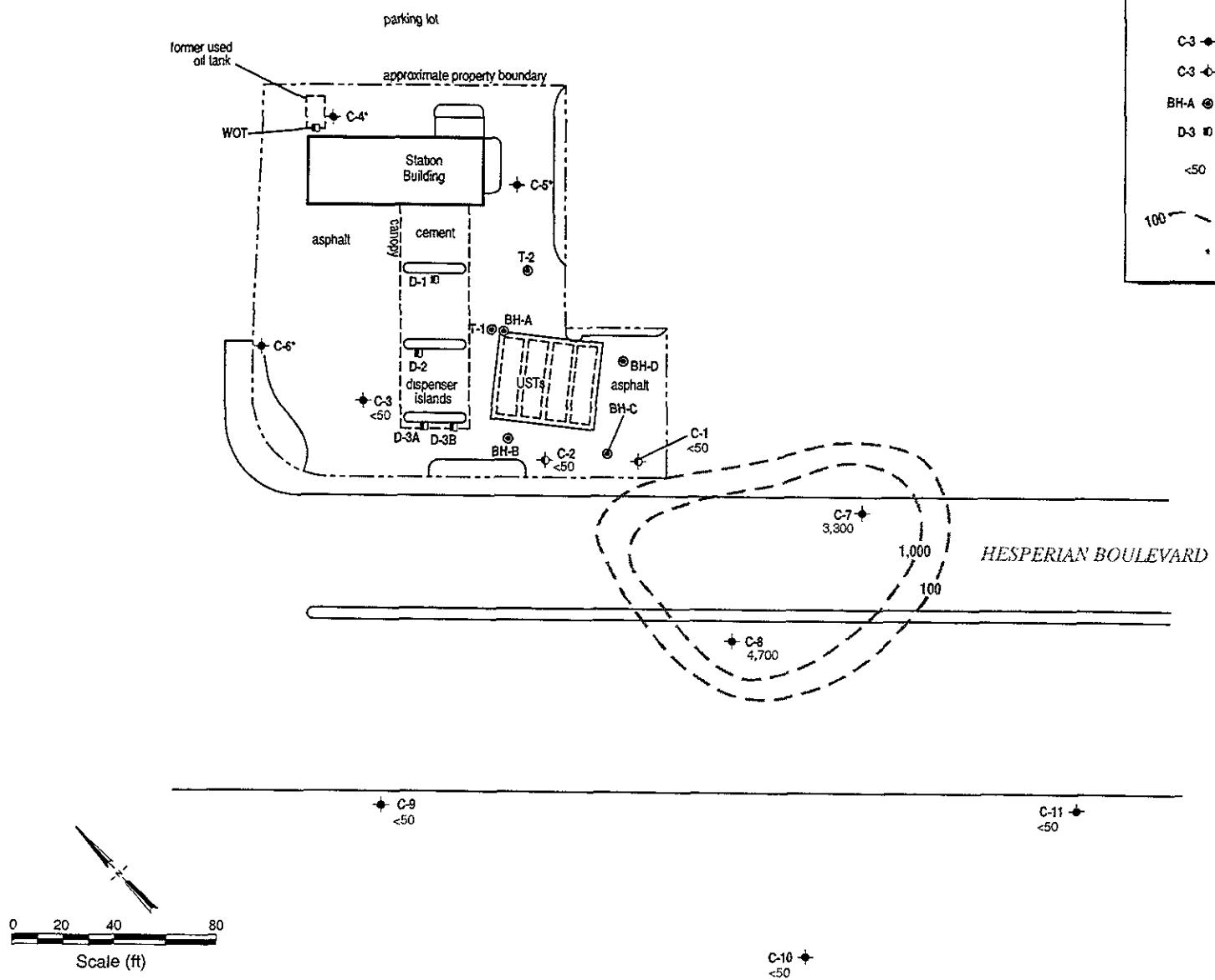


C A M B R I A

FIGURE  
**6**

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

EXPLANATION	
C-3	Monitoring well location
C-3	Vapor Extraction well location
BH-A	Soil boring location
D-3	Soil sample location
<50	TPHg concentration in micrograms per liter ( $\mu\text{g/L}$ )
100	Isoconcentration contour
*	Clean wells - removed from sampling program



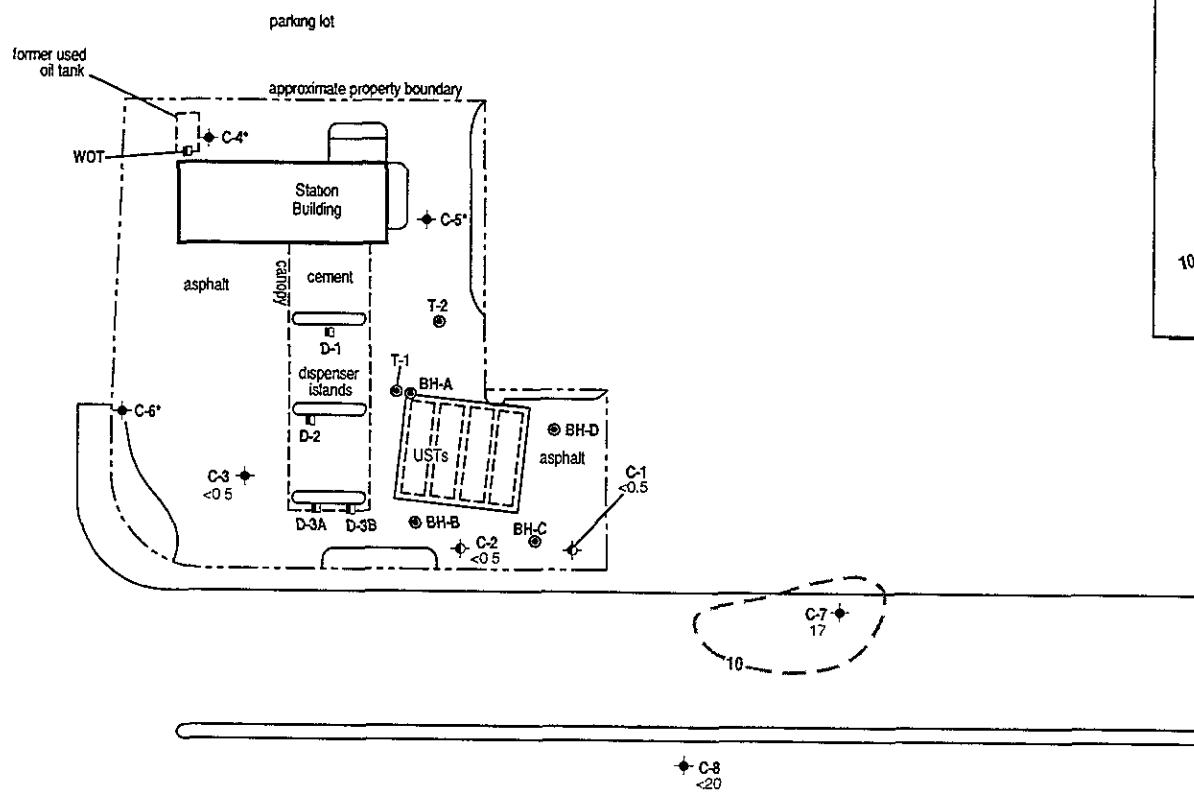
**Benzene Concentrations in Groundwater**

C A M B R I A

**FIGURE  
7**

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

EXPLANATION	
C-3	Monitoring well location
C-3	Vapor Extraction well location
BH-A	Soil boring location
D-3	Soil sample location
17	Benzene concentration in micrograms per liter ( $\mu\text{g/L}$ )
10	Isoconcentration contour
*	Clean wells - removed from sampling program



Map from Delta Environmental Consultants, Inc.  
Scale (ft)

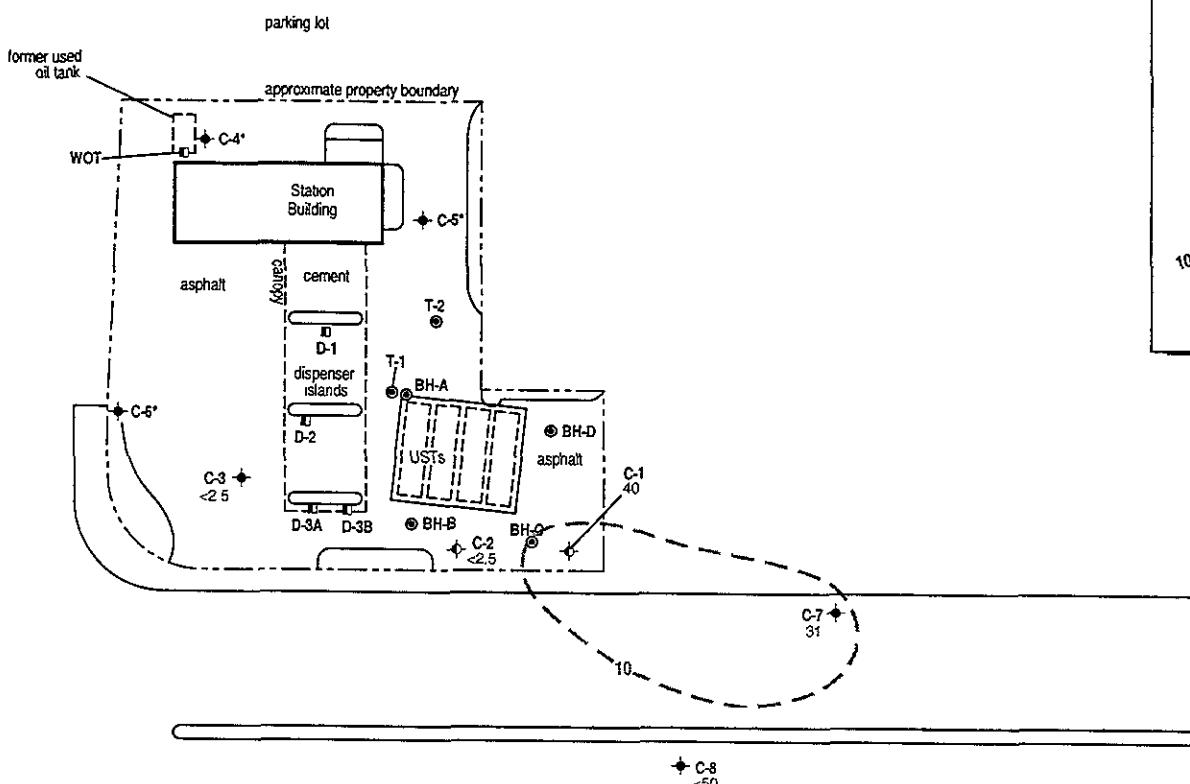


C A M B R I A

FIGURE  
8

**Chevron Service Station 9-0504**  
15500 Hesperian Boulevard  
San Lorenzo, California

EXPLANATION	
C-3	♦ Monitoring well location
C-3	◊ Vapor Extraction well location
BH-A	◎ Soil boring location
D-3	□ Soil sample location
31	MTBE concentration in micrograms per liter ( $\mu\text{g/L}$ )
10	Isoconcentration contour
*	Clean wells - removed from sampling program



Scale (ft)

Map from Delta Environmental Consultants, Inc

## **APPENDIX A**

**Figures By Previous Environmental Consultants**

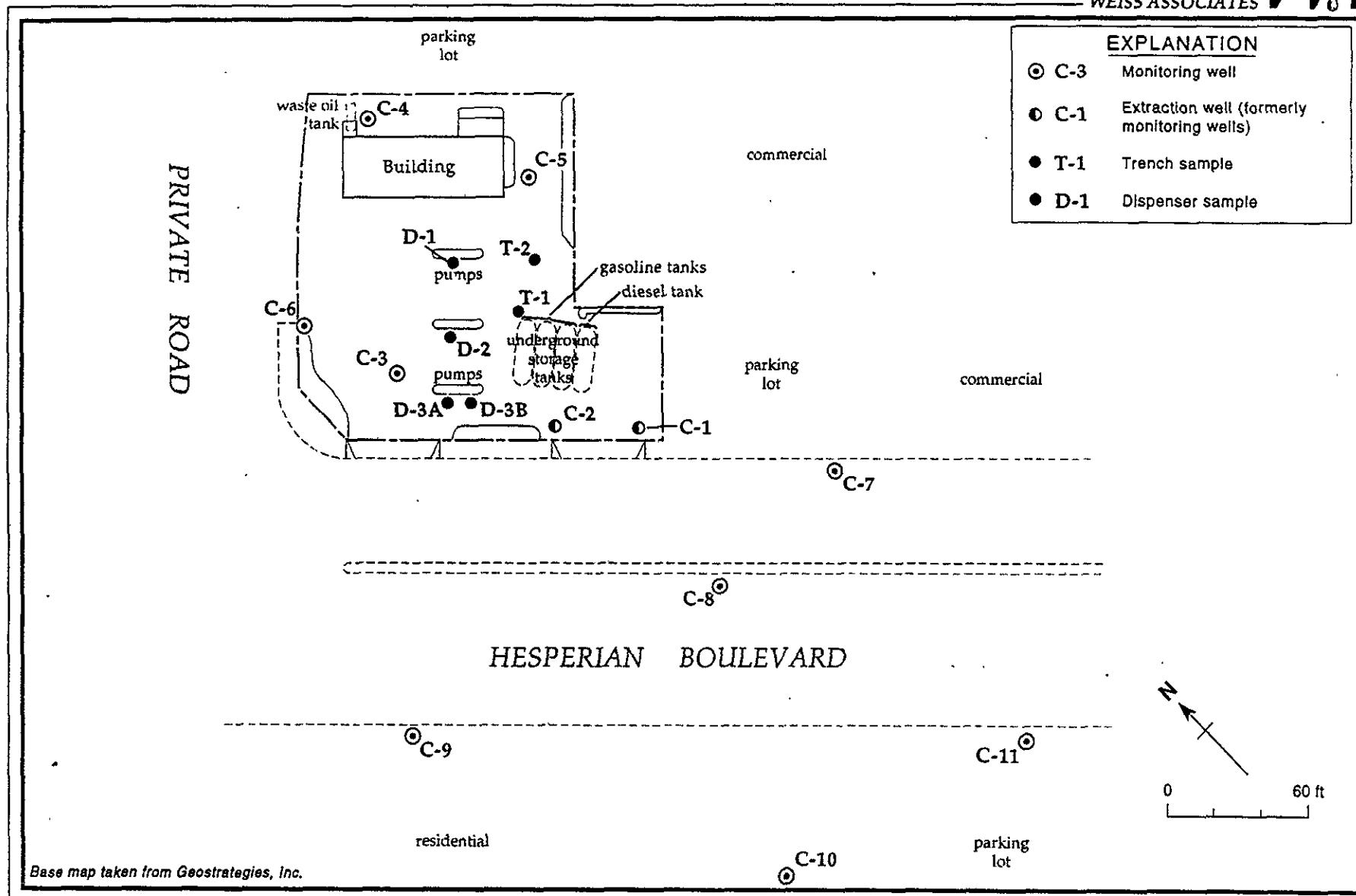


Figure 1. Soil Sample Locations - January 1994 - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

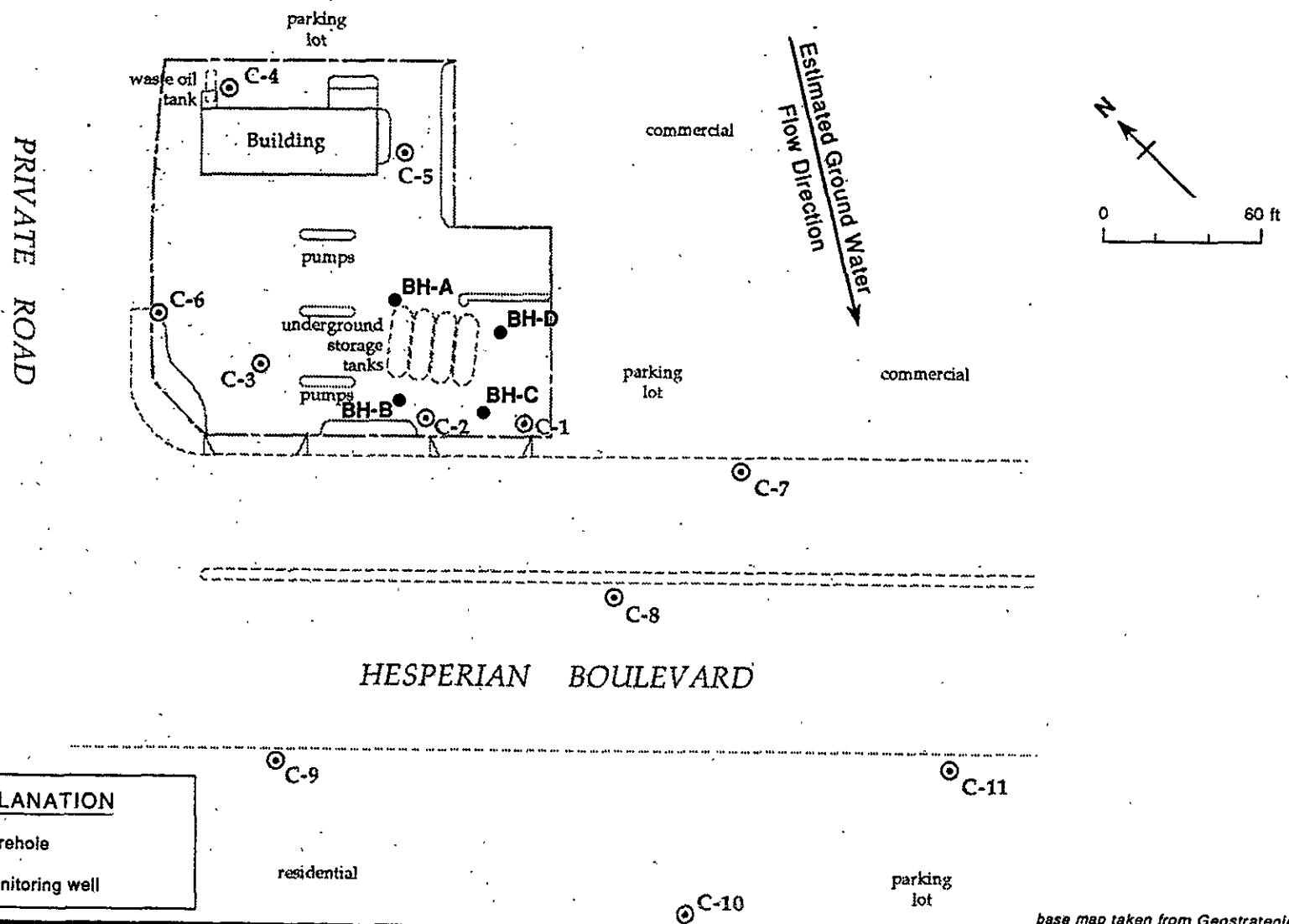
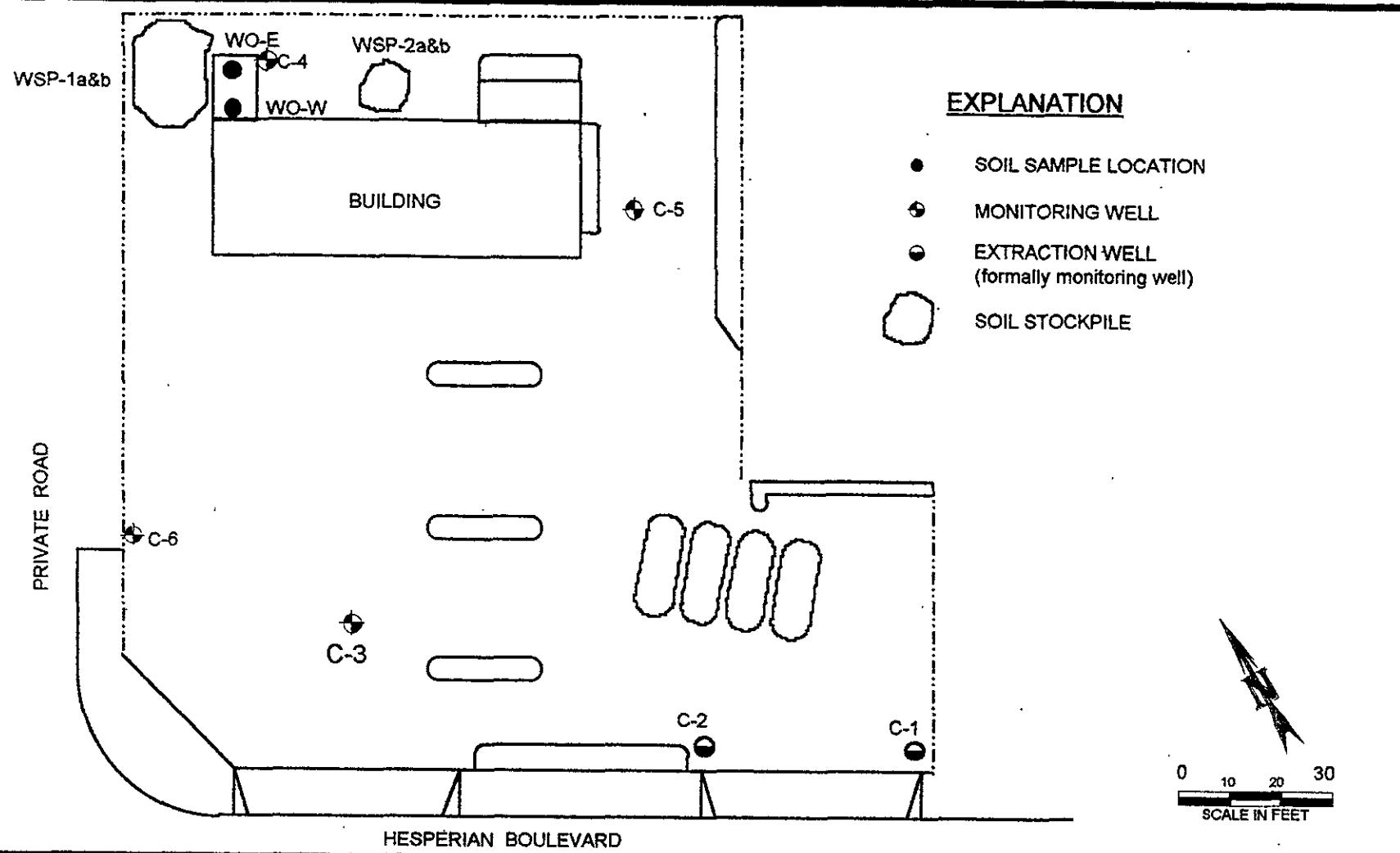


Figure 2. Borehole Locations - Chevron Service Station #9-0505, 15900 Hesperian Boulevard, San Lorenzo, California



## SOIL SAMPLE LOCATION MAP

CHEVRON SERVICE STATION NO. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

FIGURE

**2**

PROJECT:

0504-1

DATE

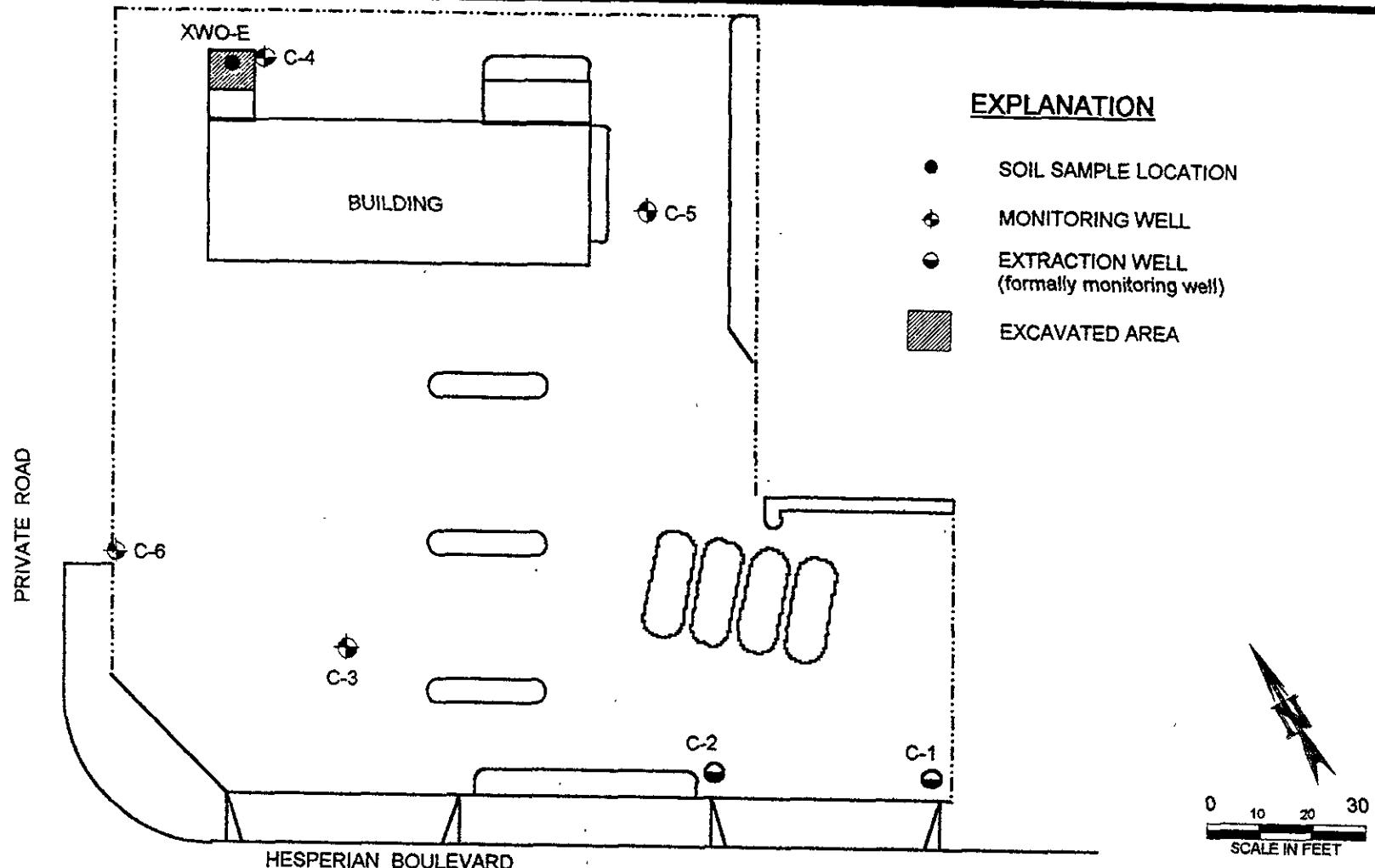
4/94

DRAWN BY:

WTJ

BASE MAP:

WEISS ASSOCIATES



**Touchstone**  
**Developments**  
Environmental Management

PROJECT:

0504-1

DATE

4/94

DRAWN BY:

WTJ

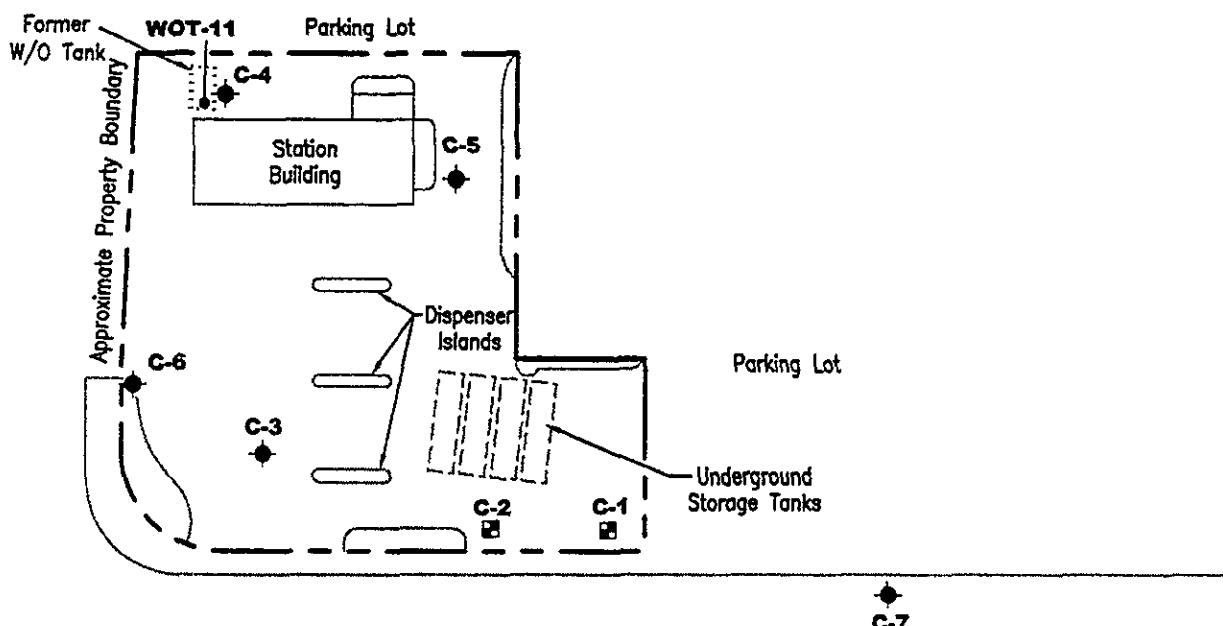
BASE MAP:

WEISS ASSOCIATES

### OVEREXCAVATION AND SOIL SAMPLE LOCATION MAP

CHEVRON SERVICE STATION NO. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

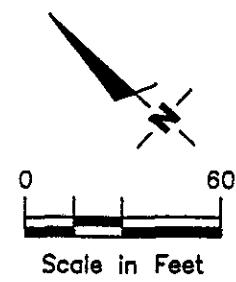
FIGURE  
**3**



### EXPLANATION

- ◆ Groundwater monitoring well
- Vapor extraction well.
- Soil sample location

**HESPERIAN BOULEVARD**



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



6747 Sierra Ct., Suite J  
Dublin, CA 94568

(925) 551-7555

PROJECT NUMBER  
345259

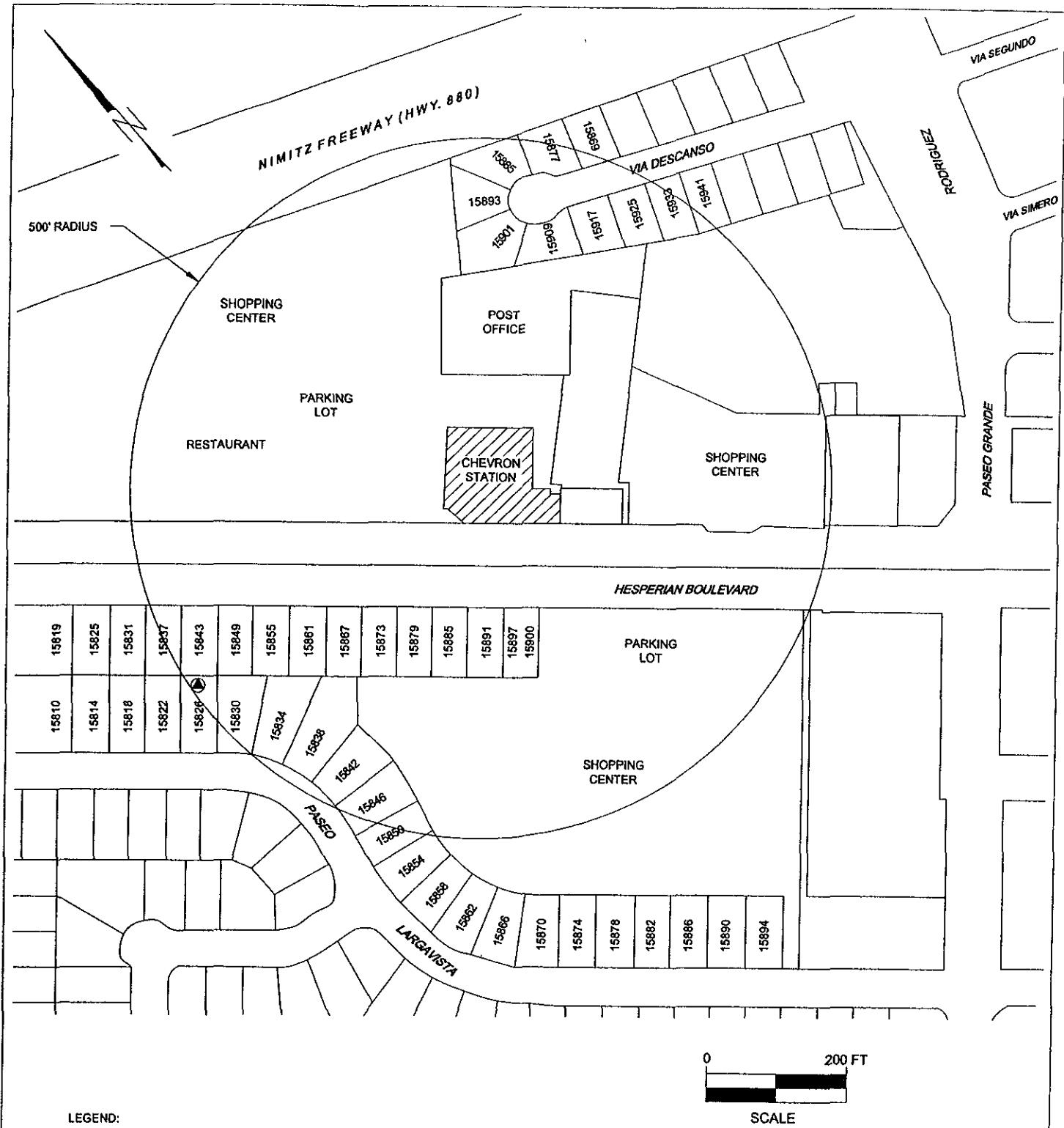
REVIEWED BY

### SITE PLAN

Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
7/01

REVISED DATE



**LEGEND:**

15855 PROPERTY ADDRESS  
 (I) IRRIGATION WELL (INACTIVE)

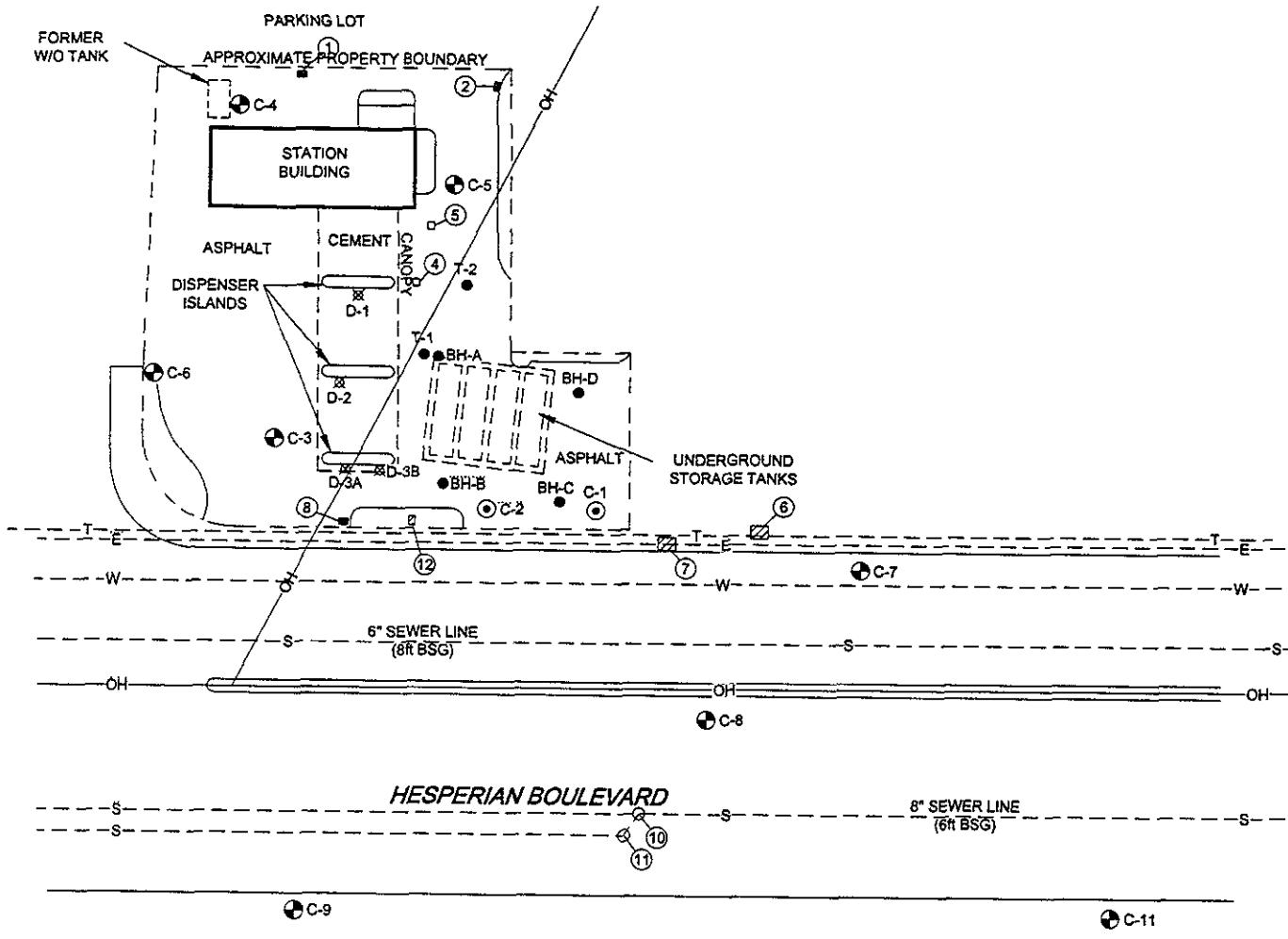
**FIGURE 11**

**500 FOOT DOOR TO DOOR WELL SURVEY**

**CHEVRON STATION NO. 9-0504  
 15900 HESPERIAN BLVD.  
 SAN LEANDRO, CALIFORNIA**

PROJECT NO. DG90-504	DRAWN BY M.L. 5/20/02
FILE NO. DG90504B	PREPARED BY BAB
REVISION NO. 4	REVIEWED BY





VAULT NUMBER	VAULT DESCRIPTION
1	STORM DRAIN
2	STORM DRAIN
3	MANHOLE
4	WATER VALVE
5	WATER VALVE
6	PACIFIC BELL
7	PG&E
8	STORM DRAIN
9	SEWER
10	SEWER
11	SEWER
12	WATER VALVE

#### UTILITIES

- E-- ELECTRICAL LINE (BURIED)
- S-- SANITARY SEWER LINE (BURIED)
- T-- TELEPHONE LINE (BURIED)
- OH-- OVERHEAD POWER LINE
- W-- WATER LINE (BURIED)

C-10

FIGURE 12

#### UTILITY MAP

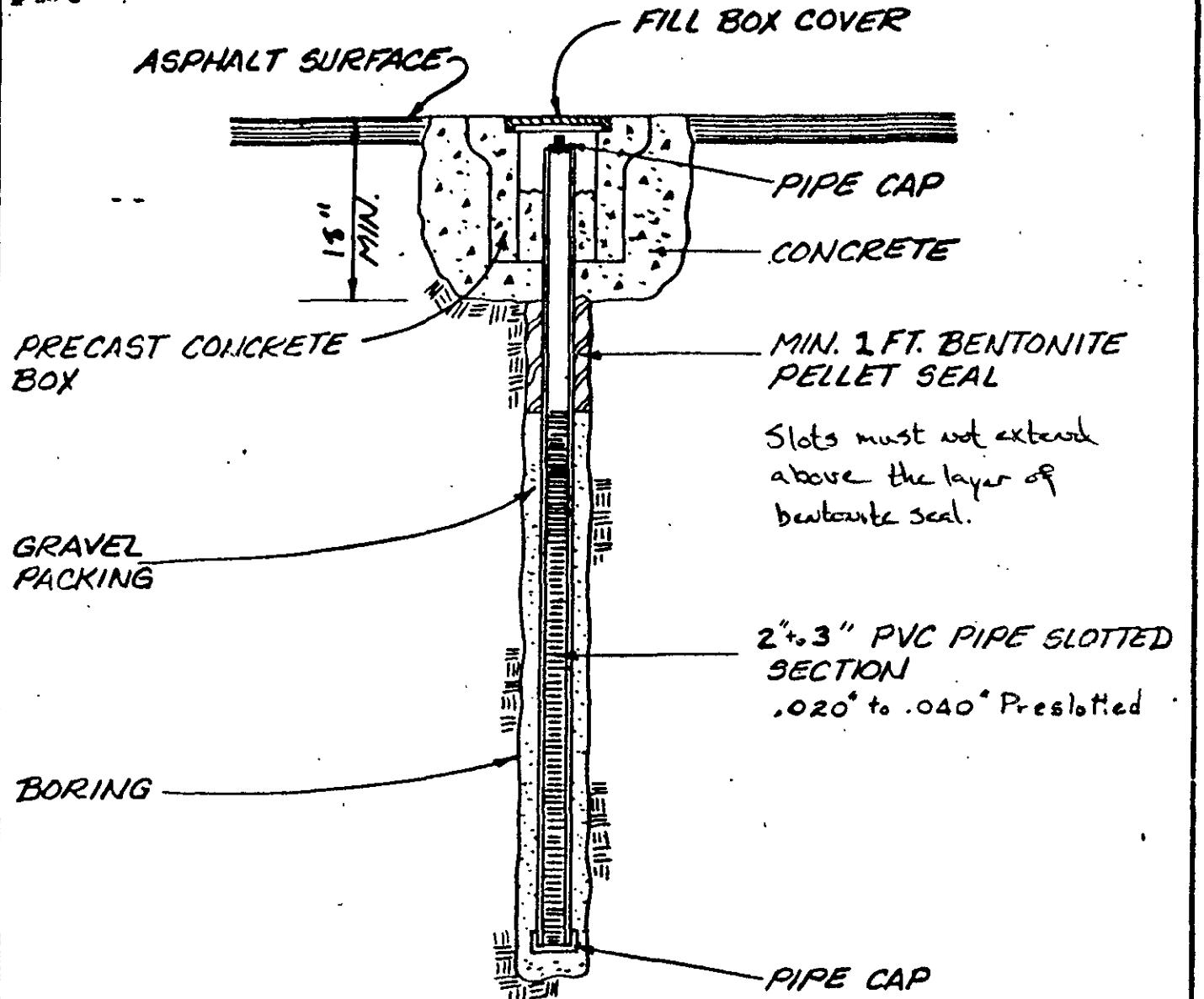
CHEVRON SERVICE STATION 9-0504  
15900 HESPERIAN BOULEVARD  
SAN LORENZO, CA.

PROJECT NO. DG90-504	DRAWN BY M.L. 8/29/02
FILE NO. DG90504C	PREPARED BY TAD
REVISION NO. 3	REVIEWED BY



## **APPENDIX B**

### **Boring Logs**



DEPTH OF HOLE: 20'

TOTAL NUMBER OF HOLES REQUIRED: 5

REV <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>PLANS &amp; SPECIFICATIONS</u> <u>Typical Well Profile</u>						DR R.B. CH. DR APP. _____ ENGR. _____ OPR.G. DEPT. <input type="checkbox"/> APPROVED	
2/1/83						ENGR. DEPT. <input type="checkbox"/>	
SCALE <u>1:1000</u> DATE <u>2/1/83</u>						W.O. _____ S.O. _____	

# **Gettler - Ryan Inc.** — GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: Charon U.S.A.

JOB NO: OR - 5107

LOCATION: 15920 Mesperian

DATE: 12-29-63

CITY: San Lorenzo

WELL #: 1

FOREMAN: Mike Divita

SHEET: 1 OF 1

**Gettier - Ryan Inc.**

GENERAL CONTRACTORS

**WELL BORING LOG**

COMPANY: Chevron U.S.A JOB NO: OR - 5107  
LOCATION: 15900 Hesperian DATE: 12-29-83  
CITY: San Lorenzo WELL #: 2

FOREMAN: Mike DeVita

SHEET: 1 OF 1

**Gettler - Ryan Inc.**

GENERAL CONTRACTORS

## WELL BORING LOG

COMPANY: Chevron U.S.A. JOB NO: OR - 5107  
LOCATION: 15900 Hesperian DATE: 12-29-83  
CITY: San Lorenzo WELL #: 3

FOREMAN: Mike DeVita

SHEET:    OF

**Gettler - Ryan Inc.**

GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: Chevron U.S.A.

JOB NO: OR - 5107

LOCATION: 15900 Hesperian

DATE: 12-29-83

CITY: Santa Lorenzo

WELL #: 7# 4

FOREMAN: Nile Dorita

SHEET: / OF /

**Gottler - Ryan Inc.** GENERAL CONTRACTORS

## WELL BORING LOG

COMPANY: Chevron U.S.A. JOB NO: OR - 5107  
LOCATION: 15900 Hesperian DATE: 12-29-83  
CITY: San Lorenzo WELL #: 5

FOREMAN: Mike Divita SHEET: 1 OF 1

Field location of boring:  (See Plate 2)							Project No.: 7259	Date: 11/27/89	Boring No: C-6	
							Client: Chevron Service Station #0504	Location: 15900 Hesperian Boulevard		
							City: San Lorenzo, California	Logged by: R.S.Y.	Driller: Bayland	
							Casing installation data:			
Drilling method: Hollow-Stem Auger							Top of Box Elevation: 36.89		Datum: MSL	
Hole diameter: 8-Inches							Water Level			
R.D. (ft/min)	Blowout or Fracture (ps)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description		
								Time		
								PAVEMENT SECTION - 3.0 feet		
				1						
				2						
				3						
				4						
2.6	100	S&H		5				SILT (ML) - dark yellow brown (10YR 4/4), medium stiff, moist; voids; low plasticity; no chemical odor.		
	100	push	C-6	6						
	100		5.5	7						
				8						
				9						
0	100	S&H		10				COLOR CHANGE to very dark gray (7.5YR 3/0); at 9.0 feet; rootlets; no chemical odor.		
	100	push	C-6	11						
	100		10.5	12						
				13						
				14						
0	4	S&H		15				COLOR CHANGE to dark yellow brown (10YR 4/4); at 14.0 feet, stiff, moist; no chemical odor.		
	5		C-6	16						
	8		15.5	17						
				18				SILTY CLAY (CL) - very dark gray (10YR 3/0), medium stiff, saturated; 35-40% silt; medium plasticity; no chemical odor.		
				19						



GeoStrategies Inc.

## Log of Boring

**BORING NO.**

JOB NUMBER  
**7259**

---

REVIEWED BY PG/CEG

DATE  
11/89

---

REVISED DATE

---

REVISED DATE

C-6

Field location of boring:  (See Plate 2)								Project No.: 7259	Date: 11/27/89	Boring No:	
								Client: Chevron Service Station #0504			
Location: 15900 Hesperian Boulevard								C-6			
City: San Lorenzo, California								Sheet 2 of 2			
Logged by: R.S.Y.								Driller: Bayland			
Casing installation data:											
Drilling method: Hollow-Stem Auger											
Hole diameter: 8-Inches								Top of Box Elevation:			Datum:
P.D. (ppm)	Blowout or Pressure (psi)	Type of Sample	Sample Number	Depth (ft)	Sample	Well Detail	Soil Group Symbol (USCS)	Water Level			
								Time			
								Date			
								Description			
6.2	2	S&H									
	3		C-6	20							
	5		20.5	21							
				22							
				23							
				24							
1.3	6	S&H						very stiff, caliche stringers; trace fine sand; no chemical odor.			
	11		C-6	25							
	13		25.5	26							
				27				Bottom of sample 25.5 feet.			
				28				Bottom of boring at 25.5 feet.			
				29							
				30							
				31							
				32							
				33							
				34							
				35							
				36							
				37							
				38							
				39							
Remarks:											

## Log of Boring



GeoStrategies Inc.

BORING NO.

C-6

JOB NUMBER  
7259

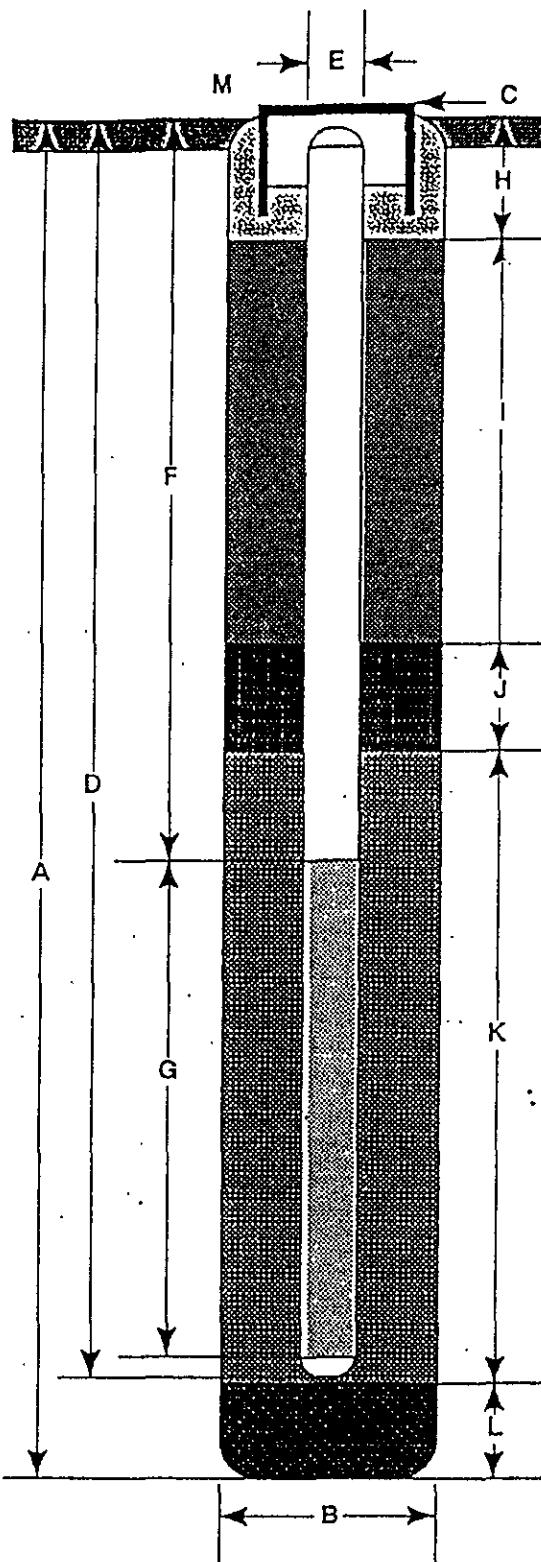
REVIEWED BY RG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.  
Drilling Method Hollow-Stem Auger
- C Top of Box Elevation 36.89 ft.  
 Referenced to Mean Sea Level  
 Referenced to Project Datum
- D Casing Length 25 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 5 ft.
- G Perforated Length 20 ft.  
Perforated Interval from 5 to 25 ft.  
Perforation Type Machine Slot  
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.  
Seal Material Concrete Grout
- I Backfill from 1.5 to 3 ft.  
Backfill Material Cement Grout
- J Seal from 3 to 4 ft.  
Seal Material Bentonite Pellets
- K Gravel Pack from 4 to 25 ft.  
Pack Material Lonestar 2/12 Sand
- L Bottom Seal 0.5 ft.  
Seal Material Native Soil
- M Christy box with locking well cap and lock.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-6

JOB NUMBER  
7259

REVIEWED BY PG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2)								Project No.: 7259	Date: 11/28/89	Boring No:
								Client: Chevron Service Station #0504		C-7
Location: 15900 Hesperian Boulevard								City: San Lorenzo, California	Sheet 1	
Logged by: R.S.Y.								Driller: Bayland	of 2	
Casing installation data:										
Drilling method: Hollow-Stem Auger								Top of Box Elevation: 32.75	Datum: MSL	
Hole diameter: 8-Inches								Water Level		
								Time		
								Date		
								Description		

Field location of boring:  (See Plate 2)								Project No.: 7259	Date: 11/28/89	Boring No:
								Client: Chevron Service Station #0504	Location: 15900 Hesperian Boulevard	City: San Lorenzo, California
Logged by: R.S.Y. Driller: Bayland								Casing installation data:		
Drilling method: Hollow-Stem Auger Hole diameter: 8-Inches								Top of Box Elevation: Datum:		
P.D. (gpm)	Blowout or Pressure (ps)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description		
								Water Level		
5	S&H		C-7	20				very stiff; decrease silt to 10%; no chemical odor.		
10				21						
13			20.5	22						
				23						
				24				color change to yellow brown (10YR 4/1); at 24.0 feet, stiff.		
6	S&H			25						
6			C-7	26				Bottom of sample at 25.5 feet.		
8			25.5	27				Bottom of boring at 25.5 feet.		
				28						
				29						
				30						
				31						
				32						
				33						
				34						
				35						
				36						
				37						
				38						
				39						

Remarks:



GeoStrategies Inc.

### Log of Boring

BORING NO.

**C-7**

JOB NUMBER  
7259

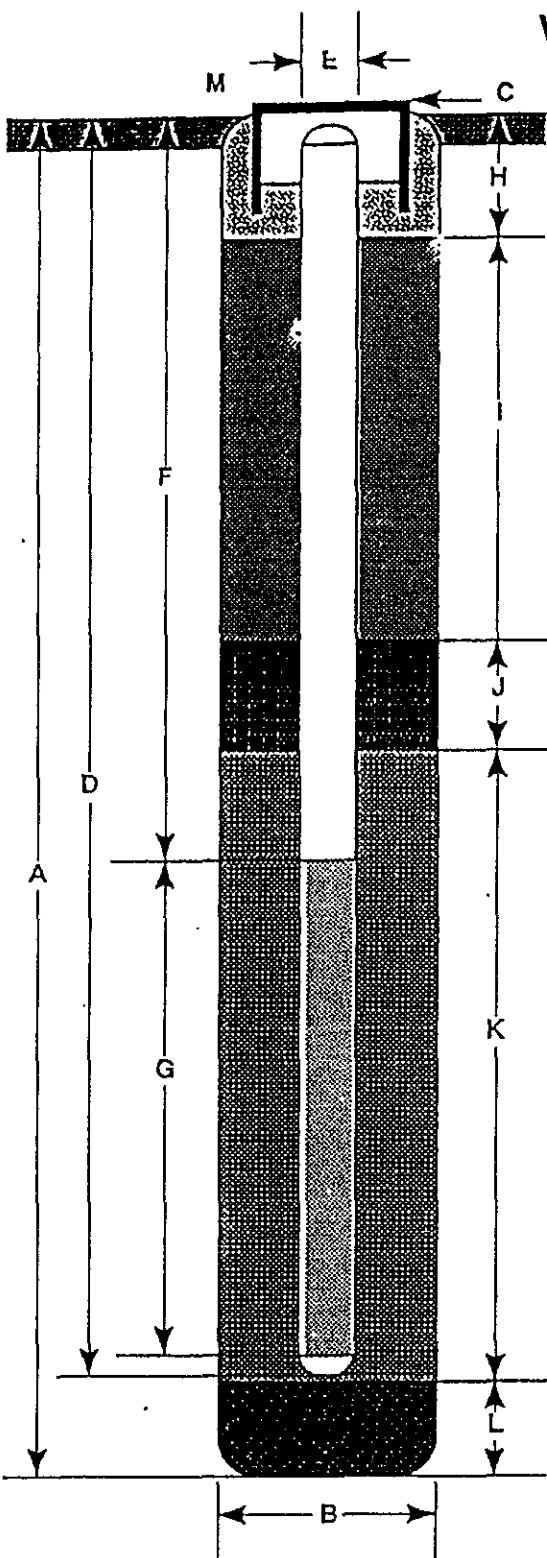
REVIEWED BY PG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.  
Drilling Method Hollow-Stem Auger
- C Top of Box Elevation 32.75 ft.  
 Referenced to Mean Sea Level  
 Referenced to Project Datum
- D Casing Length 25 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 8 ft.
- G Perforated Length 17 ft.  
Perforated Interval from 8 to 25 ft.  
Perforation Type Machine Slot  
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.  
Seal Material Concrete Grout
- I Backfill from 1.5 to 6 ft.  
Backfill Material Cement Grout
- J Seal from 6 to 7 ft.  
Seal Material Bentonite Pellets
- K Gravel Pack from 7 to 25 ft.  
Pack Material Lonestar 2/12 Sand
- L Bottom Seal 0.5 ft.  
Seal Material Native Soil
- M Christy box with locking well cap and lock.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

JOB NUMBER  
7259

REVIEWED BY PG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

C-7

Field location of boring:  (See Plate 2)								Project No.: 7259	Date: 11/27/89	Boring No:
								Client: Chevron Service Station #0504		C-8
								Location: 15900 Hesperian Boulevard		
								City: San Lorenzo, California	Sheet 1	
								Logged by: R.S.Y.	Driller: Bayland	of 2
Casing installation data:										
Drilling method: Hollow-Stem Auger								Top of Box Elevation: 33.82	Datum: MSL	
Hole diameter: 8-Inches								Water Level		
								Time		
								Date		
								Description		
								PAVEMENT SECTION - 3.0 feet		
								1		
								2		
								3		
								4		
25.5	100	S&H						5	SILT (ML) - olive (5Y 4/3), medium stiff, moist; trace fine sand; low plasticity; no chemical odor.	
	100	push	C-8					6		
	100		5.5					7		
								8		
								9		
6.2	150	S&H						10	COLOR CHANGE to very dark gray (7.5YR 3/0); at 9.0 feet; weak chemical odor.	
	250	push	C-8					11		
	.250		10.5					12		
								13		
								14	SILTY CLAY (CL) - dark gray (5Y 4/1), stiff, moist, low plasticity; caliche stringers; strong chemical odor.	
195	3	S&H						15		
	5		C-8					16		
	7		15.5					17		
								18		
								19		

Remarks:

### Log of Boring

BORING NO.



GeoStrategies Inc.

C-8

JOB NUMBER  
7259

REVIEWED BY RG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2)							Project No.: 7259	Date: 11/27/89	Boring No:
							Client: Chevron Service Station #0504		
							Location: 15900 Hesperian Boulevard	C-8	
							City: San Lorenzo, California	Sheet 2	
							Logged by: R.S.Y.	Driller: Bayland	of 2
Casing installation data:									
Drilling method: Hollow-Stem Auger							Top of Box Elevation:	Datum:	
Hole diameter: 8-Inches							Water Level		
							Time		
							Date		
Description									
P.D. (ppm)	Blowout or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)		
6	3	S&H		20				COLOR CHANGE to olive (5Y 4/3); at 19.0 feet; no chemical odor.	
6			C-8	20					
8			21.5	21					
				22					
				23					
				24				COLOR CHANGE to yellow brown (10YR 5/6); at 24.0 feet; 25% very fine sand; no chemical odor.	
7		S&H		24					
10			C-8	25					
13			25.5	26				Bottom of sample at 25.5 feet. Bottom of boring at 25.5. feet.	
				27					
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
Remarks:									

### Log of Boring



GeoStrategies Inc.

BORING NO.

C-8

JOB NUMBER  
7259

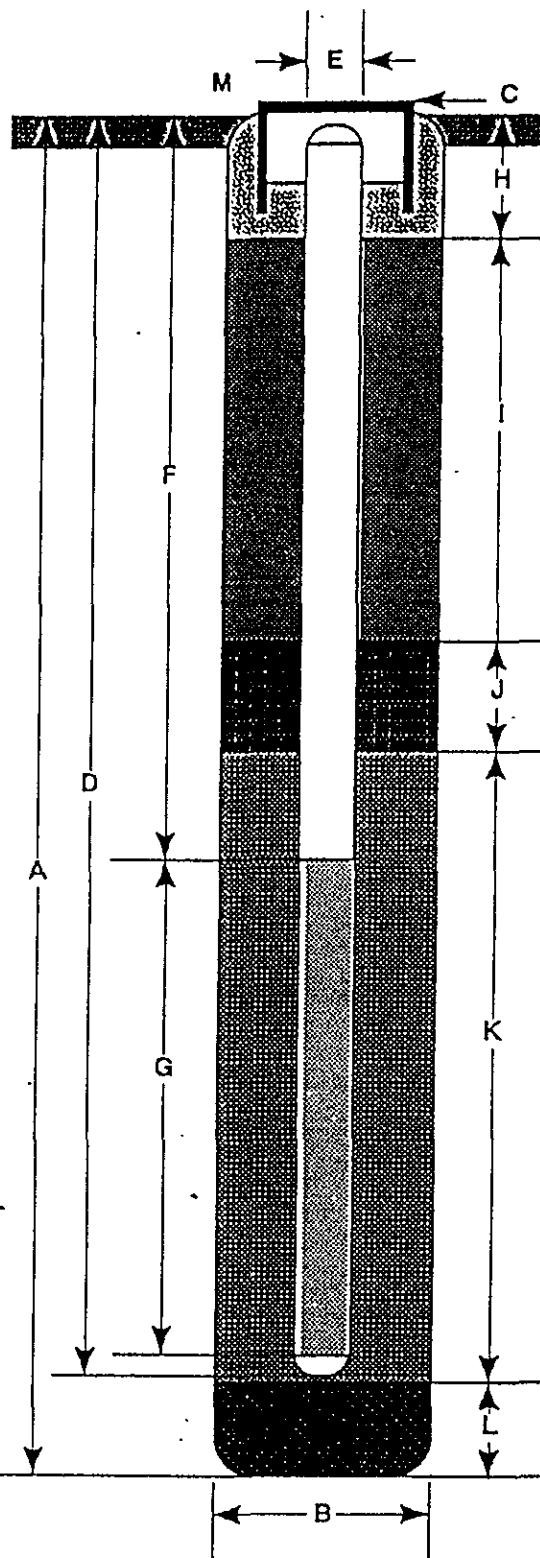
REVIEWED BY PG/CEG

DATE  
11/89

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.  
Drilling Method Hollow-Stem Auger
- C Top of Box Elevation 33.82 ft.  
 Referenced to Mean Sea Level  
 Referenced to Project Datum
- D Casing Length 25 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 5 ft.
- G Perforated Length 20 ft.  
Perforated Interval from 5 to 20 ft.  
Perforation Type Machine Slot  
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.  
Seal Material Concrete Grout
- I Backfill from 1.5 to 3 ft.  
Backfill Material Cement Grout
- J Seal from 3 to 4 ft.  
Seal Material Bentonite Pellets
- K Gravel Pack from 4 to 25 ft.  
Pack Material Lonestar 2/12 Sand
- L Bottom Seal 0.5 ft.  
Seal Material Native Soil
- M Christy box with locking well cap and lock.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

JOB NUMBER  
7259

REVIEWED BY RG/OEG

DATE  
11/89

REVISED DATE

REVISED DATE

C-8

Field location of boring:  
(See Plate 2)

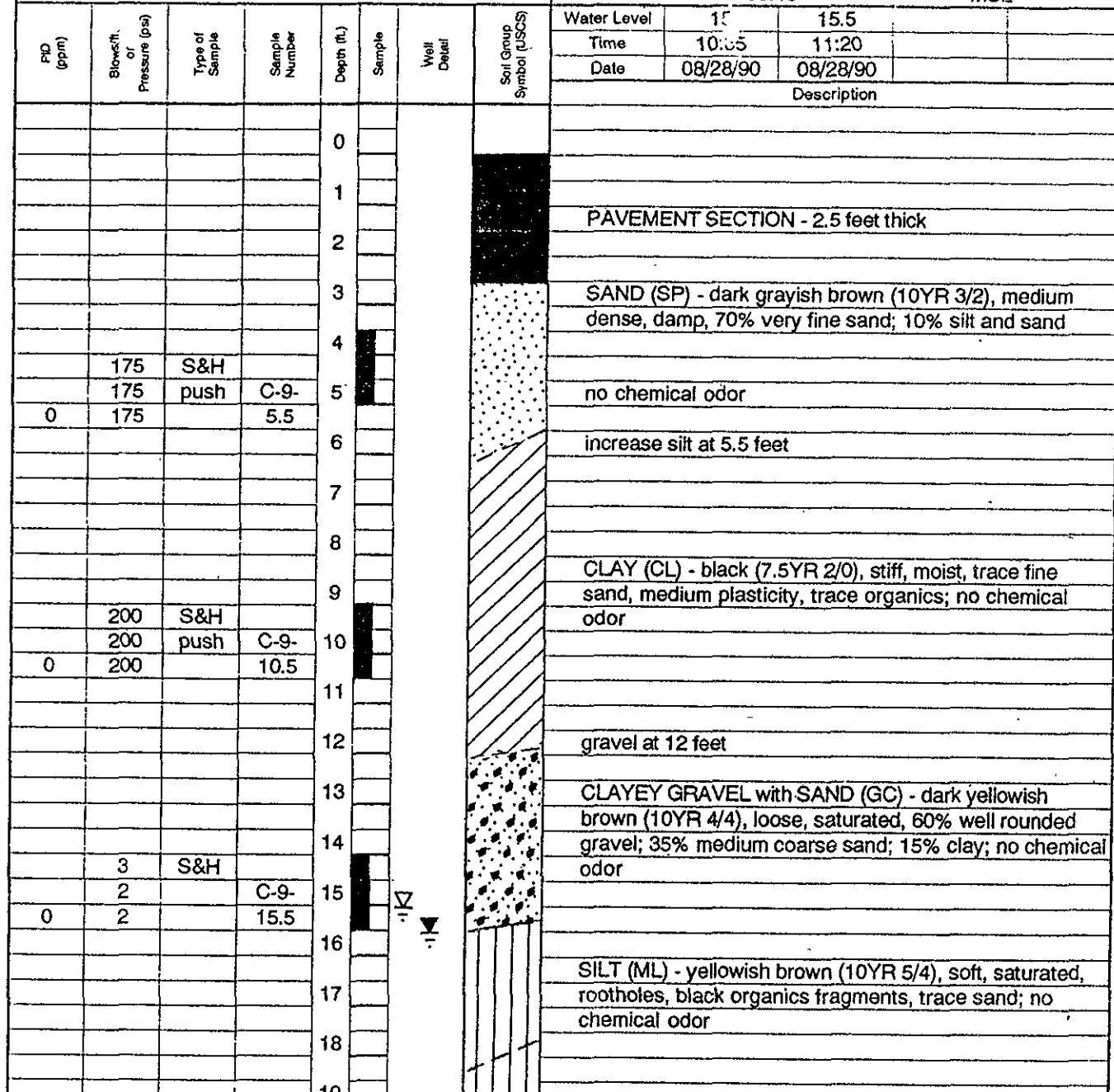
Project No.:	7259	Date:	08/28/90	Boring No:
Client:	Chevron Service Station #0504			C-9
Location:	15900 Heperian			
City:	San Lorenzo, California			Sheet 1
Led by:	R.S.Y.	Driller:	Bayland	of 2

Casing installation data:

Drilling method: Hollow Stem Auger  
Hole diameter: 8-inches

Top of Box Elevation: 33.43' Datum: MSL

Water Level	15'	15.5
Time	10:05	11:20
Date	08/28/90	08/28/90
Description		



Remarks:



GeoStrategies Inc.

### Log of Boring

BORING NO.

C-9

JOB NUMBER  
7259

REVIEWED BY PG/CEG  
CLMP/CEU/AGL

DATE  
8/90

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2)							Project No.: 7259	Date: 08/28/90	Boring No:	
							Client: Chevron Service Station #0504			
Location: 15900 Hesperian							C-9			
City: San Lorenzo, California							Sheet 2			
Logged by: R.S.Y.				Driller: Bayland				of 2		
Casing installation data:										
Drilling method: Hollow Stem Auger							Top of Box Elevation:			Datum:
Hole diameter: 8-inches							Water Level			
							Time			
							Date			
							Description			
PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)			
4	S&H			20						
7		C-9-		21						
0 10		20.5		22						
				23						
				24						
6	S&H			25						
8		C-9-		26						
0 8		25.5		27						
				28						
				29						
				30						
				31						
				32						
				33						
				34						
				35						
				36						
				37						
				38						
				39						
Remarks:										

### Log of Boring

BORING NO.



GeoStrategies Inc.

C-9

JOB NUMBER  
7259

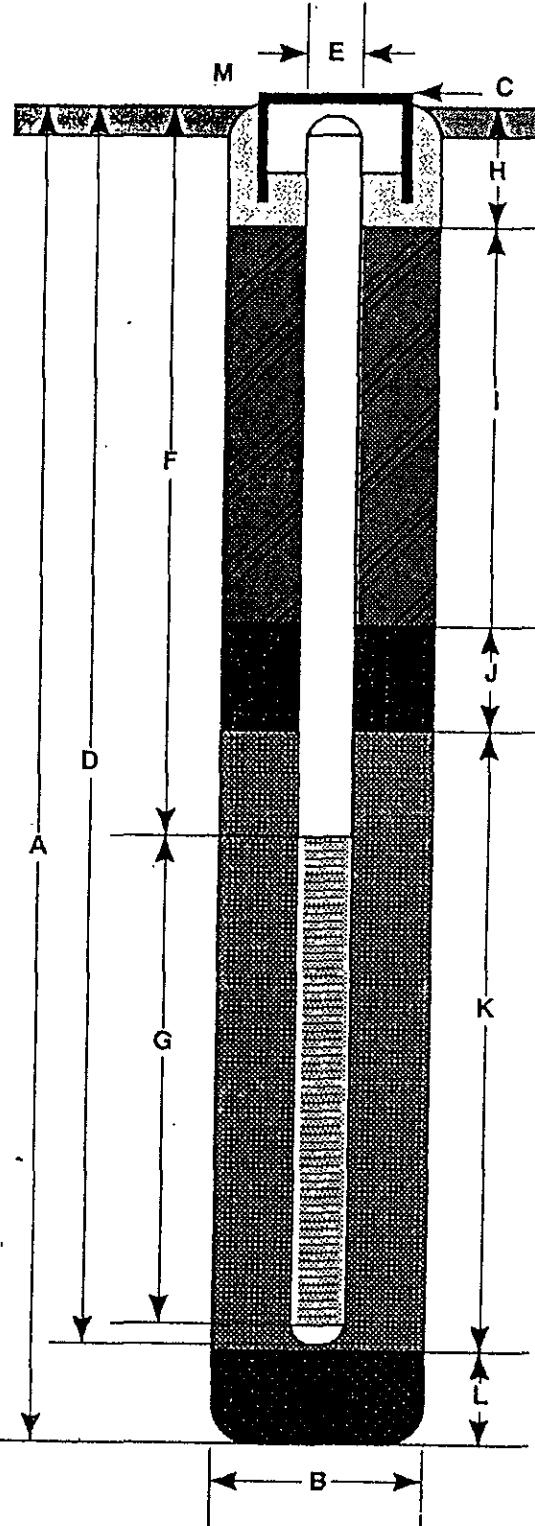
REVIEWED BY PG/EG  
CLMP CEC/126

DATE  
8/90

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.  
Drilling Method Hollow Stem Auger
- C Top of Box Elevation \_\_\_\_\_ ft.  
 Referenced to Mean Sea Level  
 Referenced to Project Datum
- D Casing Length 25 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 12 ft.
- G Perforated Length 13 ft.  
Perforated Interval from 12 to 25 ft.  
Perforation Type Factory Slot  
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.  
Seal Material Concrete
- I Backfill from 1.5 to 8 ft.  
Backfill Material Cement Grout
- J Seal from 8 to 10 ft.  
Seal Material Bentonite Pellets
- K Gravel Pack from 10 to 25 ft.  
Pack Material Lonestar #2/12 Sand
- L Bottom Seal 0.5 ft.  
Seal Material Native Material
- M Traffic-rated box with locking well cap.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-9

JOB NUMBER  
7259

REVIEWED BY RG/CEG  
VMP CEU 12-92

DATE  
08/90

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2)								Project No.: 7259	Date: 10/28/90	Boring No:
								Client: Chevron Service Station #0504	Location: 15900 Hesperian	C-10
								City: San Lorenzo, California	Sheet 1	
								Logged by: R.S.Y. Driller: Bayland	of 2	
								Casing installation data:		
								Top of Box Elevation: 31.63'		Datum: MSL
P.D. (psi)	Blows/ft or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Water Level	15'	
								Time	14:30	
								Date	08/28/90	
Description										
PAVEMENT SECTION-9 inches thick										
SILT (ML) - dark olive gray (5Y 3/2), medium stiff, moist, trace organics; no chemical odor										
COLOR CHANGE at 4.0' to dark gray (7.5 YR 4/0), voids, caliche stringers, low plasticity; no chemical odor										
CLAY (CL) - black (7.5 YR 2/0), stiff, moist, medium plasticity, roots, trace fine sand, voids; no chemical odor										
CLAYEY SILT (ML) - dark brown (10YR 3/3), stiff, saturated, 20-25% clay; 75% silt; roots, voids, water occurring in voids, low plasticity; no chemical odor										
Remarks:										



GeoStrategies Inc.

### Log of Boring

BORING NO.

**C-10**

JOB NUMBER  
7259

REVIEWED BY RG/CEG  
(WWD) RG/1202

DATE  
10/90

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2)							Project No.: 7259	Date: 08/28/90	Boring No:
							Client: Chevron Service Station #0504	Location: 15900 Hesperian	C-10
							City: S. Lorenzo, California	Sheet 2	
							Logged by: R. ✓ Driller: Bayland	of 2	
							Casing installation data:		
Drilling method: Hollow Stem Auger							Top of Box Elevation: 31.63'	Datum: MSL	
Hole diameter:							Water Level		
							Time		
							Date		
							Description		
P.D. (ppm)	Blowout or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)		
4	S&H			20				shell fragments, medium plasticity no chemical odor	
5		C-10-		21					
0	5		20.5	22					
				23					
				24				CLAYEY SILT (ML) - dark grayish brown (10YR 4/2), stiff, moist, 35% clay, low plasticity, iron staining, organic fragments; no chemical odor	
4	S&H			25					
6		C-10-		26					
0	8		25.5	27				Bottom of Sample at 25.5 feet Bottom of Borehole at 25.5 feet 08/28/90	
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
Remarks:									

Log of Boring BORING NO.



GeoStrategies Inc.

**C-10**

JOB NUMBER  
7259

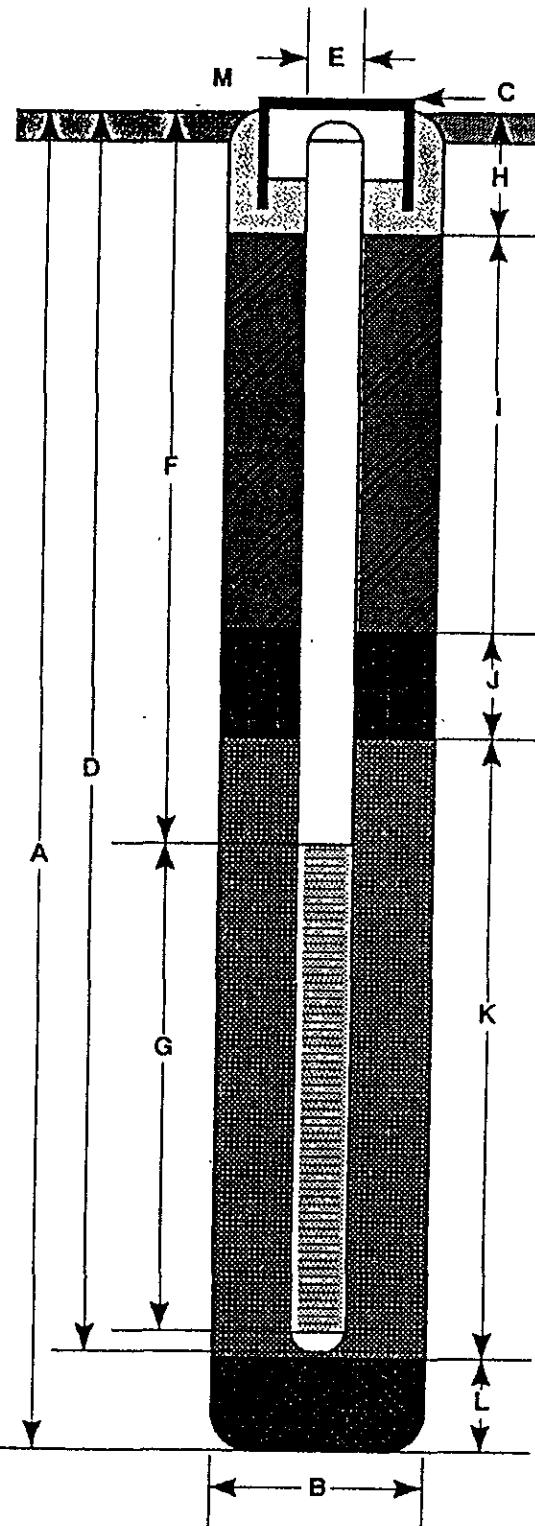
REVIEWED BY PGCEG  
CWP CEG 1202

DATE  
8/90

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.  
Drilling Method Hollow Stem Auger
- C Top of Box Elevation  
 Referenced to Mean Sea Level  
 Referenced to Project Datum
- D Casing Length 25 ft.  
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 12 ft.
- G Perforated Length 13 ft.  
Perforated Interval from 12 to 25 ft.  
Perforation Type Factory Slot  
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.  
Seal Material Concrete
- I Backfill from 1.5 to 8 ft.  
Backfill Material Cement Grout
- J Seal from 8 to 10 ft.  
Seal Material Bentonite Pellets
- K Gravel Pack from 10 to 25 ft.  
Pack Material Lonestar #2/12 Sand
- L Bottom Seal 0.5 ft.  
Seal Material Native Material
- M Traffic-rated box with locking well cap.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

**C-10**

JOB NUMBER  
7259

REVIEWED BY PG/CEG  
CHUPCEG/AGZ

DATE  
08/90

REVISED DATE

REVISED DATE

Field location of boring:  
(See Plate 2)

Project No.:	7259	Date:	08/28/90	Boring No:
Client:	Chevron Service Station #0504			C-11
Location:	15900 Hesperian			
City:	San Lorenzo, California			Sheet: 1
Logged by:	R.S.Y.	Driller:	Bayland	of 2

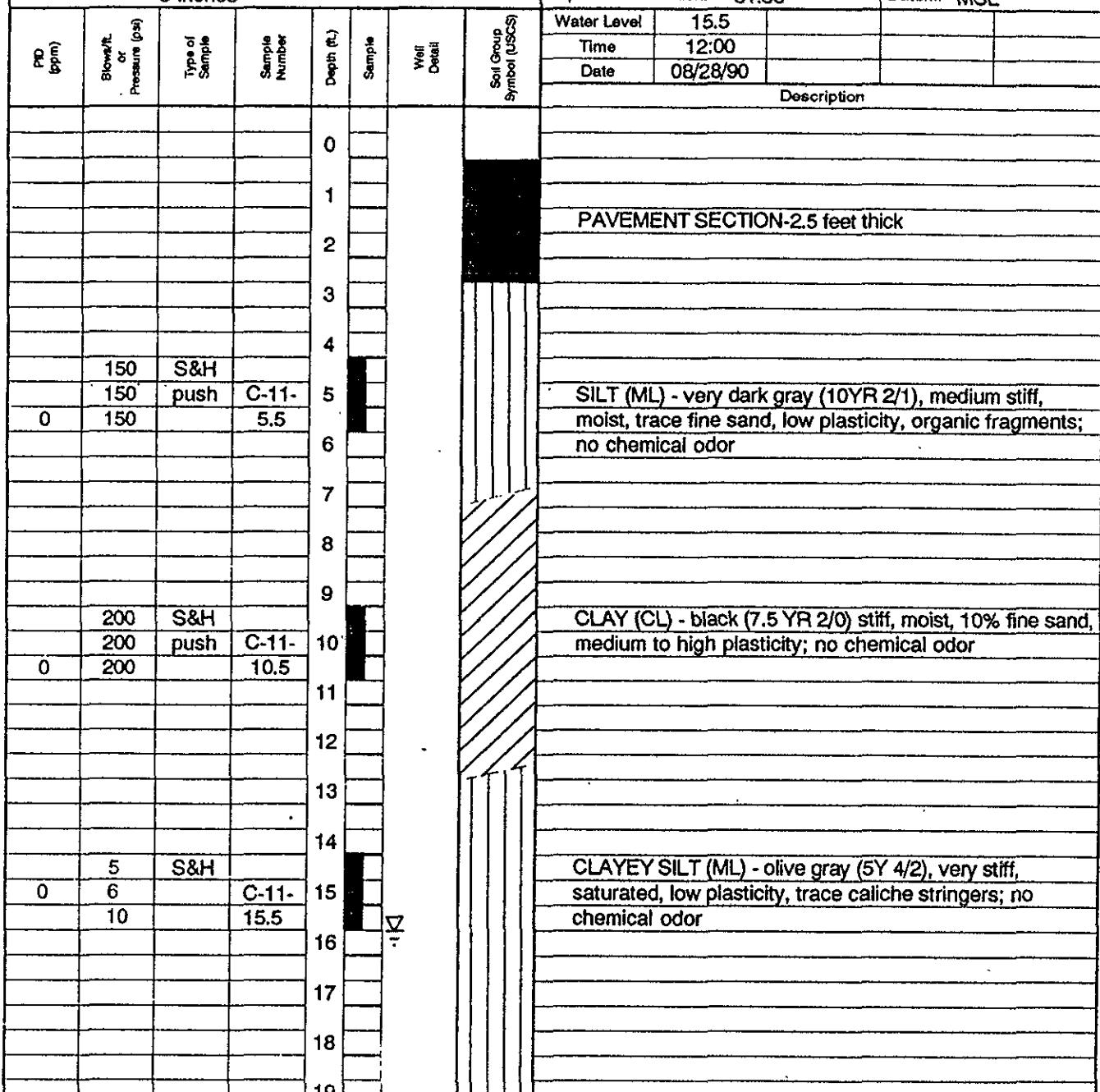
Casing installation data:

Drilling method: Hollow Stem Auger  
Hole diameter: 8-inches

Top of Box Elevation. 31.58' Datum: MSL

Water Level	15.5		
Time	12:00		
Date	08/28/90		

Description



Remarks:

### Log of Boring

BORING NO.



GeoStrategies Inc.

C-11

JOB NUMBER  
7259

REVIEWED BY PG/CEG  
*(Signature)*

DATE  
8/90

REVISED DATE

REVISED DATE

Field location of boring:  (See Plate 2).							Project No.: 7259	Date: 08/28/90	Boring No:
							Client: Chevron Service Station #0504		
							Location: 15900 Hesperian	C-11	
							City: San Lorenzo, California	Sheet 2	
							Logged by: R.S.Y.	Driller: Bayland	of 2
							Casing installation data:		
Drilling method: Hollow Stem Auger							Top of Box Elevation: 31.58'	Datum: MSL	
Hole diameter: 8-inches							Water Level		
							Time		
							Date		
							Description		
BD (gpm)	Blow/t. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail			
		S&H							
			C-11-	20			COLOR CHANGE to olive (5Y 5/3), voids, water occurring in voids, no sample recovery; no chemical odor		
0	10		20.5	21					
				22					
				23					
				24					
6	S&H			25			COLOR CHANGE to yellowish brown (10YR 5/4); no chemical odor		
8		C-11-		25					
0	9		25.5	26			Bottom of Borehole at 25.5 feet Bottom of Sample at 25.5 feet 08/28/90		
				27					
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					

Remarks:



GeoStrategies Inc.

Log of Boring

BORING NO.

C-11

JOB NUMBER  
7258

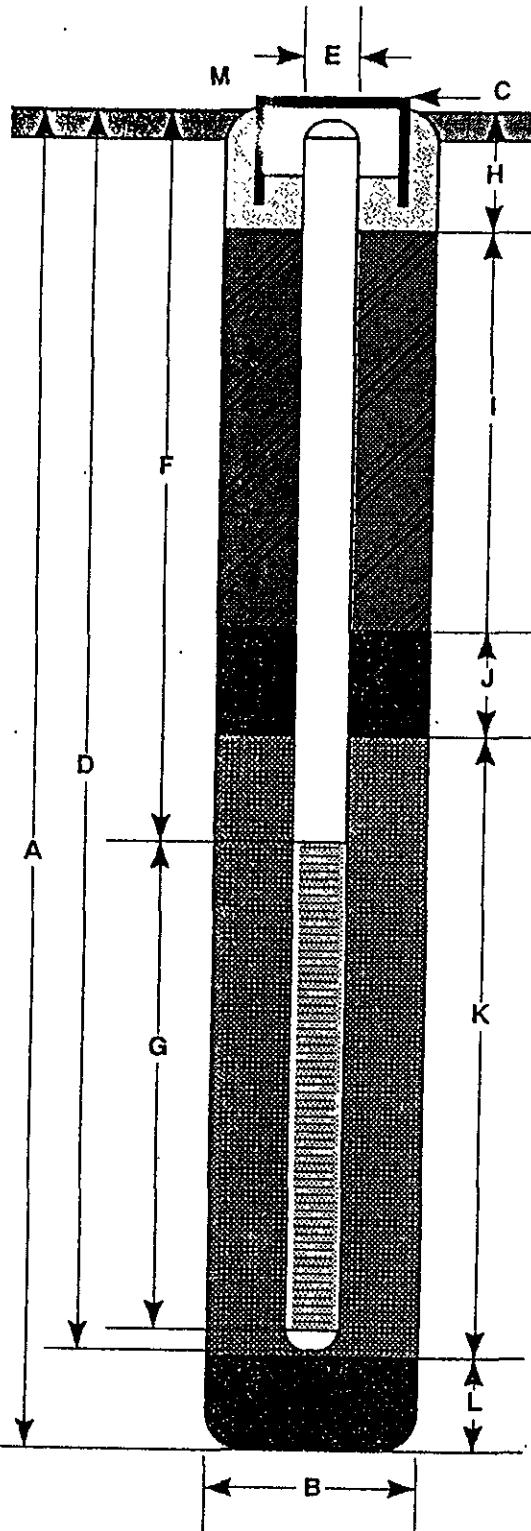
REVIEWED BY RG/CEG  
UMP CEG/1202

DATE  
8/90

REVISED DATE

REVISED DATE

# WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 25.5 ft.
- B Diameter of Boring 8 in.
- C Drilling Method Hollow Stem Auger
- D Top of Box Elevation ft.
- Referenced to Mean Sea Level
- Referenced to Project Datum
- E Casing Length 25 ft.
- F Material Schedule 40 PVC
- G Casing Diameter 2 in.
- H Depth to Top Perforations 12 ft.
- I Perforated Length 13 ft.
- J Perforated Interval from 12 to 25 ft.
- K Perforation Type Factory Slot
- L Perforation Size 0.020 in.
- M Surface Seal from 0 to 1.5 ft.
- N Seal Material Concrete
- O Backfill from 1.5 to 8 ft.
- P Backfill Material Cement Grout
- Q Seal from 8 to 10 ft.
- R Seal Material Bentonite Pellets
- S Gravel Pack from 10 to 25 ft.
- T Pack Material Lonestar #2/12 Sand
- U Bottom Seal 0.5 ft.
- V Seal Material Native Material
- W Traffic-rated box with locking well cap.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-11

JOB NUMBER  
7259

REVIEWED BY RG/CEG  
EMP YEL/LGL

DATE  
08/90

REVISED DATE

REVISED DATE

## **APPENDIX C**

### **Soil Analytical Results**

TABLE 1 - SOIL CHEMICAL ANALYTICAL DATA

Chevron Service Station No. 9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

Sample No.	Sample Depth (feet)	Date Collected	TPHg (ppm)	TPHd (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	MtBE (ppm)	TOG (ppm)	VOCs (ppm)	SVOCs (ppm)	PCBs (ppm)	Total Lead (ppm)
WOT-11	11	6/8/01	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	63	ND <sup>1</sup>	ND <sup>1</sup>	NA	<7.5 <sup>2</sup>
Stockpile														
SS-1	--	6/8/01	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	140	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	7.4 <sup>3</sup>

**EXPLANATION:**

sample depth is in feet below ground surface

ppm = parts per million

&lt;1.0 = analyte not detected at or above the listed laboratory reporting limit.

NA = not analyzed

-- = not applicable

<sup>1</sup> = All analytes were reported as not detected, refer to laboratory analytical report for specific analyte detection limits.<sup>2</sup> = sample also analyzed for cadmium (<1.0 ppm), chromium (29 ppm), nickel (25 ppm) and zinc (33 ppm).<sup>3</sup> = sample also analyzed for cadmium (<0.91 ppm), chromium (23 ppm), nickel (42 ppm) and zinc (37 ppm).**ANALYTICAL LABORATORY:**

Sequoia Analytical Petaluma (ELAP #2374)

**ANALYTICAL METHODS:**

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified

TPHd = Total Petroleum Hydrocarbons as diesel according to EPA Method 8015 Modified

Benzene, Toluene, Ethylbenzene, and Total Xylenes according to EPA Method 8020.

MtBE = methyl tertiary butyl ether according to EPA Method 8020.

TOG = total oil and grease according to state method 5520.

VOCs = volatile organic compounds according to EPA Method 8021.

SVOCs = semivolatile organic compounds according to EPA Method 8270.

PCBs = polychlorinated biphenyls according to EPA Method 8082.

Total metals according to EPA Method 6010.

TABLE A

## ANALYTICAL SUMMARY

Results in mg/kg (parts per million - ppm)

## WASTE-OIL TANK SAMPLING RESULTS

SAMPLE ID	DEPTH (FT.)	LAB	DATE	TPH - Gasoline	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TPH - Diesel	TOG	8010	8270	METALS
WO-E	9	Superior	29-Mar-94	ND	ND	ND	ND	ND	ND	110	0.006 (dcm)	ND	*
WO-W	9	Superior	29-Mar-94	ND	ND	ND	ND	ND	ND	ND	ND	ND	*

## OVEREXCAVATION SAMPLING RESULTS

SAMPLE ID	DEPTH (FT.)	LAB	DATE	TPH - Gasoline	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TPH - Diesel	TOG	8010	8270	METALS
XWO-E	11	Superior	31-Mar-94	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA

## STOCKPILE SAMPLING RESULTS

SAMPLE ID	LAB	DATE	TPH - Gasoline	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TPH - Diesel	TOG	8010	8270	METALS
WSP-1a&b (&)	Superior	29-Mar-94	ND	ND	ND	ND	ND	240	60**	ND	ND	*
WSP-2a&b (&)	Superior	29-Mar-94	ND	ND	ND	ND	ND	240	60**	ND	ND	*

\* = See Certified Analytical Report for results.

\*\* = WSP-2a&amp;b reported 1,100 ppm TOG before laboratory compositing.

&amp; = laboratory composited into one sample.

ND = Not Detected at or above laboratory detection limits.

TPH-Gasoline = Total Petroleum Hydrocarbons calculated as Gasoline.

TPH-Diesel = Total Petroleum Hydrocarbons calculated as Diesel

TOG = Total Oil &amp; Grease

NA = Not Analyzed

Table 1. Analytic Results for Soil - Chevron Service Station, #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

Soil Sample Location	Date Sampled	TPH-G	TPH-D	B	E	T	X
		<-----parts per million (mg/kg)----->					
T-1	1-6-94	<1	NA	<0.005	<0.005	<0.005	<0.005
T-2	1-6-94	<1	NA	<0.005	<0.005	<0.005	<0.005
D-1	1-6-94	<1	NA	<0.005	<0.005	<0.005	<0.005
D-2	1-6-94	2	NA	0.01	0.011	<0.005	0.23
D-3A	1-6-94	5	NA	0.018	0.061	<0.005	0.14
D-3B	1-6-94	<1	NA	<0.005	<0.005	<0.005	<0.005
SP1/SP2	1-6-94	<20	NA	<0.1	<0.1	<0.1	<0.1
SP1A,1B,1C,SP1 <sup>a</sup>	1-14-94	2	580	<0.005	0.019	0.007	0.033
SP2A,2B,2C,2D <sup>b</sup>	1-14-94	<1	10	<0.005	<0.005	<0.005	0.019
SP2E,2F,SP2 <sup>c</sup>	1-14-94	15	110	<0.05	<0.05	0.07	0.22
SP3 <sup>d</sup>	3-2-94	<1	<10	<0.05	<0.05	<0.05	<0.05

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

B = Benzene by EPA Method 8020

E = Ethylbenzene by EPA Method 8020

T = Toluene by EPA Method 8020

X = Xylenes by EPA Method 8020

ppm = parts per million

NA = Not analyzed

<n = Not detected at detection limits of n ppm

Notes:

a = Flash point was >100, pH=7.9, lead - 0.9 mg/l, sulfide - <13 mg/kg, cyanide - <0.5 mg/kg, negative reaction with water, TCLP by 8240 - <0.05 mg/l.

b = Lead - 1.6 mg/l, TCLP by 8240 - <0.05 mg/l.

c = Lead - 1.1 mg/l, TCLP by 8240 - <0.05 mg/l.

d = Flash point was >160, pH=8.3, lead - 0.6 mg/l, sulfide - <1 mg/kg, cyanide - <1 mg/kg, TCLP by 8240 - <0.05 mg/l.

TABLE 1

## SOIL ANALYSES DATA

SAMPLE NO	SAMPLE DATE	ANALYZED DATE	TPH (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLEMES (PPM)
C-6-10.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-6-15.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-6-20.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-7-10.5'	29-Nov-89	06-Dec-89	3.7	<0.05	<0.05	<0.05	0.05
C-7-15.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-7-20.5'	29-Nov-89	06-Dec-89	4.0	0.11	<0.05	0.05	0.11
C-8-10.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-8-15.5'	29-Nov-89	06-Dec-89	37	<0.05	<0.05	0.14	0.24
C-8-20.5'	29-Nov-89	06-Dec-89	<1	<0.05	<0.05	<0.05	<0.05
C-9-10.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05
C-9-15.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05
C-10-10.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05
C-10-15.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05
C-11-10.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05
C-11-15.5'	28-Aug-90	04-Sep-90	<1	<0.05	<0.05	<0.05	<0.05

TPH = Total Petroleum Hydrocarbons as Gasoline

Note: 1. All data shown as &lt;X are reported as ND (none detected)

Table 1. Analytic Results for Soil - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

Borehole ID	Date Sampled	Sample Depth (ft)	Soil Type	Analytical Lab	TPH-G	B	E	T	X
parts per million (mg/kg)									
BH-A	07/28/92	5.0	Clayey silt	SPA	1	0.039	0.023	0.083	0.099
		10.0	Clayey silt	SPA	5	0.052	0.14	0.013	0.066
BH-B	07/28/92	5.0	Clayey silt	SPA	<1.0	0.010	<.005	0.005	0.006
		10.0	Clayey silt	SPA	6	0.043	0.059	<.005	0.29
BH-C	07/28/92	5.0	Clayey silt	SPA	<1.0	<.005	<.005	<.005	<.005
		10.0	Clayey silt	SPA	660	0.82	9.1	0.33	47
BH-D	07/28/92	5.0	Clayey silt	SPA	1	0.019	<.005	0.005	0.009
		10.0	Clayey silt	SPA	11	0.057	0.22	<.005	0.36

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015

B = Benzene by EPA Method 8020

E = Ethylbenzene by EPA Method 8020

T = Toluene by EPA Method 8020

X = Xylenes by EPA Method 8020

<n = Not detected at detection limits of n ppm

Analytical Laboratory:

SPA = Superior Precision Analytical Laboratory, San Francisco, California

## **APPENDIX D**

### **Groundwater Monitoring And Chemical Analytical Results**

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC ( <i>g/L</i> )	GWE (msl)	DTW ( <i>fL</i> )	SPHT ( <i>fL</i> )	TPH-C ( <i>ppb</i> )	T-B ( <i>ppb</i> )	T-E ( <i>ppb</i> )	E-X ( <i>ppb</i> )	MTBE ( <i>ppb</i> )	HVOCS ( <i>ppb</i> )
<b>C-1</b>										
06/06/89	--	--	--	--	5,100	250	170	200	990	--
12/08/89	--	--	13.14	0.01	--	--	--	--	--	--
09/07/90	33.93	19.91	14.04	0.03	--	--	--	--	--	--
12/20/90	33.93	20.07	13.87	0.01	--	--	--	--	--	--
03/15/91	33.93	22.53	11.40	--	37,000	220	53	53	1,900	--
06/28/91	33.93	21.68	12.25	--	3,300	110	6.2	6.2	350	--
09/26/91	33.93	19.91	14.02	--	3,200	220	6.9	6.9	710	--
01/27/92	33.93	21.30	12.63	--	330	20	0.6	0.6	48	--
04/20/92	33.93	23.50	10.43	--	2,700	130	3.4	3.4	690	--
07/17/92	33.93	21.32	12.61	--	490	17	<0.5	<0.5	52	--
01/20/93	33.93	24.51	9.42	--	--	--	--	--	--	--
07/28/93	33.93	23.45	10.48	--	--	--	--	--	--	--
10/27/93	32.80	21.48	11.32	--	240	3.6	<0.5	11	23	--
03/31/94	32.80	23.35	9.45	--	530	23	1.2	10	120	--
06/08/94	32.80	22.87	9.93	--	990	15	1.5	42	89	--
09/29/94	32.80	INACCESSIBLE	--	--	--	--	--	--	--	--
11/09/94	32.80	INACCESSIBLE	--	--	--	--	--	--	--	--
12/14/94	32.80	INACCESSIBLE	--	--	--	--	--	--	--	--
03/30/95	32.80	24.79	8.01	--	3,900	21	7.2	190	250	--
06/30/95	32.80	22.98	9.82	--	1,400	3.1	0.8	54	95	--
09/22/95	32.80	22.20	10.60	--	620 <sup>a</sup>	0.7	<0.5	3.3	3.5	--
12/11/95	32.80	22.50	10.30	--	210	2.4	<0.5	43	85	79
03/08/96	32.80	25.15	7.65	--	750	2.1	<0.5	22	34	330
06/21/96	32.80	23.52	9.28	--	2,800	9.0	<0.5	94	83	1,300
09/27/96	32.80	22.52	10.28	--	770	0.5	<0.5	5.1	6.1	580
01/03/97	32.80	24.95	7.85	--	1,800	2.8	<0.5	51	41	110
03/28/97	32.80	23.43	9.37	--	720	0.6	<0.5	4.7	3.7	200
09/30/97	32.80	MONITORED ANNUALLY	--	--	--	--	--	--	--	--
03/28/98	32.80	25.08	7.72	--	940 <sup>b</sup>	3.9	<0.5	17	4.7	290
03/19/99	32.80	24.29	8.51	--	320	<0.5	<0.5	8.5	2.5	350
03/21/00	32.80	24.72	8.08	--	432	<0.5	2.04	5.33	0.658	154
08/28/00	32.80	MONITORED /SAMPLED ANNUALLY	--	--	--	--	--	--	--	--
03/02/01	32.80	24.09	8.71	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	32.8

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (ppm)	GWE (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-1 (cont)</b>											
09/04/01	32.80	<b>MONITORED / SAMPLED ANNUALLY</b>			-	-	-	-	-	-	-
03/21/02	32.80	24.18	8.62	0.00	<50	<0.50	<0.50	<0.50	<1.5	20	-
09/04/02	32.80	<b>MONITORED / SAMPLED ANNUALLY</b>			-	-	-	-	-	-	-
03/31/03	32.80	23.93	8.87	0.00	<50	<0.5	<0.5	<0.5	<1.5	40	-
09/17/03	32.80	<b>MONITORED / SAMPLED ANNUALLY</b>			--	-	-	-	--	-	-
<b>C-2</b>											
06/06/89	--	--	--	--	130,000	14,000	28,000	3,400	24,000	--	--
12/08/89	--	--	13.44	0.15	--	--	--	--	--	--	--
09/07/90	34.21	20.01	14.28	0.10	--	--	--	--	--	--	--
12/20/90	34.21	20.16	14.06	0.01	--	--	--	--	--	--	--
03/15/91	34.21	22.63	11.59	0.01	1,200,000	4,700	16,000	13,000	140,000	--	--
06/28/91	34.21	21.66	12.55	--	150,000	3,500	4,200	2,100	16,000	--	--
09/26/91	34.21	20.01	14.20	--	4,900	220	290	130	880	--	--
01/27/92	34.21	21.75	12.46	--	8,200	510	590	230	1,300	--	--
04/20/92	34.21	23.97	10.24	--	19,000	1,700	1,700	930	4,700	--	--
07/17/92	34.21	21.40	12.81	--	20,000	950	950	1,300	4,700	--	--
01/20/93	34.21	25.42	8.79	--	--	--	--	--	--	--	--
10/27/93	33.46	21.10	12.36	--	1,600	63	5.8	5.9	190	--	--
03/31/94	33.46	23.84	9.62	--	12,000	300	96	510	2,700	--	--
06/08/94	33.46	23.48	9.98	--	8,700	140	35	250	1,500	--	--
09/28/94	33.46	<b>INACCESSIBLE</b>		--	--	--	--	--	--	--	--
11/09/94	33.46	<b>INACCESSIBLE</b>		--	--	--	--	--	--	--	--
12/14/94	33.46	<b>INACCESSIBLE</b>		--	--	--	--	--	--	--	--
03/30/95	33.46	25.77	7.69	--	1,400	17	5.4	52	240	--	--
06/30/95	33.46	23.56	9.90	--	730	22	2.6	50	240	--	--
09/22/95	33.46	22.85	10.61	--	2,100 <sup>7</sup>	66	7.3	140	550	--	--
12/11/95	33.46	23.08	10.38	--	3,700	23	<0.5	68	300	1,000	--
03/08/96	33.46	25.76	7.70	--	2,200	19	<5.0	63	290	1,300	--
06/21/96	33.46	24.09	9.37	--	2,200	23	1.1	70	260	2,300	--
09/27/96	33.46	22.88	10.58	--	5,500	12	0.6	30	110	2,200	--
01/03/97	33.46	25.56	7.90	--	750	4.2	<0.5	29	120	51	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (fl.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-2 (cont)</b>											
03/28/97	33.46	24.11	9.35	--	1,300	12	1.5	24	86	310	--
09/30/97	33.46	MONITORED ANNUALLY			--	--	--	--	--	--	--
03/28/98	33.46	25.46	8.00	--	1,100 <sup>a</sup>	14	<0.5	34	79	710	--
03/19/99	33.46	25.01	8.45	--	1,400	15	<0.5	56	130	460	--
03/21/00	33.46	25.37	8.09	--	5,420	9.69	<0.5	76.5	125	168	--
08/28/00	33.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/02/01	33.46	24.68	8.78	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	--
09/04/01	33.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/21/02	33.46	24.75	8.71	0.00	<50	<0.50	<0.50	<0.50	<1.5	4.5	--
09/04/02	33.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/31/03	33.46	24.53	8.93	0.00	<50	<0.5	1.0	<2.0	2.6	<2.5	--
09/17/03	32.80	MONITORED /SAMPLED ANNUALLY			--	--	--	--	--	--	--
<b>C-3</b>											
06/06/89	--	--	--	--	2,600	63	20	390	370	--	--
12/08/89	--	--	--	--	680	6.0	1.0	31	58	--	--
09/07/90	35.46	20.15	15.31	--	490	6.0	<0.5	41	120	--	--
09/07/90	(D)	35.46	--	--	460	6.0	<0.5	40	110	--	--
12/20/90	35.46	20.29	15.17	--	100	5.0	<0.5	27	130	--	--
03/06/91	35.46	22.19	13.27	--	1,300	7.0	<0.5	75	250	--	--
03/06/91	(D)	35.46	--	--	1,400	8.0	<0.5	76	250	--	--
06/28/91	35.46	21.79	13.67	--	770	6.0	<0.5	81	71	--	--
06/28/91	(D)	35.46	--	--	990	5.5	<0.5	86	75	--	--
09/26/91	35.46	20.14	15.32	--	1,400	7.9	<0.5	98	340	--	--
01/27/92	35.46	21.55	13.91	--	150	0.7	<0.5	12	12	--	--
04/20/92	35.46	23.80	11.66	--	1,600	9.3	1.0	190	370	--	--
07/17/92	35.46	21.50	13.96	--	460	18	<0.5	20	52	--	--
10/29/92	35.46	19.95	15.51	--	520	2.4	1.0	30	79	--	--
01/20/93	35.46	24.47	10.99	--	4,200	7.4	<0.5	140	380	--	--
05/03/93	35.46	24.49	10.97	--	1,300	6.8	3.2	71	170	--	--
07/28/93	35.46	23.05	12.41	--	220	1.4	<0.5	17	39	--	--
10/27/93	35.46	21.78	13.37	--	1,800	5.5	0.7	68	290	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (ppm)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-3 (cont)</b>											
03/31/94	35.46	23.90	11.56 <sup>1</sup>	--	310	1.2	<0.5	19	54	--	--
06/08/94	35.46	23.39	12.07	--	300	2.7	1.6	19	48	--	--
09/29/94 <sup>2</sup>	35.46	21.62	13.84	--	2,500	<25	<25	<25	220	--	--
11/09/94 <sup>5</sup>	35.46	--	--	--	170	<0.5	0.8	3.3	16	--	--
12/14/94	35.46	23.61	11.85	--	510	3.2	1.4	28	60	--	--
03/30/95	35.46	25.85	9.61	--	66	<0.5	<0.5	1.1	2.4	--	--
06/30/95	35.46	23.96	11.50	--	1,500	1.9	8.1	100	300	--	--
09/22/95	35.46	22.88	12.58	--	600 <sup>7</sup>	0.7	<0.5	43	110	--	--
12/11/95	35.46	22.91	12.55	--	670 <sup>8</sup>	<0.5	<0.5	7.0	13	15	--
03/08/96	35.46	25.80	9.66	--	3,600	7.5	33	130	400	1,100	--
06/21/96	35.46	23.68	11.78	--	310	<0.5	<0.5	16	49	57	--
09/27/96	35.46	23.09	12.37	--	250	<0.5	<0.5	3.6	9.6	44	--
01/03/97	35.46	25.57	9.89	--	170	<0.5	1.2	4.5	15	15	--
03/28/97	35.46	24.50	10.96	--	60	<0.5	<0.5	1.7	1.8	23	--
09/30/97	35.46	MONITORED ANNUALLY			--	--	--	--	--	--	--
03/28/98	35.46	25.74	9.72	--	<50	0.88	<0.5	<0.5	<0.5	16	--
03/19/99	35.46	25.44	10.02	--	<50	<0.5	<0.5	<0.5	0.65	12	--
03/21/00	35.46	25.36	10.10	--	122	<0.5	<0.5	4.96	11.7	6.13	--
08/28/00	35.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/02/01	35.46	24.67	10.79	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	--
09/04/01	35.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/21/02	35.46	24.74	10.72	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
09/04/02	35.46	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/31/03	35.46	24.31	11.15	0.00	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
09/17/03	32.80	MONITORED /SAMPLED ANNUALLY			--	--	--	--	--	--	--
<b>C-4</b>											
06/06/89	--	--	--	--	<50	<0.05	<1.0	<1.0	<3.0	--	--
12/08/89	--	--	--	--	<500	<0.5	<0.5	<0.5	<0.5	--	--
09/07/90	35.78	20.20	15.58	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/90	35.78	20.36	15.42	--	170	1.0	<0.5	<0.5	<0.5	--	--
03/06/91	35.78	22.24	13.54	--	<50	<0.5	<0.5	<0.5	<0.5	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (ppm)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-4 (cont)</b>											
06/28/91	35.78	21.85	13.93	-	<50	<0.5	<0.5	<0.5	<0.8	-	-
09/26/91	35.78	20.14	15.64	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
09/26/91	35.78	--	15.64	-	<50	<0.5	<0.5	<0.5	-	-	-
01/27/92	35.78	21.82	13.96	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
04/20/92	35.78	24.07	11.71	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
07/17/92	35.78	21.59	14.19	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
10/29/92	35.78	20.06	15.72	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
01/20/93	35.78	24.61	11.17	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
05/03/93	35.78	24.84	10.94	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
07/28/93	35.78	23.38	12.40	-	<50	<0.5	<0.5	<0.5	<1.5	-	-
10/27/93	35.23	21.91	13.32	-	<50	<0.5	<0.5	<0.5	<1.5	-	-
03/31/94	35.23	INACCESSIBLE		-	-	-	-	-	-	-	-
06/08/94	35.23	23.31	11.92	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
09/29/94 <sup>2,4</sup>	35.23	21.47	13.76	-	<2,500	<25	<25	<25	<25	-	ND <sup>3</sup>
11/09/94 <sup>4,5</sup>	35.23	--	--	-	<50	<0.5	<0.5	<0.5	<0.5	-	ND <sup>3</sup>
12/14/94 <sup>6</sup>	35.23	23.44	11.79	-	<50	2.1	3.0	1.9	3.7	-	ND <sup>3</sup>
03/30/95	35.23	26.22	9.01	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
06/30/95	35.23	23.79	11.44	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
09/22/95	35.23	22.72	12.51	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
12/11/95	35.23	22.61	12.62	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-
03/08/96	35.23	25.60	9.63	-	<50	<0.5	<0.5	<0.5	0.6	<5.0	-
06/21/96	35.23	23.99	11.24	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
09/27/96	35.23	22.92	12.31	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
01/03/97	35.23	25.54	9.69	-	<50	1.5	7.2	1.3	6.2	<5.0	-
03/28/97	35.23	24.23	11.00	-	<50	5.0	8.3	0.8	4.7	<5.0	-
<b>NOT MONITORED/SAMPLED</b>											
<b>C-5</b>											
06/06/89	--	--	--	--	<50	<0.05	<0.05	<1.0	<3.0	-	-
12/08/89	--	--	--	--	<500	<0.5	<0.5	<0.5	<0.5	-	-
09/07/90	35.31	20.21	15.10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-
12/20/90	35.31	20.37	14.94	-	80	<0.5	<0.5	<0.5	<0.5	-	-

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (%)	GWE (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-5 (cont)</b>											
03/06/91	35.31	22.25	13.06	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/28/91	35.31	21.85	13.46	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	35.31	20.17	15.14	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	35.31	22.00	13.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/20/92	35.31	24.21	11.10	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	35.31	21.58	13.73	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	35.31	20.11	15.20	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	35.31	24.59	10.72	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	35.31	24.88	10.43	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/28/93	35.31	23.50	11.81	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	34.61	21.93	12.68	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	34.61	23.61	11.00 <sup>1</sup>	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	34.61	23.35	11.26	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/94 <sup>2</sup>	34.61	21.51	13.10	--	<2,500	<25	<25	<25	<25	--	--
11/09/94 <sup>3</sup>	34.61	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/14/94	34.61	23.24	11.37	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/30/95	34.61	25.64	8.97	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	34.61	23.78	10.83	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/22/95	34.61	22.72	11.89	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/11/95	34.61	22.83	11.78	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
03/08/96	34.61	25.59	9.02	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
06/21/96	34.61	23.97	10.64	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	34.61	23.04	11.57	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	34.61	25.59	9.02	--	<50	0.7	3.2	<0.5	2.2	<5.0	--
03/28/97	34.61	24.23	10.38	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
<b>NOT MONITORED/SAMPLED</b>											

**C-6**

12/08/89	--	--	--	--	<500	<0.5	<0.5	<0.5	<0.5	--	--
09/07/90	36.89	20.06	16.83	--	57	<0.5	<0.5	0.6	4.0	--	--
12/20/90	36.89	20.23	16.66	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/06/91	36.89	22.09	14.80	--	<50	<0.5	<0.5	<0.5	<0.5	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC ( <i>ft</i> )	GWE (msl)	DTW ( <i>ft</i> )	SPHT ( <i>ft</i> )	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-6 (cont)</b>											
06/28/91	36.89	21.73	15.16	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	36.89	20.07	16.82	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	36.89	21.45	15.44	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/20/92	36.89	23.72	13.17	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	36.89	21.45	15.44	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	36.89	19.91	16.98	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	36.89	24.42	12.47	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	36.89	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/28/93	36.89	23.03	13.86	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	36.57	21.72	14.85	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	36.57	23.57	13.00	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	36.57	23.13	13.44	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/94 <sup>2</sup>	36.57	21.69	14.88	--	<2,500	<25	<25	<25	<25	--	--
11/09/94 <sup>5</sup>	36.57	--	--	--	<50	<0.5	0.5	<0.5	<0.5	--	--
12/14/94	36.57	23.58	12.99	--	<50	0.9	1.5	1.3	2.6	--	--
03/30/95	36.57	25.80	10.77	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	36.57	23.95	12.62	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/22/95	36.57	22.92	13.65	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/11/95	36.57	22.89	13.68	--	140 <sup>8</sup>	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
03/08/96	36.57	25.84	10.73	--	<50	<0.5	0.6	<0.5	<0.5	<5.0	--
06/21/96	36.57	24.16	12.41	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	36.57	23.10	13.47	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	36.57	25.57	11.00	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/97	36.57	24.51	12.06	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
<b>NOT MONITORED/SAMPLED</b>											
<b>C-7</b>											
12/08/89	--	--	--	--	1,700	32	12	17	150	--	--
09/07/90	32.75	19.73	13.02	--	880	84	23	46	180	--	--
12/20/90	32.75	20.47	12.28	--	560	24	3.0	19	21	--	--
03/06/91	32.75	15.83	16.92	--	240	25	2.0	4.0	26	--	--
06/28/91	32.75	21.44	11.31	--	2,400	130	13	82	220	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (%)	GWB (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-7 (cont)</b>											
09/26/91	32.75	20.47	12.28	--	8,100	47	35	350	1,200	--	--
01/27/92	32.75	21.32	11.43	--	12,000	170	40	420	830	--	--
04/20/92	32.75	23.47	9.28	--	1,200	80	11	90	110	--	--
07/17/92	32.75	21.26	11.49	--	2,400	20	7.4	95	200	--	--
10/29/92	32.75	19.70	13.05	--	69	1.3	<0.5	3.8	7.2	--	--
01/20/93	32.75	24.06	8.69	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	32.75	24.07	8.68	--	2,400	29	8.6	140	210	--	--
07/28/93	32.75	22.76	9.99	--	3,600	38	16	290	920	--	--
10/27/93	32.32	21.60	10.72	--	22,000	23	26	990	2,600	--	--
03/31/94	32.32	23.21	9.11	--	2,300	45	7.0	130	190	--	--
06/08/94	32.32	23.10	9.22	--	6,900	46	11	380	820	--	--
09/29/94	32.32	21.00	11.32	--	11,000	10	11	620	810	--	--
11/09/94 <sup>5</sup>	32.32	--	--	--	7,800	33	18	570	1,100	--	--
12/14/94	32.32	23.33	8.99	--	7,700	63	16	140	1,200	--	--
03/30/95	32.32	25.04	7.28	--	4,100	64	18	170	280	--	--
06/30/95	32.32	23.25	9.07	--	1,200	31	3.7	21	18	--	--
09/22/95	32.32	22.27	10.05	--	1,800	64	5.7	30	38	--	--
12/11/95	32.32	23.02	9.30	--	14,000	80	6.1	91	120	70	--
03/08/96	32.32	24.99	7.33	--	2,300	57	8.4	110	180	37	--
06/21/96	32.32	23.47	8.85	--	1,100	37	3.2	21	29	9.0	--
09/27/96	32.32	23.21	9.11	--	10,000	150	30	270	670	45	--
01/03/97	32.32	24.83	7.49	--	1,800	35	<0.5	34	72	15	--
03/28/97	32.32	23.75	8.57	--	2,200	38	4.1	31	56	19	--
09/30/97	32.32	MONITORED ANNUALLY			--	--	--	--	--	--	--
03/28/98	32.32	24.98	7.34	--	2,100 <sup>8</sup>	28	7.8	70	170	<25	--
03/19/99	32.32	24.61	7.71	--	5,300	63	24	280	370	67 <sup>10</sup>	--
03/21/00	32.32	24.57	7.75	--	2,830	19.5	5.14	116	206	11.7	--
08/28/00	32.32	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/02/01	32.32	24.06	8.26	0.00	7,620 <sup>11</sup>	54.7	<25.0	522	945	<250	--
09/04/01	32.32	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/21/02	32.32	24.10	8.22	0.00	9,300	31	8.4	460	850	<20	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC ( $\mu$ )	GWB (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-7 (cont)</b>											
09/04/02	32.32	<b>MONITORED/SAMPLED ANNUALLY</b>			--	--	--	--	--	--	--
03/31/03	32.32	23.67	8.65	0.00	3,300	17	3.9	92	190	31	--
09/17/03	32.80	<b>MONITORED /SAMPLED ANNUALLY</b>			--	--	--	--	--	--	--
<b>C-8</b>											
12/08/89	--	--	--	--	4,800	62	11	95	180	--	--
09/07/90	33.82	19.50	14.32	--	3,700	170	31	180	270	--	--
12/20/90	33.82	19.61	14.20	--	3,900	120	20	130	180	--	--
03/06/91	33.82	19.02	14.80	--	1,200	45	6.0	34	57	--	--
06/28/91	33.82	21.17	12.65	--	6,900	180	46	340	640	--	--
09/26/91	33.82	19.53	14.29	--	1,400	66	9.8	38	40	--	--
01/27/92	33.82	21.22	12.60	--	3,600	100	26	170	260	--	--
04/20/92	33.82	23.46	10.36	--	2,600	110	32	180	260	--	--
07/17/92	33.82	20.94	12.88	--	1,100	34	5.9	35	52	--	--
10/29/92	33.82	19.43	14.39	--	820	29	4.8	23	27	--	--
01/20/93	33.82	23.80	10.02	--	6,000	81	22	200	310	--	--
05/03/93	33.82	24.07	9.75	--	11,000	75	96	880	2,600	--	--
07/28/93	33.82	22.68	11.14	--	2,800	60	13	92	150	--	--
10/27/93	33.25	21.24	12.01	--	2,700	49	17	60	90	--	--
03/31/94	33.25	22.98	10.27	--	190	8.6	1.7	9.1	11	--	--
06/08/94	33.25	22.69	10.56	--	2,800	52	110	78	110	--	--
09/29/94	33.25	20.83	12.42	--	3,700	120	20	120	85	--	--
11/09/94 <sup>5</sup>	33.25	--	--	--	3,200	82	44	160	110	--	--
12/14/94	33.25	22.74	10.51	--	5,300	140	30	170	310	--	--
03/30/95	33.25	24.81	8.44	--	3,900	86	19	180	210	--	--
06/30/95	33.25	23.11	10.14	--	1,500	75	21	72	72	--	--
09/22/95	33.25	22.05	11.20	--	3,400	94	24	110	110	--	--
12/11/95	33.25	22.26	10.99	--	7,500	100	<0.5	160	120	130	--
03/08/96	33.25	24.79	8.46	--	3,600	93	8.9	110	88	82	--
06/21/96	33.25	23.28	9.97	--	3,200	69	6.8	100	88	19	--
09/27/96	33.25	22.47	10.78	--	7,000	98	12	150	130	53	--
01/03/97	33.25	24.43	8.82	--	5,700	43	9.3	110	95	17	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (‰)	GWE (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-8 (cont)</b>											
03/28/97	33.25	23.60	9.65	--	4,900	52	4.7	70	47	50	--
09/30/97	33.25	MONITORED ANNUALLY		--	--	--	--	--	--	--	--
03/28/98	33.25	24.78	8.47	--	3,300 <sup>8</sup>	33	4.2	110	61	<25	--
03/19/99	33.25	24.34	8.91	--	2,600	34	16	34	19	76 <sup>10</sup>	--
03/21/00	33.25	24.43	8.82	--	4,300	8.45	42.3	61.1	20.3	33.8	--
08/28/00	33.25	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/02/01	33.25	23.75	9.50	0.00	2,980 <sup>11</sup>	37.4	4.12	22.3	11.3	40.4	--
09/04/01	33.25	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/21/02	33.25	23.86	9.39	0.00	3,500	<20	2.0	15	8.3	<10	--
09/04/02	33.25	MONITORED/SAMPLED ANNUALLY			--	--	--	--	--	--	--
03/31/03	33.25	23.45	9.80	0.00	4,700	<20	2.1	22	11	<50	--
09/17/03	32.80	MONITORED /SAMPLED ANNUALLY			--	--	--	--	--	--	--
<b>C-9</b>											
09/07/90	33.43	19.37	14.06	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/90	33.43	19.40	14.03	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/06/91	33.43	21.31	12.12	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/28/91	33.43	21.02	12.41	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	33.43	19.41	14.02	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	33.43	20.90	12.53	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/20/92	33.43	23.21	10.22	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	33.43	20.79	12.64	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	33.43	19.23	14.20	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	33.43	23.71	9.72	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	33.43	23.66	9.55	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/28/93	33.43	22.45	10.98	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	32.97	20.99	11.98	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	32.97	22.80	10.17	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	32.97	22.44	10.53	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/94 <sup>2</sup>	32.97	20.57	12.40	--	<5,000	<50	<50	<50	<50	--	--
11/09/94 <sup>5</sup>	32.97	--	--	--	<50	<0.5	<0.5	<0.5	0.7	--	--
12/14/94	32.97	22.48	10.49	--	69	1.1	2.2	3.4	7.8	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC ( <i>g/L</i> )	GWE (msl)	DTW ( <i>m</i> )	SPHT ( <i>m</i> )	TPH-C ( <i>ppb</i> )	B ( <i>ppb</i> )	T ( <i>ppb</i> )	E ( <i>ppb</i> )	X ( <i>ppb</i> )	MTBE ( <i>ppb</i> )	HVOCS ( <i>ppb</i> )
<b>C-9 (cont)</b>											
03/30/95	32.97	24.77	8.20	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	32.97	23.00	9.97	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/22/95	32.97	21.90	11.07	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
12/11/95	32.97	21.89	11.08	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/08/96	32.97	24.77	8.20	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
06/21/96	32.97	23.16	9.81	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	32.97	22.06	10.91	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	32.97	24.30	8.67	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/97	32.97	23.50	9.47	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/30/97	32.97	21.36	11.61	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/28/98	32.97	24.71	8.26	--	<50	<0.5	<0.5	<0.5	<0.5	4.9	--
09/08/98	32.97	22.73	10.24	--	<50	5.7	1.4	1.4	1.8	<2.5	--
03/19/99	32.97	24.27	8.70	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/21/99	32.97	22.00	10.97	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/21/00	32.97	24.38	8.59	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
08/28/00	32.97	22.02	10.95	0.00	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--
03/02/01	32.97	23.57	9.40	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	--	--
09/04/01	32.97	21.66	11.31	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/21/02	32.97	23.72	9.25	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
09/04/02	32.97	21.93	11.04	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/31/03	32.97	23.29	9.68	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/17/03 <sup>1,2</sup>	32.97	21.99	10.98	0.00	<50	<0.5	<0.5	<0.5	<0.5	--	--
<b>C-10</b>											
09/07/90	31.63	19.14	12.49	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/90	31.63	19.27	12.36	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/06/91	31.63	21.18	10.45	--	<50	<0.5	0.8	<0.5	0.8	--	--
06/28/91	31.63	20.69	10.74	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	31.63	19.21	12.42	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	31.63	20.79	10.84	--	<50	<0.5	1.3	<0.5	<0.5	--	--
01/27/92	(O)	31.63	--	--	<50	<0.5	1.3	<0.5	<0.5	--	--
04/20/92	31.63	23.06	8.55	--	<50	<0.5	<0.5	<0.5	<0.5	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (lt.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-10 (cont)</b>											
07/17/92	31.63	20.61	11.02	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	31.63	19.23	12.40	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	31.63	23.49	8.14	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	31.63	23.71	7.92	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/28/93	31.63	22.27	9.36	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	31.16	20.86	10.30	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	31.16	22.71	8.45	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	31.16	22.31	8.85	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/94 <sup>2</sup>	31.16	20.46	10.70	--	<5,000	<50	<50	<50	<50	--	--
11/09/94 <sup>3</sup>	31.16	--	--	--	<50	<0.5	1.4	0.8	1.2	--	--
12/14/94	31.16	22.55	8.61	--	110	3.9	5.4	4.3	11	--	--
03/30/95	31.16	24.51	6.65	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	31.16	22.86	8.30	--	<50	1.5	1.5	<0.5	2.2	--	--
09/22/95	31.16	21.75	9.41	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/11/95	31.16	21.89	9.27	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
03/08/96	31.16	24.53	6.63	--	<50	<0.5	<0.5	<0.5	0.5	<5.0	--
06/21/96	31.16	23.04	8.12	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	31.16	21.95	9.21	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	31.16	23.84	7.32	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/97	31.16	23.34	7.82	--	<50	1.2	1.8	<0.5	0.8	<5.0	--
09/30/97	31.16	21.34	9.82	--	<250 <sup>9</sup>	<2.5	<2.5	<2.5	<2.5	<25	--
03/28/98	31.16	24.60	6.56	--	<50	<0.5	0.52	<0.5	<0.5	<2.5	--
09/08/98	31.16	22.65	8.51	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/19/99	31.16	24.00	7.16	--	<50	<0.5	<0.5	<0.5	<0.5	9.2 <sup>10</sup>	--
09/21/99	31.16	21.87	9.29	--	<50	<0.5	<0.5	<0.5	<0.5	6.38	--
03/21/00	31.16	24.54	6.62	--	<50	<0.5	<0.5	<0.5	<0.5	10.6	--
08/28/00	31.16	21.86	9.30	0.00	<50	<0.50	<0.50	<0.50	<0.50	7.7	--
03/02/01	31.16	23.41	7.75	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	--
09/04/01	31.16	21.54	9.62	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/21/02	31.16	23.56	7.60	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
09/04/02	31.16	21.76	9.40	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/31/03	31.16	23.14	8.02	0.00	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
09/17/03 <sup>12</sup>	31.16	21.85	9.31	0.00	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
										0.8	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (%)	GWE (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>C-11</b>											
09/07/90	31.58	19.36	12.22	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/90	31.58	19.50	12.08	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/06/91	31.58	15.43	16.15	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/28/91	31.58	21.06	10.52	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	31.58	19.38	12.20	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	31.58	20.85	10.73	--	<50	<0.5	0.8	<0.5	<0.5	--	--
04/20/92	31.58	23.02	8.56	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	31.58	20.80	10.78	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	31.58	19.51	12.07	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	31.58	21.61	7.97	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	31.58	23.63	7.95	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/28/93	31.58	22.27	9.31	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	31.23	21.06	10.17	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	31.23	22.80	8.43	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	31.23	22.47	8.76	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/94	31.23	20.69	10.54	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/09/94	--	--	--	--	<50	<0.5	0.6	<0.5	0.7	--	--
12/14/94	31.23	22.73	8.50	--	51	1.1	1.7	1.6	4.0	--	--
03/30/95	31.23	24.38	6.85	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	31.23	22.89	8.34	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/22/95	31.23	21.93	9.30	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/11/95	31.23	22.22	9.01	--	<50	<0.5	<0.5	<0.5	1.1	1.1	--
03/08/96	31.23	24.33	6.90	--	<50	<0.5	0.6	<0.5	1.6	<5.0	--
06/21/96	31.23	23.13	8.10	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	31.23	22.16	9.07	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	31.23	24.10	7.13	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/97	31.23	21.40	9.83	--	120	12	20	2.3	14	<5.0	--
09/30/97	31.23	21.56	9.67	--	<50	0.7	0.8	<0.5	0.6	<5.0	--
03/28/98	31.23	24.40	6.83	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/08/98	31.23	22.72	8.51	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/19/99	31.23	24.06	7.17	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (%)	GWE (msl)	DTW (ft)	SPHT (ft)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCs (ppb)
<b>C-11 (cont)</b>											
09/21/99	31.23	22.02	9.21	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/21/00	31.23	24.13	7.10	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
08/28/00	31.23	22.04	9.19	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
03/02/01	31.23	23.34	7.89	0.00	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	--
09/04/01	31.23	21.78	9.45	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/21/02	31.23	23.66	7.57	0.00	<250	<1.0	<1.0	<1.0	<3.0	<2.5	--
09/04/02	31.23	21.98	9.25	0.00	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/31/03	31.23	23.26	7.97	0.00	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
09/17/03 <sup>12</sup>	31.23	22.04	9.19	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>TRIP BLANK</b>											
09/07/90	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/90	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/06/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/28/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/26/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/27/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
04/20/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
07/17/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/29/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/20/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
05/03/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/28/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/27/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/08/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/09/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/14/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/30/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/22/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/11/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--

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**Groundwater Monitoring Data and Analytical Results**  
**Chevron Service Station #9-0504**  
**15900 Hesperian Boulevard**  
**San Lorenzo, California**

WELL ID/ DATE	TOC (fl.)	GWE (msl)	DTW (ft.)	SPHT (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	HVOCS (ppb)
<b>TRIP BLANK (cont)</b>											
03/08/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
06/21/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/27/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
01/03/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/30/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/28/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/08/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/19/99	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/21/99	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
03/21/00	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
08/28/00	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
03/02/01	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	--
09/04/01	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
QA											
03/21/02	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
09/04/02	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5	--
03/31/03	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
09/17/03 <sup>12</sup>	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Chevron Service Station #9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to August 28, 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 Hydrocarbons

TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

HVOCS = Halogenated Volatile Organic Compounds

(ppb) = Parts per billion

(D) = Duplicate

ND = Not Detected

-- = Not Measured/Not Analyzed

QA = Quality Assurance/Trip Blank

<sup>1</sup> Depth to water measured from top of well vault.

<sup>2</sup> Detection limit raised due to foaming sample.

<sup>3</sup> Other HVOCS were not detected at detection limits of 0.5-1.0 ppb.

<sup>4</sup> Chloroform detected at <0.5 ppb.

<sup>5</sup> All site monitoring wells were re-sampled due to an excessive number of foaming samples on the 09/29/94 event.

<sup>6</sup> Chloroform detected at 1.8 ppb.

<sup>7</sup> Laboratory report indicates uncategorized compounds are not included in gas concentration.

<sup>8</sup> Chromatogram pattern indicates an unidentified hydrocarbon.

<sup>9</sup> Laboratory report indicates sample diluted due to foaming.

<sup>10</sup> MTBE value was reported from a re-analysis on 04/01/99.

<sup>11</sup> Laboratory report indicates weathered gasoline C6-C12.

<sup>12</sup> BTEX and MTBE by EPA Method 8260.

**Table 2**  
**Groundwater Analytical Results - Oxygenate Compounds**  
 Chevron Service Station #9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)
C-1	03/19/99	<2,500	<500	270	<10	<10	<10
C-2	03/19/99	<2,500	<500	330	<10	<10	<10
C-3	03/19/99	<500	<100	8.0	<2.0	<2.0	<2.0
C-7	03/19/99	<500	<100	<2.0	<2.0	<2.0	<2.0
C-8	03/19/99	<500	<100	10	<2.0	<2.0	<2.0
C-9	09/17/03	<50	--	<0.5	--	--	--
C-10	03/19/99 09/17/03	<500 <50	<100 --	6.7 0.8	<2.0 --	<2.0 --	<2.0 --
C-11	09/17/03	<50	--	<0.5	--	--	--

**EXPLANATIONS:**

Groundwater laboratory analytical results before September 17, 2003 were compiled from reports prepared by Blaine Tech Services, Inc.

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

(ppb) = Parts per billion

-- = Not Analyzed

## 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 Chevron Products Company, the purge water and decontamination water generated during sampling activities is transported by IWM to McKittrick Waste Management located in McKittrick, California.

TABLE 2

## GROUND-WATER ANALYSES DATA

WELL NO	SAMPLE DATE	ANALYZED DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	OIL & GREASE (PPB)	WELL ELEV (FT)	STATIC WATER ELEV (FT)	PRODUCT THICKNESS (FT)	DEPTH TO WATER (FT)
C-1	07-Sep-90	---	---	---	---	---	---	---	33.93	19.91	0.03	14.04
C-2	07-Sep-90	---	---	---	---	---	---	---	34.21	20.01	0.10	14.28
C-3	07-Sep-90	11-Sep-90	490	6	<0.5	41	120	N/A	35.46	20.15	---	15.31
C-4	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	<5000	35.78	20.20	---	15.58
C-5	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	N/A	35.31	20.21	---	15.10
C-6	07-Sep-90	11-Sep-90	57	<0.5	<0.5	0.6	4	N/A	36.89	20.06	---	16.83
C-7	07-Sep-90	11-Sep-90	880	84	23	46	180	N/A	32.75	19.73	---	13.02
C-8	07-Sep-90	11-Sep-90	3700	170	31	180	270	N/A	33.82	19.50	---	14.32
C-9	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	N/A	33.43	19.37	---	14.06
C-10	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	N/A	31.63	19.14	---	12.49

CURRENT REGIONAL WATER QUALITY CONTROL BOARD MAXIMUM CONTAMINANT LEVELS

Benzene 1.0 ppb Xylenes 1,750 ppb Ethylbenzene 680 ppb

CURRENT DHS ACTION LEVELS

Toluene 100 ppb

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline  
CD = Duplicate SamplePPB = Parts Per Billion  
N/A = Not Analyzed

TB = Trip Blank

- Note: 1. All data shown as <x are reported as ND (none detected).  
 2. Static Water Elevations referenced to mean sea level (MSL). Elevations are corrected for free product using a correction factor of 0.8.  
 3. DHS Action Levels and MCLs are subject to change pending State review.

TABLE 2

## GROUND-WATER ANALYSES DATA

WELL NO	SAMPLE DATE	ANALYZED DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	OIL & GREASE (PPB)	WELL ELEV (FT)	STATIC WATER ELEV (FT)	PRODUCT THICKNESS (FT)	DEPTH TO WATER (FT)
C-11	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	N/A	31.58	19.36	----	12.22
CD-3	07-Sep-90	11-Sep-90	460	6	<0.5	40	110	N/A	----	----	----	----
TB	07-Sep-90	11-Sep-90	<50	<0.5	<0.5	<0.5	<0.5	N/A	----	----	----	----

TABLE OF MONITORING DATA  
GROUNDWATER WELL SAMPLING REPORT

<u>WELL I.D.</u>	C-1	C-2	C-3 CD-3	C-4	C-5	C-6
Casing Diameter (inches)	3	3	3	3	3	2
Total Well Depth (feet)	----	----	19.4	20.4	19.3	24.7
Depth to Water (feet)	13.14 **	13.44 **	14.44	14.69	14.22	15.95
Free Hydrocarbons (feet)	0.01	0.15	sheen	none	none	none
Reason Not Sampled	free product	free product	----	----	----	----
Calculated Case Vol.(gal.)	----	----	7.5	8.6	7.8	5.9
Did Well Dewater?	----	----	no	no	no	no
Volume Evacuated (gal.)	----	----	9	10	10	15
Purging Device	----	----	Bailer	Bailer	Bailer	Bailer
Sampling Device	----	----	Bailer	Bailer	Bailer	Bailer
Time	----	----	10:58	12:12	12:48	11:37
Temperature (F)*	----	----	64.5	69.0	70.1	69.4
pH*	----	----	7.15	6.86	6.84	7.00
Conductivity (umhos/cm)*	----	----	379	1337	1175	1278

\* Indicates Stabilized Value

\*\* Not corrected for separate phase hydrocarbons

TABLE OF MONITORING DATA  
GROUNDWATER WELL SAMPLING REPORT

<u>WELL I.D.</u>	C-7	C-8
Casing Diameter (inches)	2	2
Total Well Depth (feet)	25.2	24.5
Depth to Water (feet)	12.12	13.45
Free Hydrocarbons (feet)	none	none
Reason Not Sampled	-----	-----
Calculated 4 Case Vol.(gal.)	8.9	7.5
Did Well Dewater?	no	no
Volume Evacuated (gal.)	22	19
Purging Device	Bailer	Bailer
Sampling Device	Bailer	Bailer
Time	09:42	08:41
Temperature (F)*	68.7	69.6
pH*	6.89	6.86
Conductivity (umhos/cm)*	1270	1427

\* Indicates Stabilized Value

**RECEIVED**

**SUPERIOR ANALYTICAL LABORATORY, INC.**

1385 FAIRFAX ST., STE. D. • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

JAN 1990

**GETTLER-RYAN INC.  
GENERAL CONTRACTORS**

**C E R T I F I C A T E   O F   A N A L Y S I S**

LABORATORY NO.: 10338  
CLIENT: Chevron USA  
CLIENT JOB NO.: 3259

DATE RECEIVED: 12/11/89  
DATE REPORTED: 12/18/89

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
10338- 1	C-3	12/08/89	12/15/89
10338- 2	C-4	12/08/89	12/15/89
10338- 3	C-5	12/08/89	12/15/89
10338- 4	C-6	12/08/89	12/15/89
10338- 5	C-7	12/08/89	12/15/89
10338- 6	C-8	12/08/89	12/15/89
10338- 7	CD-3	12/08/89	12/16/89
10338- 8	TRIP	12/08/89	12/16/89

Laboratory Number:	10338	10338	10338	10338	10338
	1	2	3	4	5

**ANALYTE LIST                          Amounts/Quantitation Limits (ug/l)**

OIL AND GREASE:	NA	ND<5000	NA	NA	NA
TPH/GASOLINE RANGE:	680	ND<500	ND<500	ND<500	1700
TPH/DIESEL RANGE:	NA	ND<1000	NA	NA	NA
BENZENE:	6	ND<0.5	ND<0.5	ND<0.5	32
TOLUENE:	1	ND<0.5	ND<0.5	ND<0.5	12
ETHYL BENZENE:	31	ND<0.5	ND<0.5	ND<0.5	17
XYLEMES:	58	ND<0.5	ND<0.5	ND<0.5	150

Laboratory Number:	10338	10338	10338
	6	7	8

**ANALYTE LIST                          Amounts/Quantitation Limits (ug/l)**

OIL AND GREASE:	NA	NA	NA
TPH/GASOLINE RANGE:	4300	710	ND<500
TPH/DIESEL RANGE:	NA	NA	NA
BENZENE:	62	6	ND<0.5
TOLUENE:	11	1	ND<0.5
ETHYL BENZENE:	95	32	ND<0.5
XYLEMES:	180	61	ND<0.5

**OUTSTANDING QUALITY AND SERVICE**

RECEIVED

SUPERIOR ANALYTICAL LABORATORY, INC.

1385 FAIRFAX ST., STE. D. • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

JAN 19 1990

GETTLER-RYAN INC.  
GENERAL CONTRACTORS

C E R T I F I C A T E   O F   A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Diesel by Modified EPA SW-846 Method 8015

Gasoline by Purge and Trap: EPA Method 8015/5030

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES  
by EPA SW-846 Methods 5030 and 8020

Page 2 of 2  
QA/QC INFORMATION  
SET: 10338

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:

Duplicate RPD NA

Minimum Detection Limit in Water: 5000ug/L

Modified EPA Method 8015 for Extractable Hydrocarbons:

Minimum Quantitation Limit for Diesel in Water: 1000ug/L

Daily Standard run at 200mg/L; RPD Diesel = <15%

MS/MSD Average Recovery = 95%; Duplicate RPD = 14%

8015/5030 Total Purgable Petroleum Hydrocarbons:

Minimum Quantitation Limit for Gasoline in Water: 500ug/L

Daily Standard run at 2mg/L; RPD Gasoline = <15%

MS/MSD Average Recovery = 95%; Duplicate RPD = 0%

8020/BTXE

Minimum Quantitation Limit in Water: 0.50ug/L

Daily Standard run at 20ug/L; RPD = <15%

MS/MSD Average Recovery = 104%; Duplicate RPD = <7%

  
Richard Serna, Ph.D.  
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

10-5-8 JK

## Chain-of-Custody Record

Chevron U.S.A. Inc. P.O. Box 5004 San Ramon, CA 94583 FAX (415) 842-9591	Chevron Facility Number <u>0504</u> Consultant Release Number <u>2451960</u> Consultant Project Number <u>3259</u> Consultant Name <u>Gettier Ryan Inc</u> Address <u>1992 National Ave, Hayward</u> Fax Number <u>415 783-1089</u> Project Contact (Name) <u>Jerry Mitchell</u> (Phone) <u>415 783-7500</u>	Chevron Contact (Name) <u>John Randa II</u> (Phone) Laboratory Name <u>Superior Analytical</u> Contract Number <u>2472450</u> Samples Collected by (Name) <u>Phil Dye</u> Collection Date <u>12-8-99</u> Signature <u>Phil Dye</u>
---	--	--

Relinquished By (Signature) <i>T. July J. Rye</i>	Organization <i>G/R</i>	Date/Time <i>12-8-1955</i>	Received By (Signature) <i>J. C. Leh</i>	Organization <i>G/R</i>	Date/Time <i>12-8-55 12:48</i>	Turn Around Time (Circle Choice)
Relinquished By (Signature) <i>M. C. C.</i>	Organization <i>O/R</i>	Date/Time <i>12-8-55 1:45 pm</i>	Received By (Signature)	Organization	Date/Time	24 Hrs 48 Hrs 5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <i>James S. Hall</i>		Date/Time <i>12-8-55 1:50</i>	10 Days Need results by

**TABLE 4**  
**SOURCE AREA GROUNDWATER ANALYTICAL SUMMARY**  
**USED FOR TIER 2 RBCA ANALYSIS**

Former Chevron Service Station No. 9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
C-1	03/19/99	<0.0005	<0.0005	0.0085	0.0025	0.35
	03/21/00	<0.0005	0.00204	0.00533	0.658	0.154
	03/02/01	<0.0005	<0.0005	<0.0005	<0.0005	0.0328
	03/21/02	<0.0005	<0.0005	<0.0005	<0.0005	0.02
C-2	03/19/99	0.015	<0.0005	0.056	0.13	0.46
	03/21/00	0.00969	<0.0005	0.0765	0.125	0.168
	03/02/01	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
	03/21/02	<0.0005	<0.0005	<0.0005	<0.0015	0.0045
C-3	03/19/99	<0.0005	<0.0005	<0.0005	0.00065	0.012
	03/21/00	<0.0005	<0.0005	0.00496	0.0117	0.00613
	03/02/01	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
	03/21/02	<0.0005	<0.0005	<0.0005	<0.0015	<0.0025
C-7	03/19/99	0.063	0.024	0.28	0.37	0.067
	03/21/00	0.0195	0.00514	0.116	0.206	0.0117
	03/02/01	0.0547	<0.025	0.522	0.945	<0.250
	03/21/02	0.031	0.0084	0.46	0.85	<0.020
C-8	03/19/99	0.034	0.016	0.034	0.019	0.076
	03/21/00	0.00845	0.0423	0.0611	0.0203	0.0338
	03/02/01	0.0374	0.00412	0.0223	0.0113	0.0404
	03/21/02	<0.020	0.002	0.015	0.0083	<0.010
20 Samples	Maximum	0.063	0.042	0.52	0.95	0.46
	Mean <sup>a</sup>	0.0025	0.0012	0.0075	0.01	0.028
	UCL <sup>b</sup>	0.0062	0.0027	0.023	0.03	0.054

<sup>a</sup> = Assuming lognormal distribution.

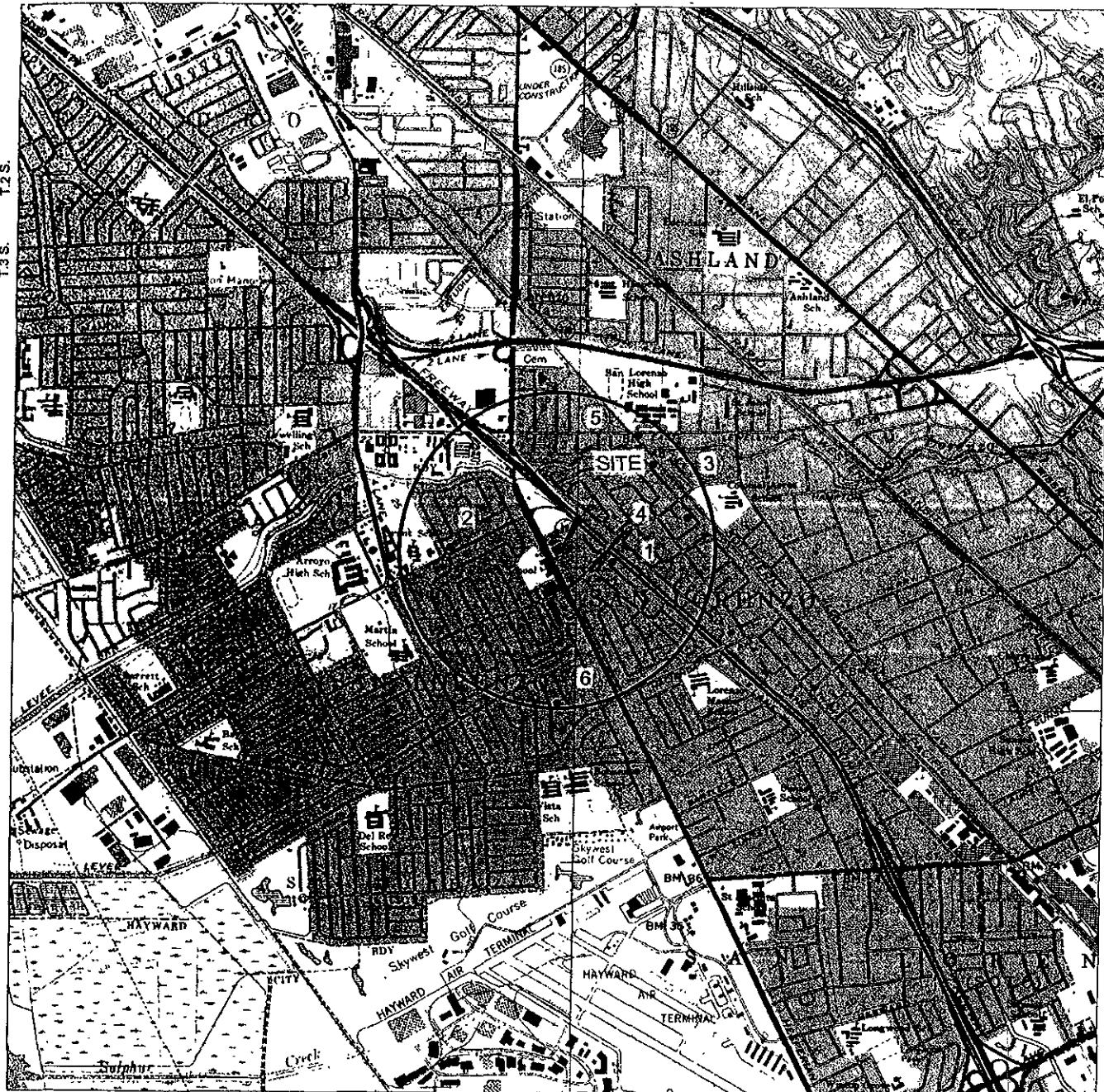
<sup>b</sup> = UCL = 95 percent upper confidence limit on the mean concentration.

MTBE = Methyl tertiary butyl ether.

mg/L = Milligrams per liter.

## **APPENDIX E**

### **Well Search Data**



R.3 W R.2 W.

LEGEND:

- ① WATER WELL LOCATION

GENERAL NOTES:  
BASE MAP FROM U.S.G.S.  
SAN LEANDRO & HAYWARD, CA.  
7.5 MINUTE TOPOGRAPHIC  
PHOTOREVISED 1980



QUADRANGLE LOCATION

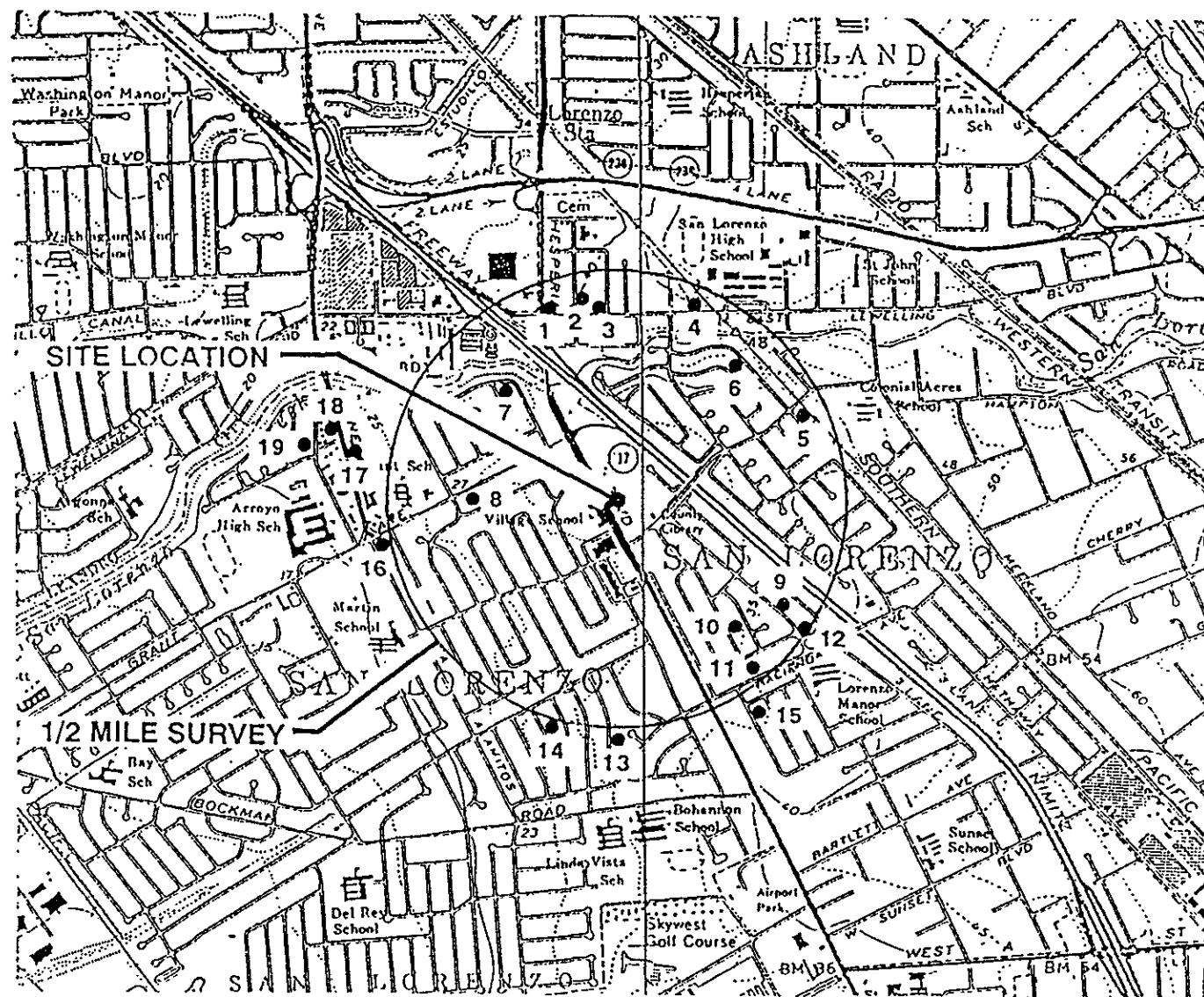
0 2000 FT  
SCALE 1:24,000

FIGURE 1  
SITE LOCATION AND WELL LOCATION MAP

CHEVRON STATION NO. 9-0504  
15900 HESPERIAN BLVD.  
SAN LORENZO, CALIFORNIA

PROJECT NO DG90-504	DRAWN BY M.L./2/18/02
FILE NO. DG90504A	PREPARED BY M.L.
REVISION NO. 2	REVIEWED BY





Base Map: USGS Topographic Map



GeoStrategies Inc.

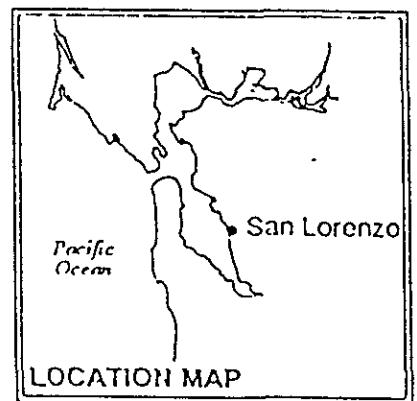
JOB NUMBER  
7259

REVIEWED BY RG/CEC  
CJM CEC/LZL

Vicinity Map with Half-Mile Well Survey  
Chevron Service Station #0504  
15900 Hesperian Blvd.  
San Lorenzo, California

DATE  
10/90

REVISED DATE



#### EXPLANATION

- 1 Well location

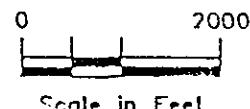


PLATE  
1

TABLE 4

SUMMARY OF ONE-HALF MILE RADIUS WELL SURVEY  
 Chevron Service Station No. 0504  
 15900 Hesperian Boulevard, San Lorenzo, California

MAP ID	STATE NUMBER	WELL LOCATION	TOTAL DEPTH	YEAR DRILLED	USAGE (STATUS)
1	2W7E1	Hesperian and Lewelling	50'	1977	Cathodic
2	2W7F1	15559 Usher Street	25'	?	Irrigation
3	2W7F2	15594 Sharon Street	27'	1955	Irrigation
4	2W7G1	624 Lewelling	75'	1937	Domestic
5	2W7J7	16068 Via Cordoba	30'	1977	Domestic
6	2W7J8	15939 Via Cordoba	37'	1977	Irrigation
7	2W7M1	646 Via Del Rio	22'	?	Irrigation
8	2W7M3	754 Grant Avenue	31'	1977	Irrigation
9	2W18B1	16138 Via Segundo	34'	1950	Irrigation
10	2W18B3	17162 Via Primero	40'	1976	Irrigation

SOURCE: County of Alameda Public Works Agency

- Notes:
1. This survey does not include monitoring wells or piezometers located nearby sites where subsurface investigations are on-going as these are not considered water producing wells.
  2. Information regarding type of and method used for sealing wells is not available.
  3. Locations are approximated on the vicinity map (Plate 1).

TABLE 4

**SUMMARY OF ONE-HALF MILE RADIUS WELL SURVEY**  
**Chevron Service Station No. 0504**  
**15900 Hesperian Boulevard, San Lorenzo, California**

MAP ID	STATE NUMBER	WELL LOCATION	TOTAL DEPTH	YEAR DRILLED	USAGE (STATUS)
11	2W18B4	396 Hacienda Avenue	31'	1977	Irrigation
12	2W18B6	17578 Via Primero	30'	1989	Domestic
13	2W18C1	17127 Via Flores	25'	1977	Irrigation
14	2W18F4	17061 Via Perdido	25'	1989	Irrigation
15	2W18G1	18451 Robscott Avenue	26'	1977	Irrigation
16	3W12J1	Washington Avenue/Grant	370'	1940	Abandoned
17	3W12J2	15550 Washington Avenue	360'	1932	Irrigation
18	3W12J3	15325 Washington Avenue	130'	1920	Irrigation
19	3W12J4	15600 Lorenzo Avenue	80'	1978	Irrigation

## **APPENDIX F**

**Chevron Letter Dated April 6, 1999**

**Weiss Associates Soil Sample Location Map and Soil Analytical  
Results**



April 6, 1999

**Chevron Products Company**  
6001 Bollinger Canyon Road  
Building L, Room 1110  
PO Box 6004  
San Ramon, CA 94583-0904

Mr. Amir K. Gholami, REHS  
Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Philip R. Briggs**  
Project Manager  
Site Assessment & Remediation  
Phone 925 842-9136  
Fax 925 842-8370

**Re: Chevron Service Station #9-0504  
15900 Hesperian Blvd., San Lorenzo, California**

Dear Mr. Gholami:

This is to advise your office that Chevron is proposing to remove the existing ground water extraction system that is presently located at the above noted site.

From reviewing the past history of the system, it operated for about two years from August 1992 until July 1994 and was to provide hydraulic containment to that provided by the natural geologic formation. The system removed and treated 1,290,430 gallons of water while the quantity of petroleum hydrocarbons removed is estimated at only 3 to 4 gallons.

It appears that the system achieved its objective of containment based on the existing ground water monitoring results and therefore, the system is no longer needed.

If you have any questions or concerns to Chevron's proposal to remove the system, please call me at (925) 842-9136. If a response is not received within thirty days it will be assumed that the removal is acceptable by your office.

Sincerely,  
**CHEVRON PRODUCTS COMPANY**

Philip R. Briggs  
Site Assessment and Remediation Project Manager

April 6, 1999  
Mr. Amir Gholami  
Chevron Service Station #9-0504  
Page 2

Cc. Mr. Bill Scudder, Chevron

Mr. Ron Sykora  
David E. Bohannon Organization  
60 Hillsdale Mall  
San Mateo, CA 94403

## **APPENDIX G**

**Gettier Ryan's June 8, 1995 Title Record Search**



# GETTLER - RYAN INC.

June 8, 1995

Mark Miller  
Chevron USA Products Company  
P.O. Box 5004  
San Ramon, California

Re:      *Chevron Service Station #9-0504*  
          15900 Hesperian Boulevard  
          San Lorenzo, CA

FILE

Dear Mr. Miller:

At the request of Chevron, Gettler-Ryan (G-R) personnel conducted a records search for past land uses at the above-referenced location and adjoining properties. The following documents the results of the record search.

The area surrounding the Chevron station is currently owned by the David D. Bohannon Organization. Records reviewed indicate that this organization has owned the property since at least 1953. Several improvements have been made at the property and the improvements have been utilized as retail businesses.

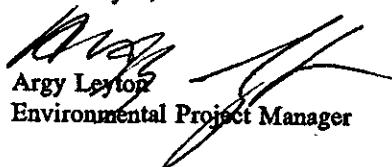
The addresses for the retail businesses range from 15903 through 15950 Hesperian Boulevard. Current and former businesses are listed below:

<u>Address</u>	<u>Name</u>	<u>Year established</u>
15903-7	Commercial use	1993
15904	Shopping Unit #6	1953
15911	Lamps Plus	1991
15918	PX Market	1953
15918	Winchell's	1992
15920	Windows & Doors	1991
15922	Pizza Hut	1991
15927	Charburger	1990
15934	Village Post & Parcel	1990
15938	Beauty Shop	1968
15938	Hot Dog Retail	1985
15942	Little Party Helpers	1985
15946	Smoke House B-B-Q	1988
15950	Winston's Appliances & TV	1960
15950	Klem's Ice Cream	1965
15950	AVCO	1975
15950	Photography Studio	1982
15950	Restaurant	1988

In addition to the above businesses, there has been a Mobil Service Station located at 15858 Hesperian Boulevard (directly across the street from the Chevron station, since at least August 1976.

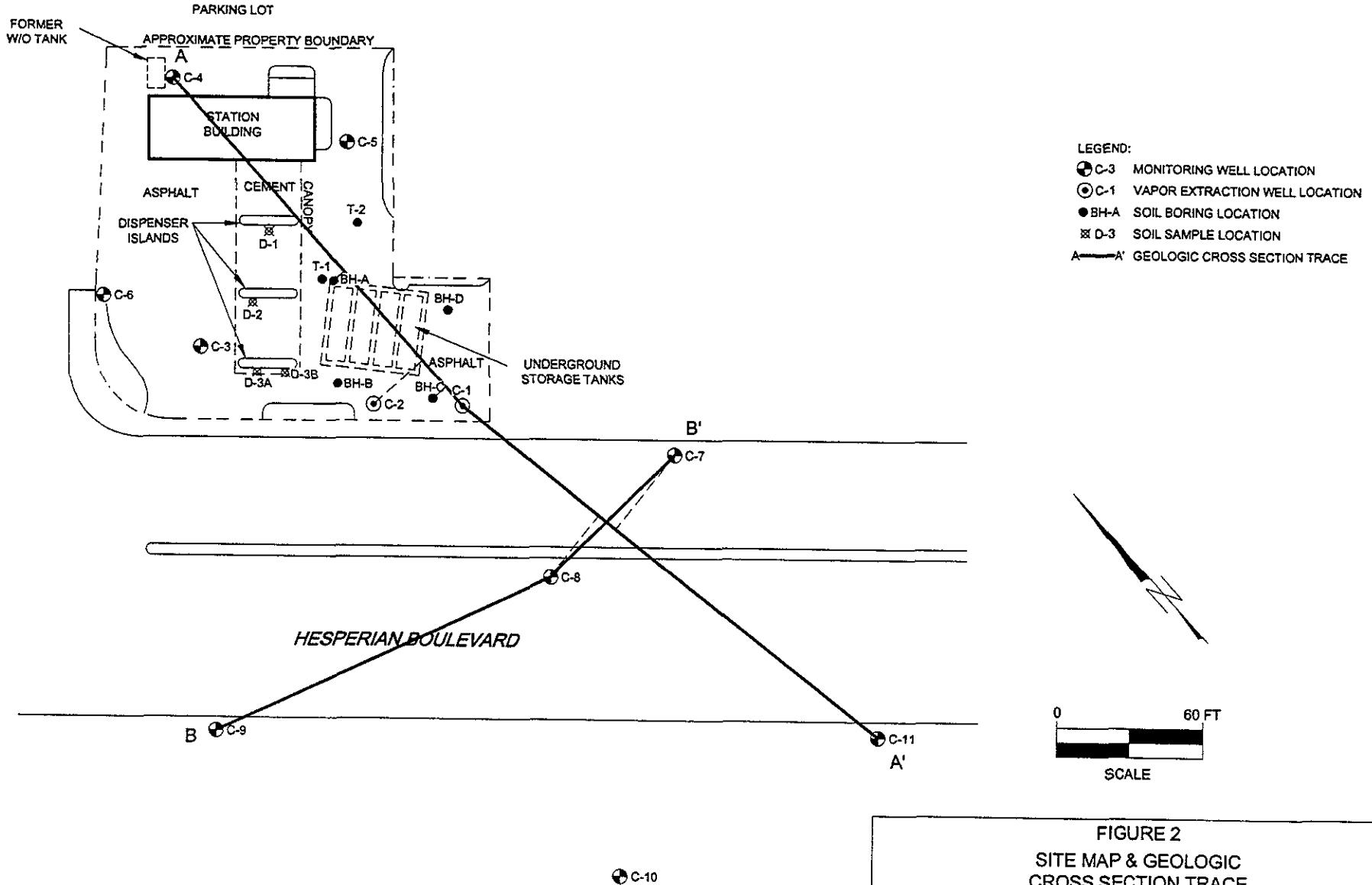
Thank you for allowing us to provide services to Chevron. Please call if you have any questions.

Sincerely,  
Gettler-Ryan, Inc.

  
Argy Leyton  
Environmental Project Manager

## **APPENDIX H**

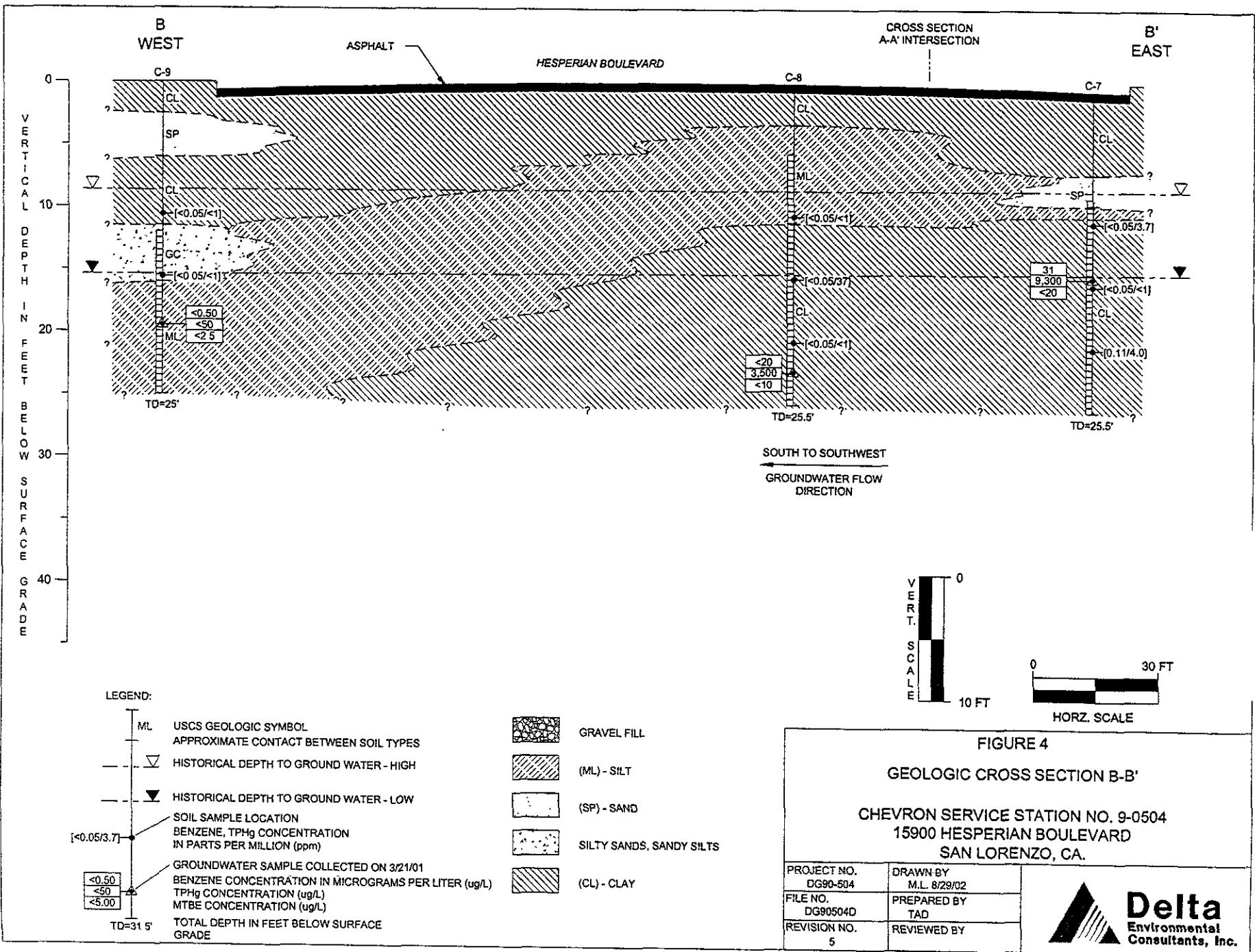
### **Delta Cross Sections**

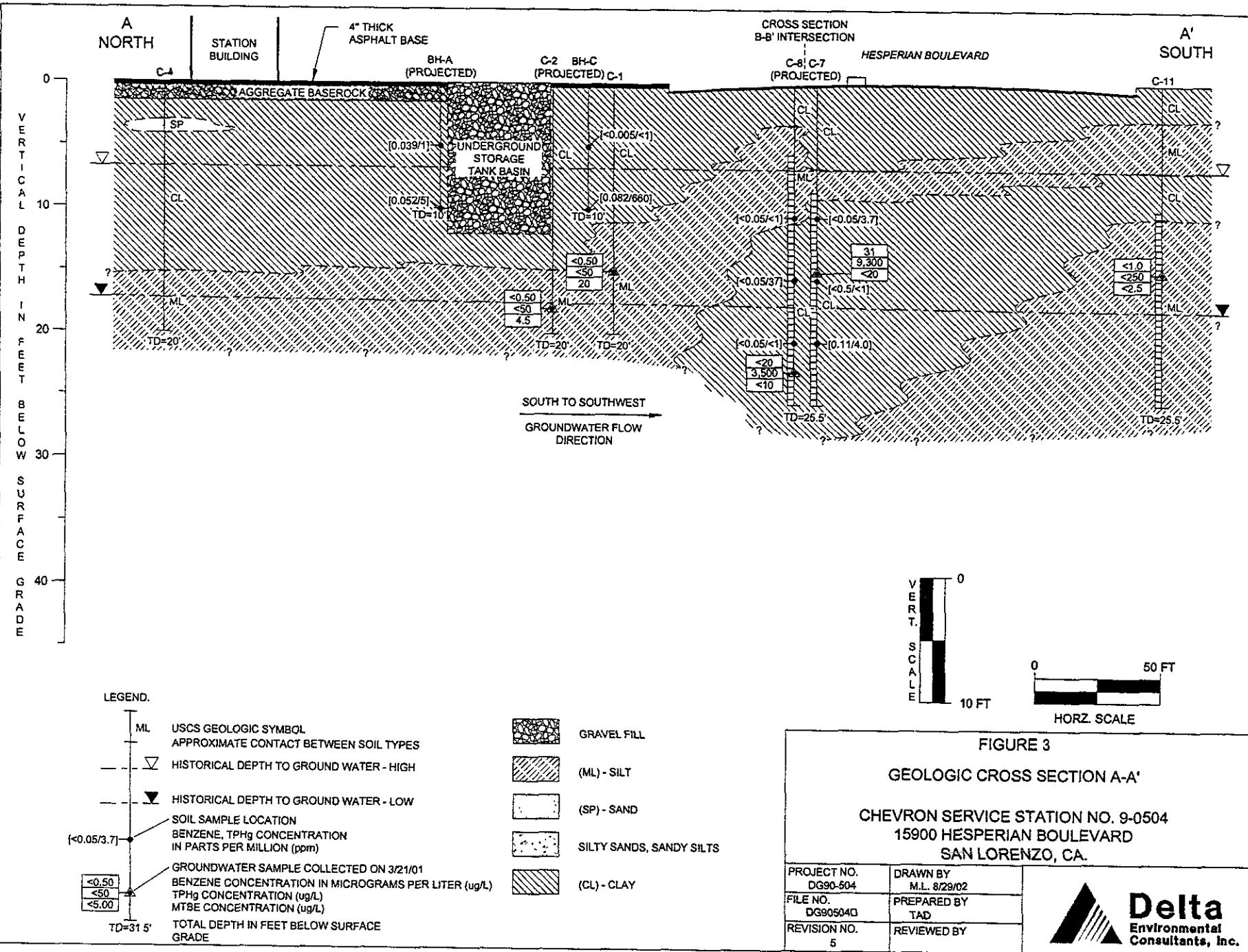


**FIGURE 2**  
SITE MAP & GEOLOGIC  
CROSS SECTION TRACE  
CHEVRON SERVICE STATION 9-0504  
15900 HESPERIAN BOULEVARD  
SAN LORENZO, CA.

PROJECT NO. DG90-504	DRAWN BY M.L. 3/19/02
FILE NO. DG90504C	PREPARED BY BAB
REVISION NO. 4	REVIEWED BY

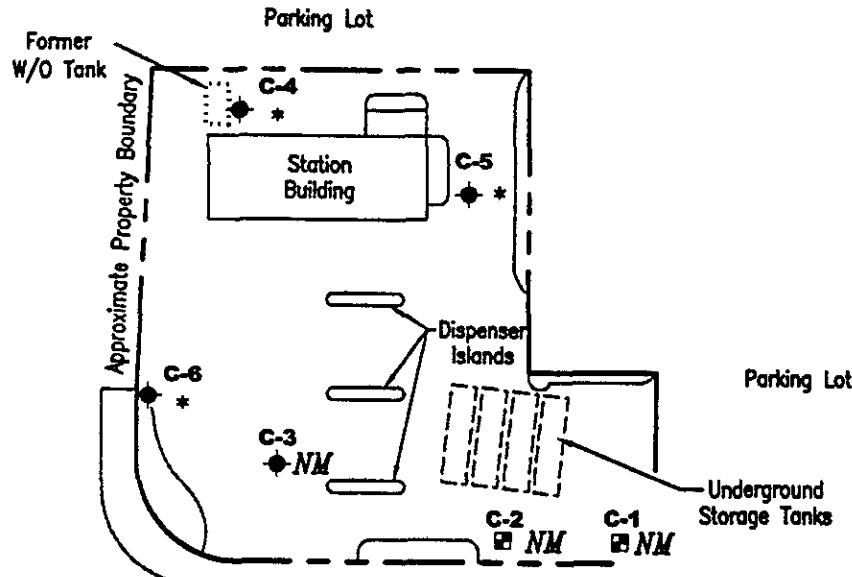






## **APPENDIX I**

### **Historical Potentiometric Maps**



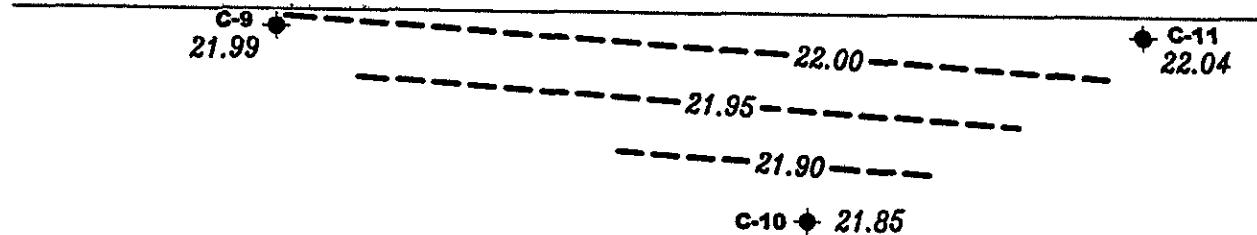
### EXPLANATION

- ◆ Groundwater monitoring well
- Vapor extraction well
- + Discontinued from monitoring/sampling program
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level
- 99.99 Groundwater elevation contour, dashed where inferred
- NM Not Monitored
- \*
- Discontinued from monitoring/sampling program

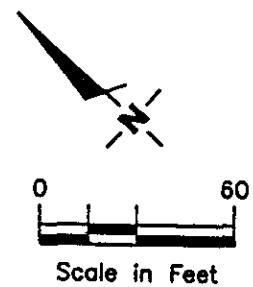
◆ NM  
C-7

◆ NM  
C-8

**HESPERIAN BOULEVARD**



Approximate groundwater flow direction at a gradient of 0.003 Ft./Ft.



6747 Sierra Ct., Suite J  
Dublin, CA 94568

(925) 551-7555

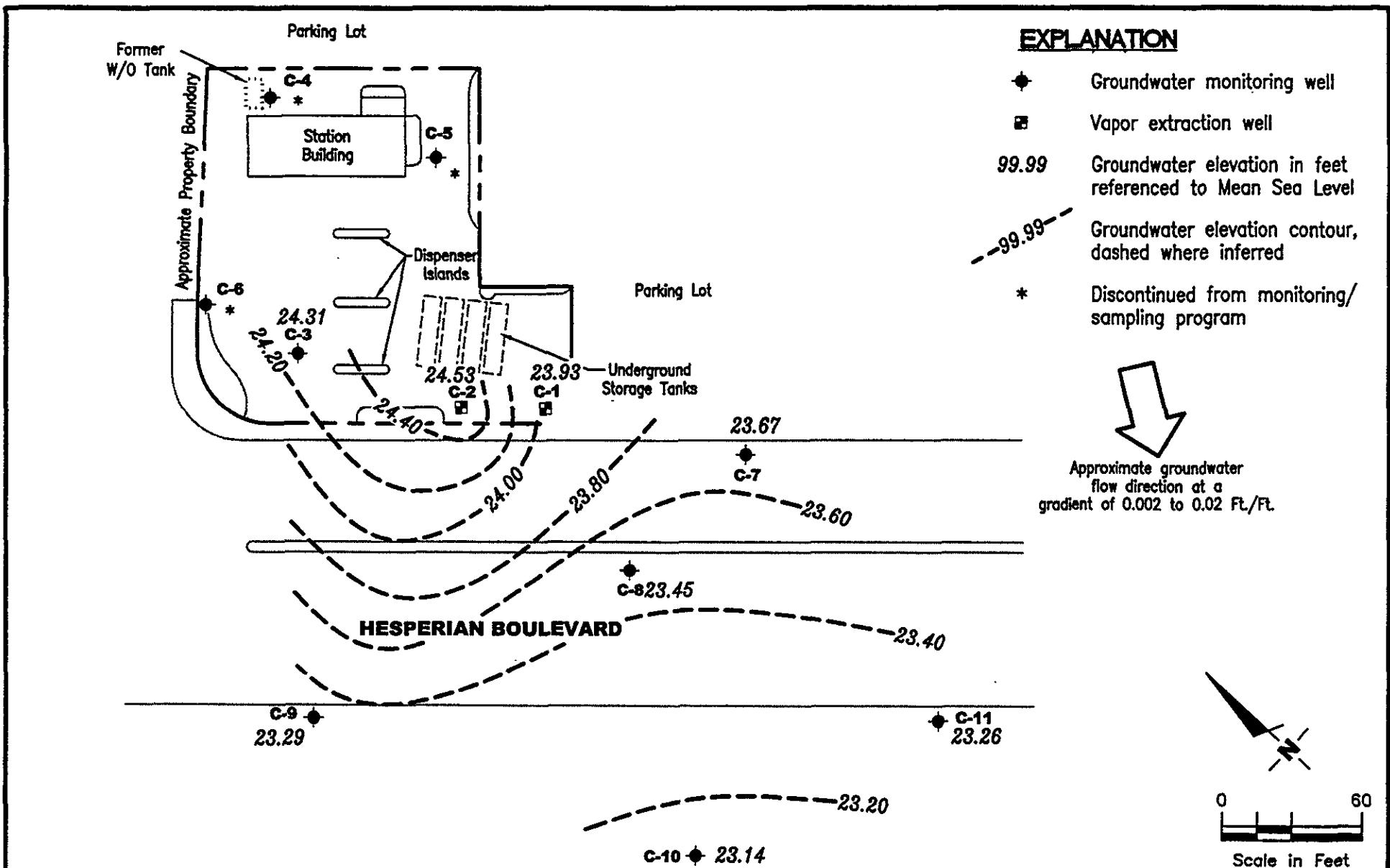
PROJECT NUMBER  
385259

REVIEWED BY

**POTENTIOMETRIC MAP**  
Chevron Service Station #9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
September 17, 2003

REVISED DATE



**GETTLER - RYAN INC.**

6747 Sierra Ct., Suite J  
Dublin, CA 94568

(925) 551-7555

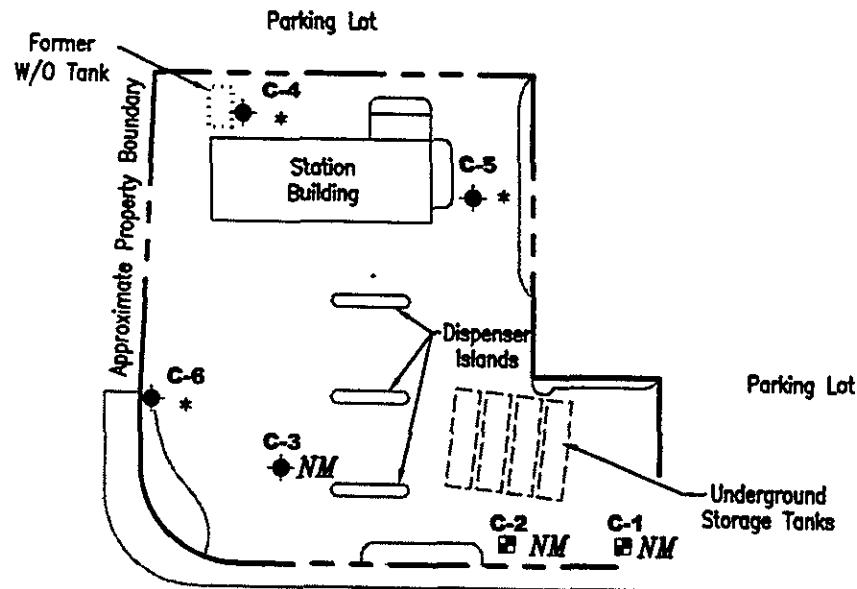
PROJECT NUMBER  
385259

REVIEWED BY

POTENTIOMETRIC MAP  
Chevron Service Station #9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
March 31, 2003

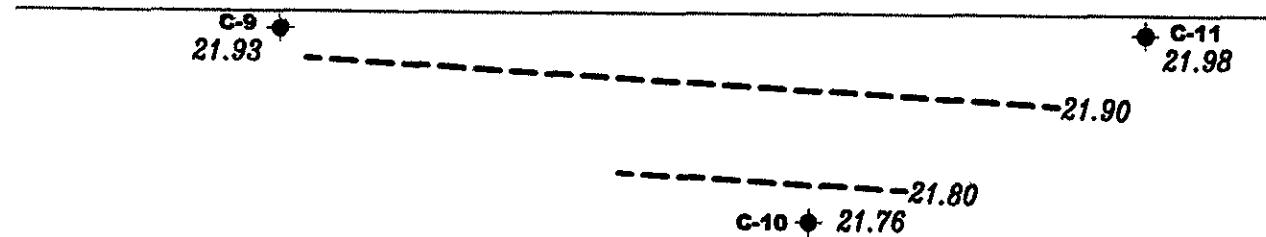
REVISED DATE



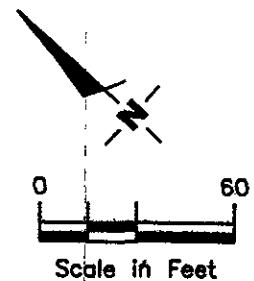
### EXPLANATION

- ◆ Groundwater monitoring well
- Vapor extraction well
- + Discontinued from monitoring/sampling program
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level
- - - 99.99 - - - Groundwater elevation contour, dashed where inferred
- NM Not Monitored
- \*
- Discontinued from monitoring/sampling program

HESPERIAN BOULEVARD



Approximate groundwater flow direction at a gradient of 0.003 Ft./Ft.



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

POTENTIOMETRIC MAP  
Chevron Service Station #9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

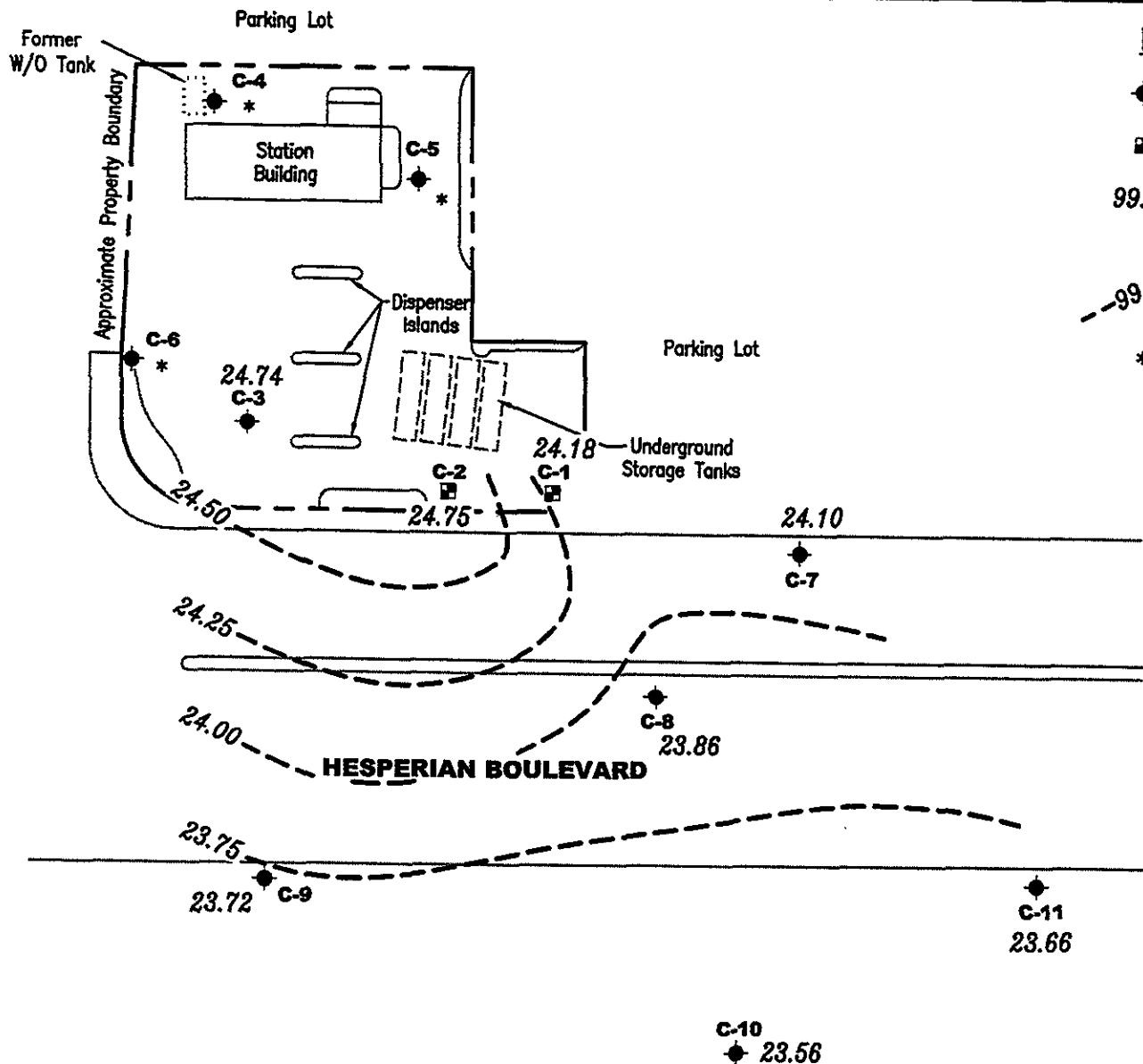
PROJECT NUMBER  
385259

REVIEWED BY

DATE

REVISED DATE

September 4, 2002



6747 Sierra Ct., Suite J  
Dublin, CA 94568

(925) 551-7555

PROJECT NUMBER  
385259

REVIEWED BY

**POTENTIOMETRIC MAP**  
Chevron Service Station #9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

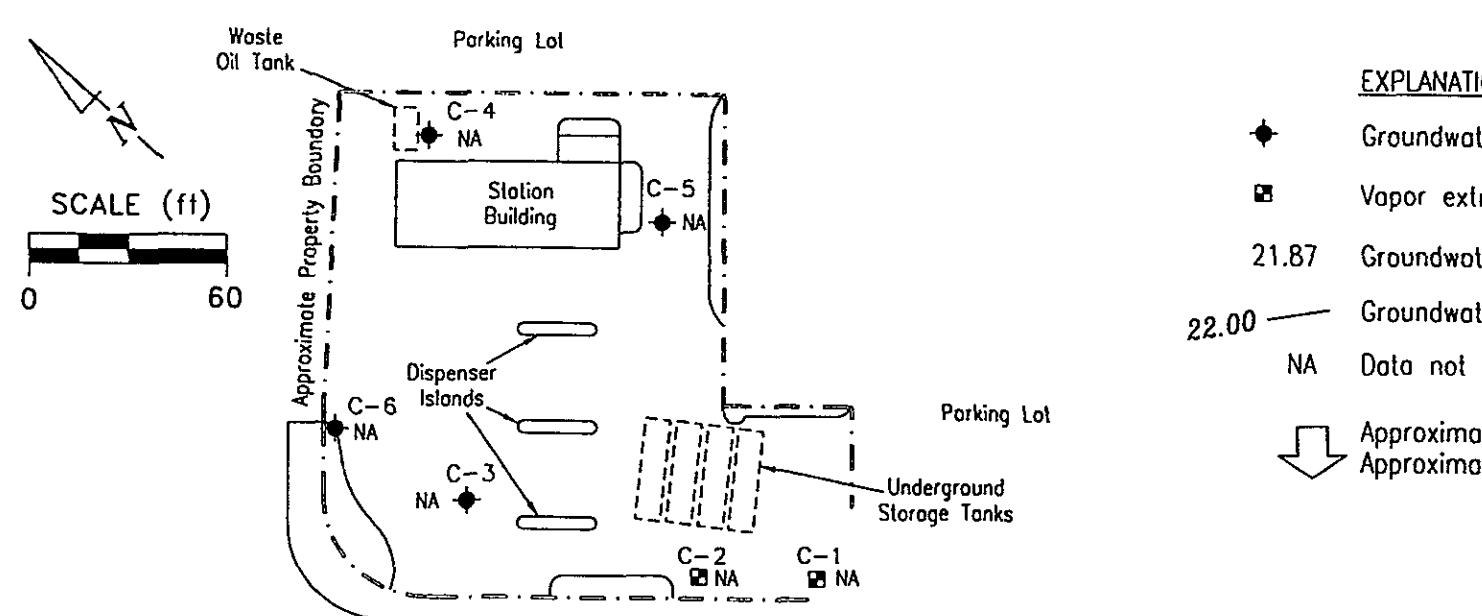
DATE  
March 21, 2002

REVISED DATE

FILE NAME: P:\Enviro\Chevron\9-0504\Q02-9-0504.dwg | Layout Tab: Pot1

1

FIGURE



#### EXPLANATION:

- Groundwater monitoring well
- Vapor extraction well
- 21.87 — Groundwater elevation (ft, msl)
- 22.00 — Groundwater elevation contour (ft, msl)
- NA Data not available
- ↓ Approximate groundwater flow direction  
Approximate gradient = 0.002

C-7  
NA

HESPERIAN BOULEVARD

C-8  
NA

C-9  
22.00

C-11  
22.02

21.90

21.87

Ref. 0504-qm.dwg  
Base map from Geller-Ryan, Inc.

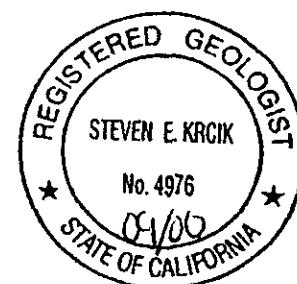
PREPARED BY

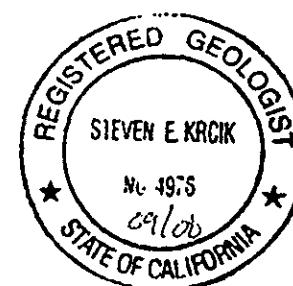
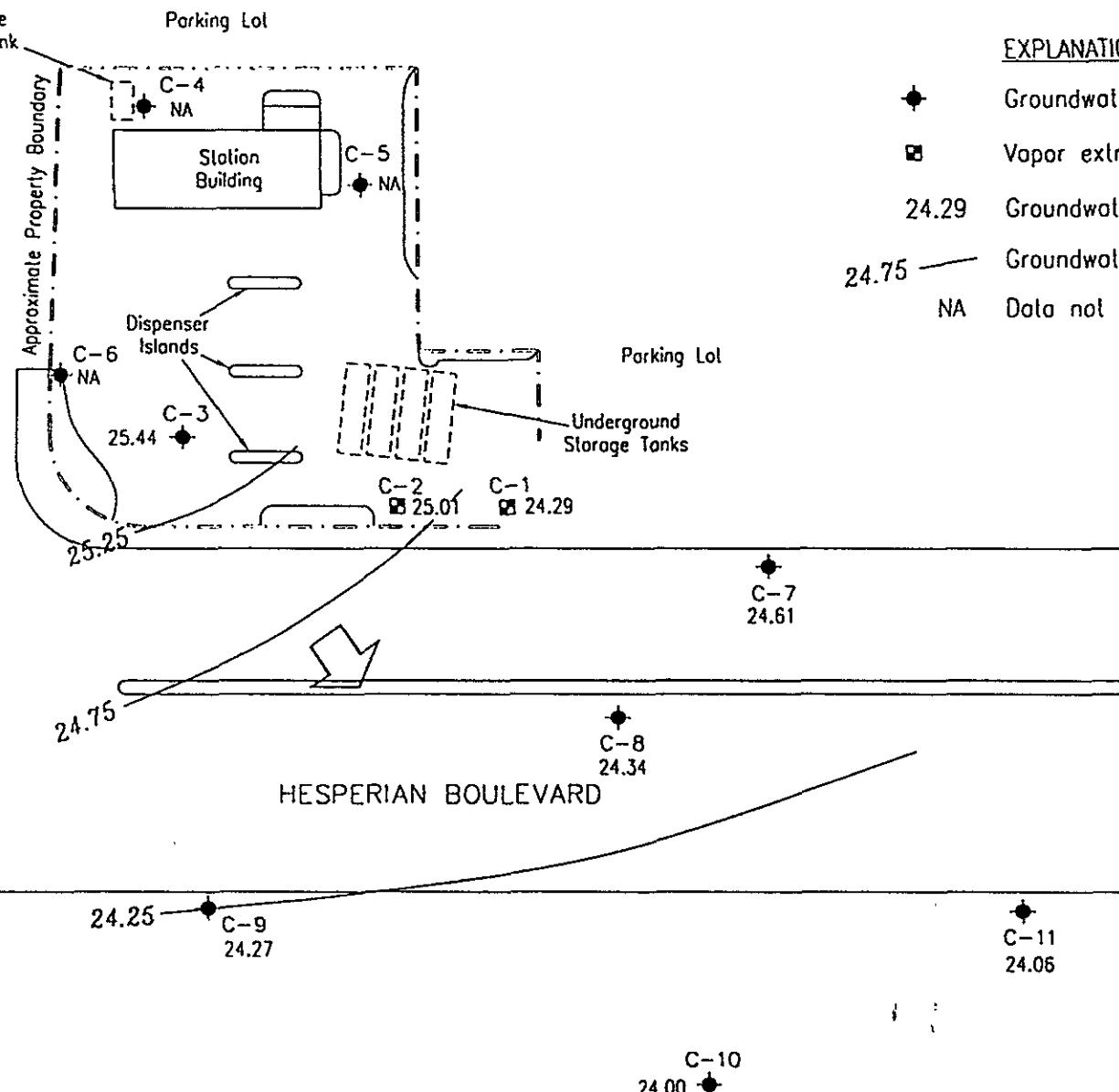
**RRM**  
engineering contracting firm

Chevron Station 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

GROUNDWATER ELEVATION CONTOUR MAP,  
SEPTEMBER 21, 1999

FIGURE:  
**1**  
PROJECT:  
DAC04





Ref. D504-qm.dwg  
Bossmop from Celler-Ryan, Inc.

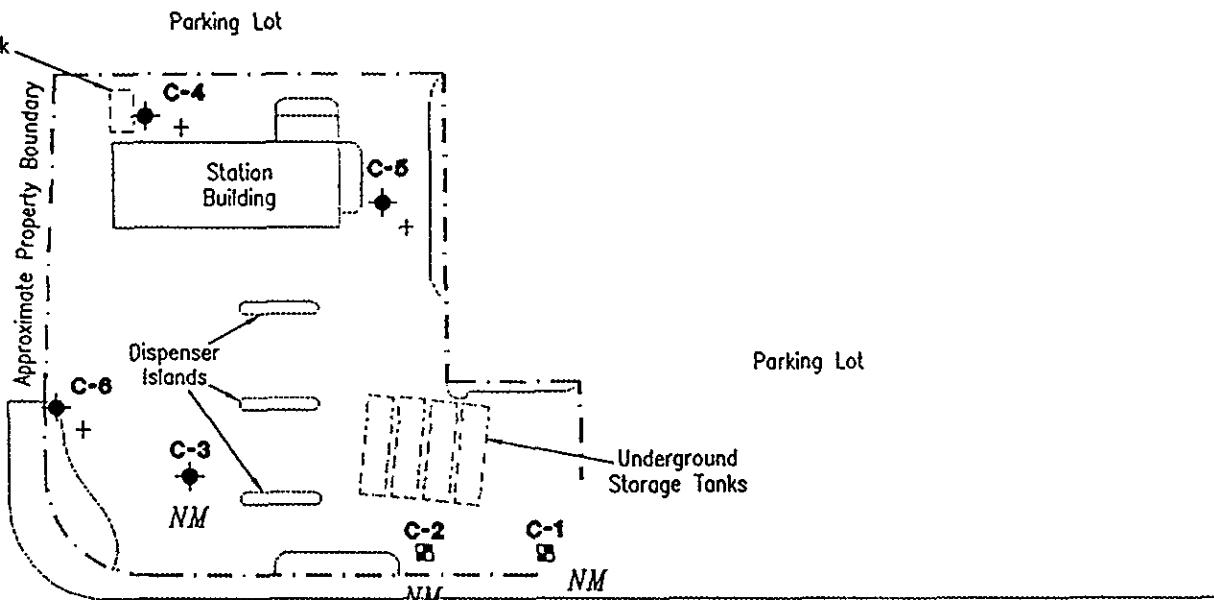
PREPARED BY

**RRM**  
engineering contracting firm

Chevron Station 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

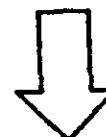
GROUNDWATER ELEVATION CONTOUR MAP,  
MARCH 19, 1999

FIGURE:  
1  
PROJECT:  
DAC04



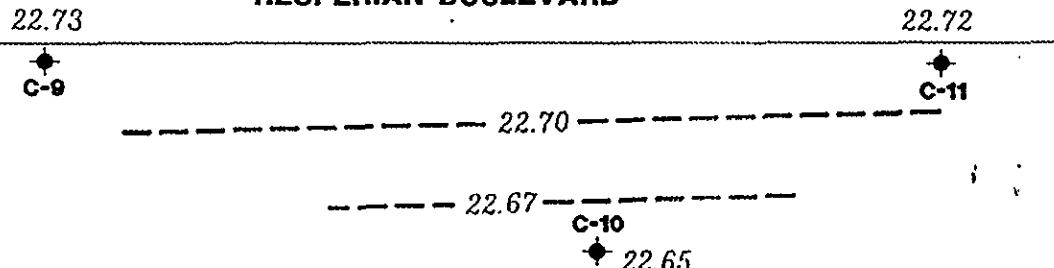
EXPLANATION:

- ◆ Groundwater monitoring well
- ▣ Vapor extraction well
- ⊕ Well discontinued from monitoring/sampling program
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.
- NM Not Monitored



Approximate groundwater flow direction at a gradient of 0.001 Ft./Ft.

**HESPERIAN BOULEVARD**



FIGURE

1

**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (925) 551-7555  
Dublin, CA 94568



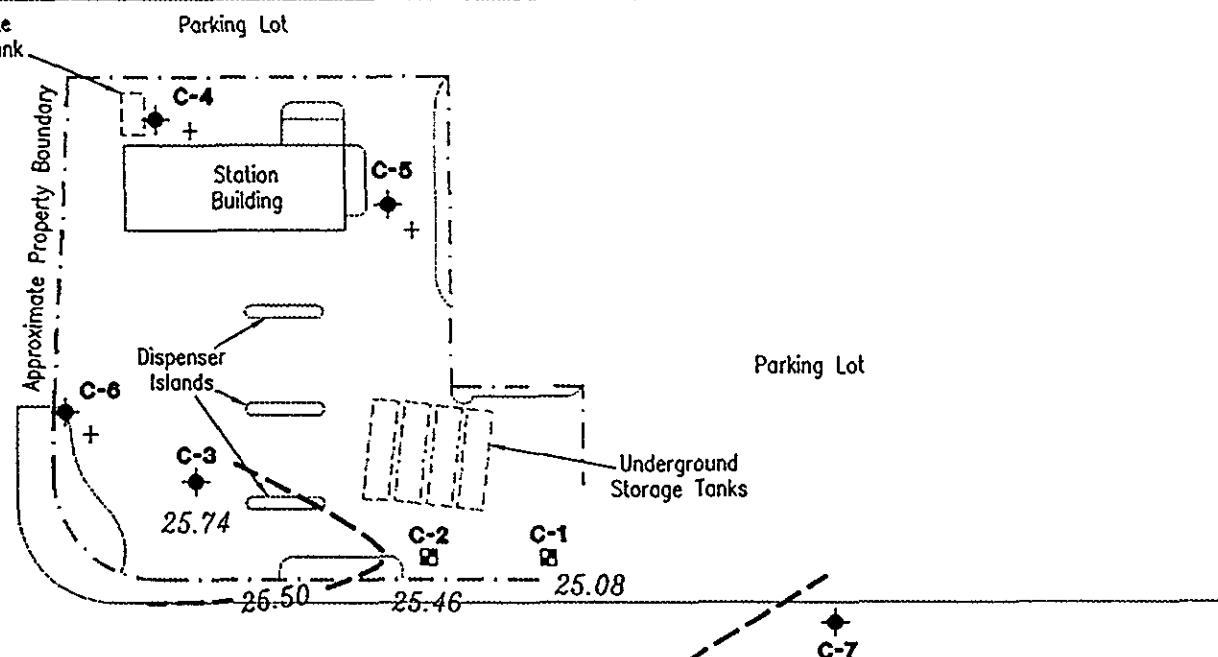
JOB NUMBER  
5259

REVIEWED BY

POTENTIOMETRIC MAP  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
September 8, 1998

REVISED DATE



#### EXPLANATION:

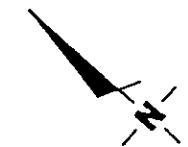
- ◆ Groundwater monitoring well
- ▣ Vapor extraction well
- + Well discontinued from monitoring/sampling program

99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)

99.99 Groundwater elevation contour, dashed where inferred.



Approximate groundwater flow direction at a gradient of 0.003 to 0.006 Ft./Ft.



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (925) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259

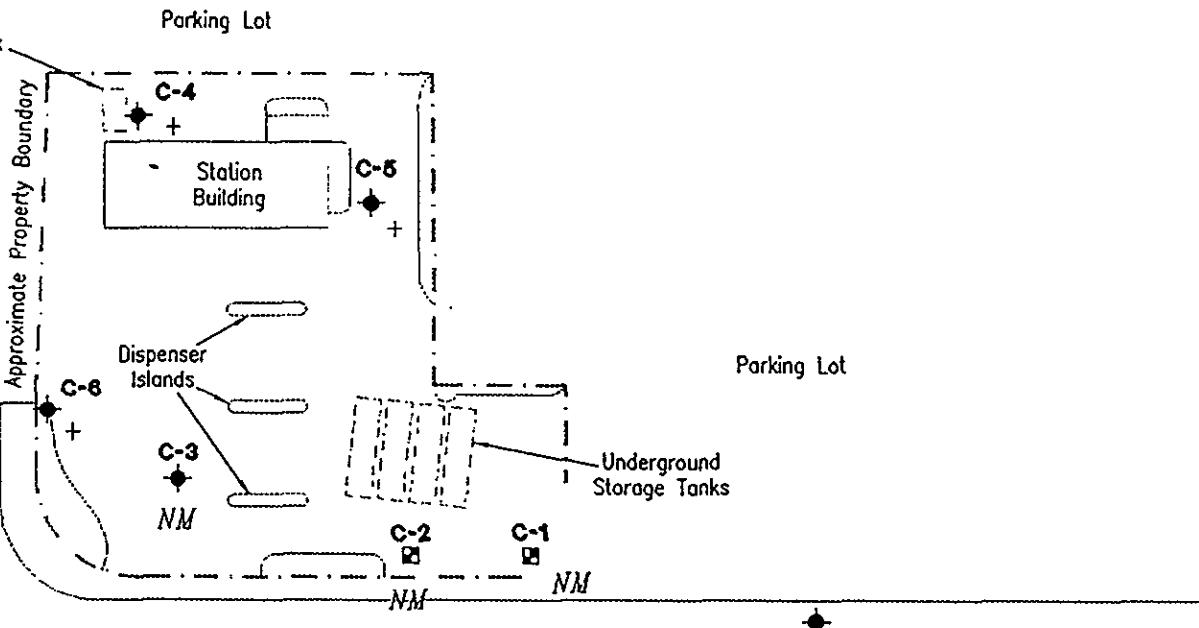
REVIEWED BY

**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
March 28, 1998

REVISED DATE

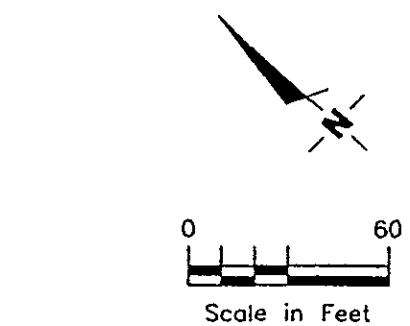
FIGURE  
1



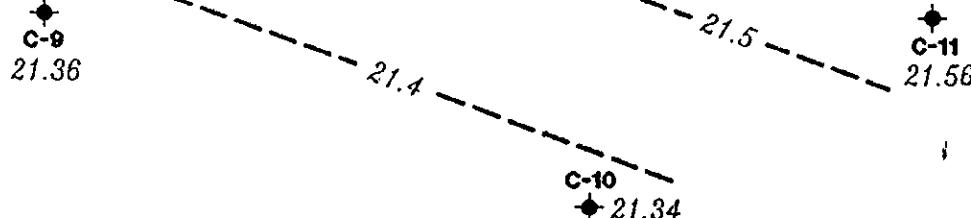
#### EXPLANATION:

- ◆ Groundwater monitoring well
- ▣ Vapor extraction well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.
- NM Not monitored
- ⊕ Discontinued from monitoring program

Approximate groundwater flow direction at a gradient of 0.02 ft /ft.



#### HESPERIAN BOULEVARD



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J      (510) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259

REVIEWED BY

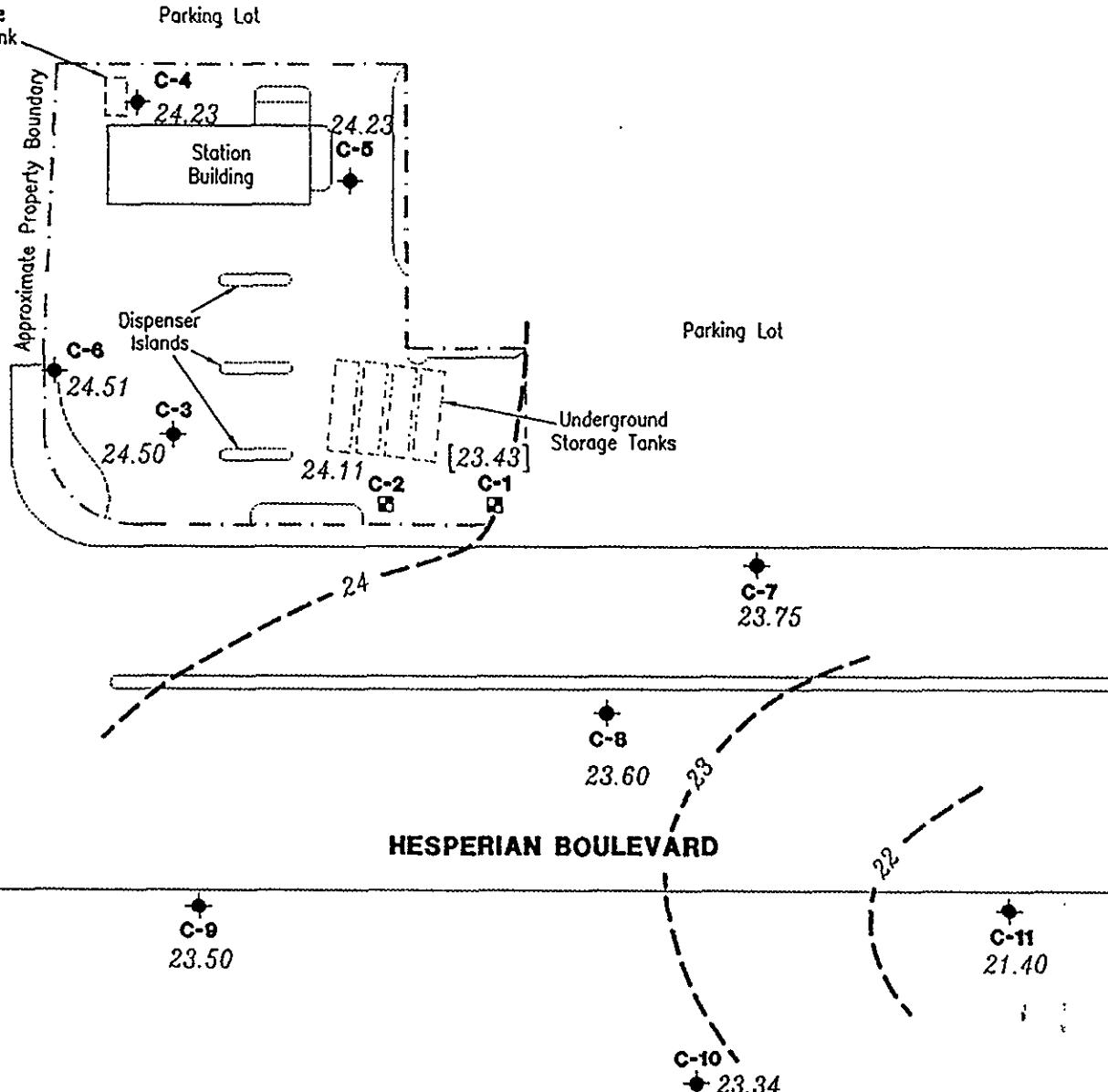
**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
September 30, 1997

REVISED DATE

1

FIGURE

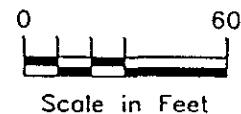
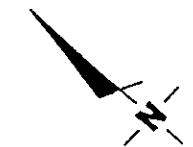


#### EXPLANATION:

- Groundwater monitoring well
- Vapor extraction well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)

99.99 Groundwater elevation contour, dashed where inferred.  
[99.99] Not used in contouring

Approximate groundwater flow direction at a gradient of 0.01 to 0.1 ft./ft.



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259

REVIEWED BY

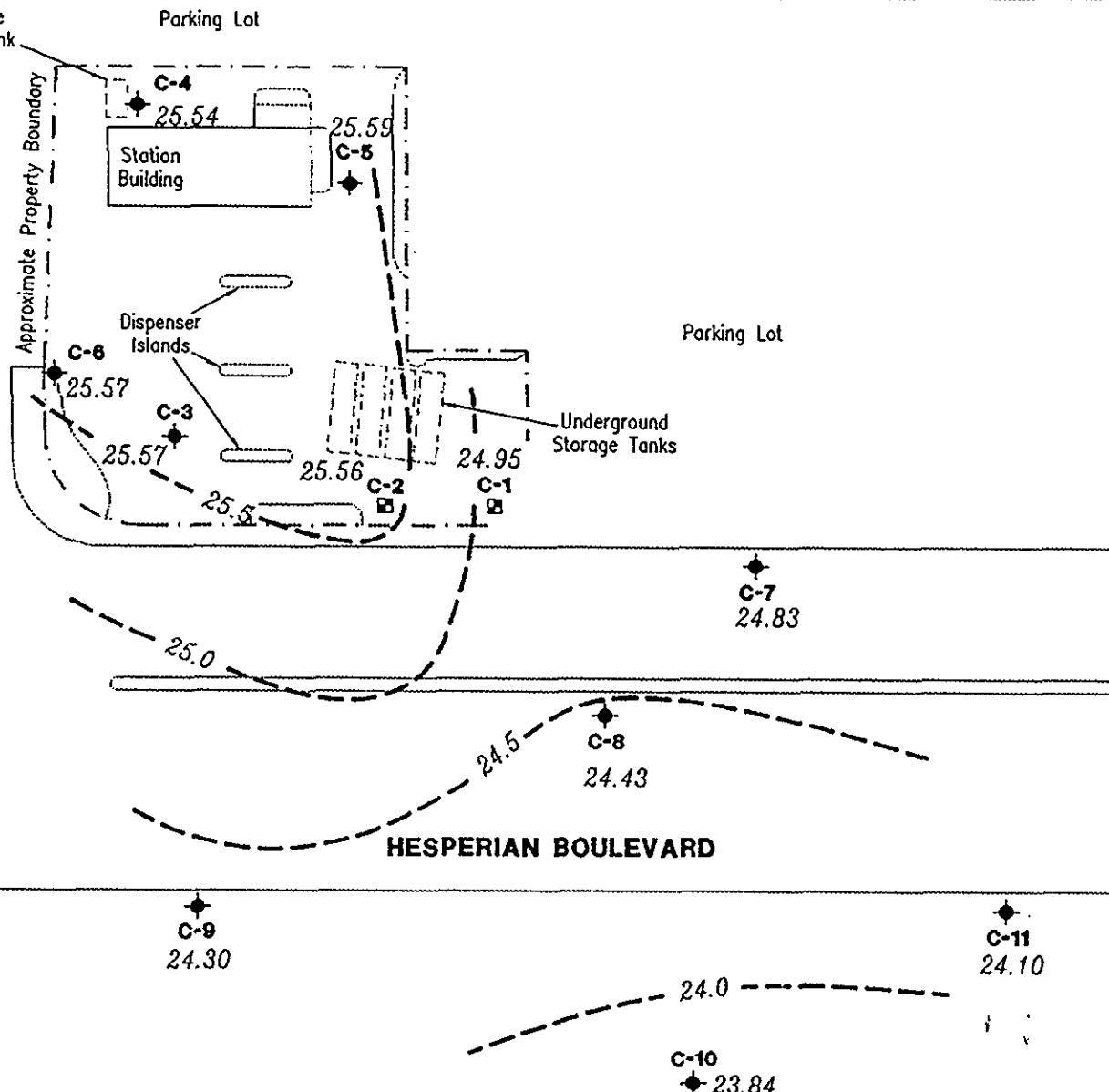
**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
March 28, 1997

REVISED DATE

FIGURE

1



#### EXPLANATION:

◆ Groundwater monitoring well

▣ Vapor extraction well

99.99  
Groundwater elevation in feet  
referenced to Mean Sea Level  
(MSL)

99.99  
Groundwater elevation contour,  
dashed where inferred.

Approximate groundwater  
flow direction at a  
gradient of 0.01 FT./FT.



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J      (510) 551-7555  
Dublin, CA 94568

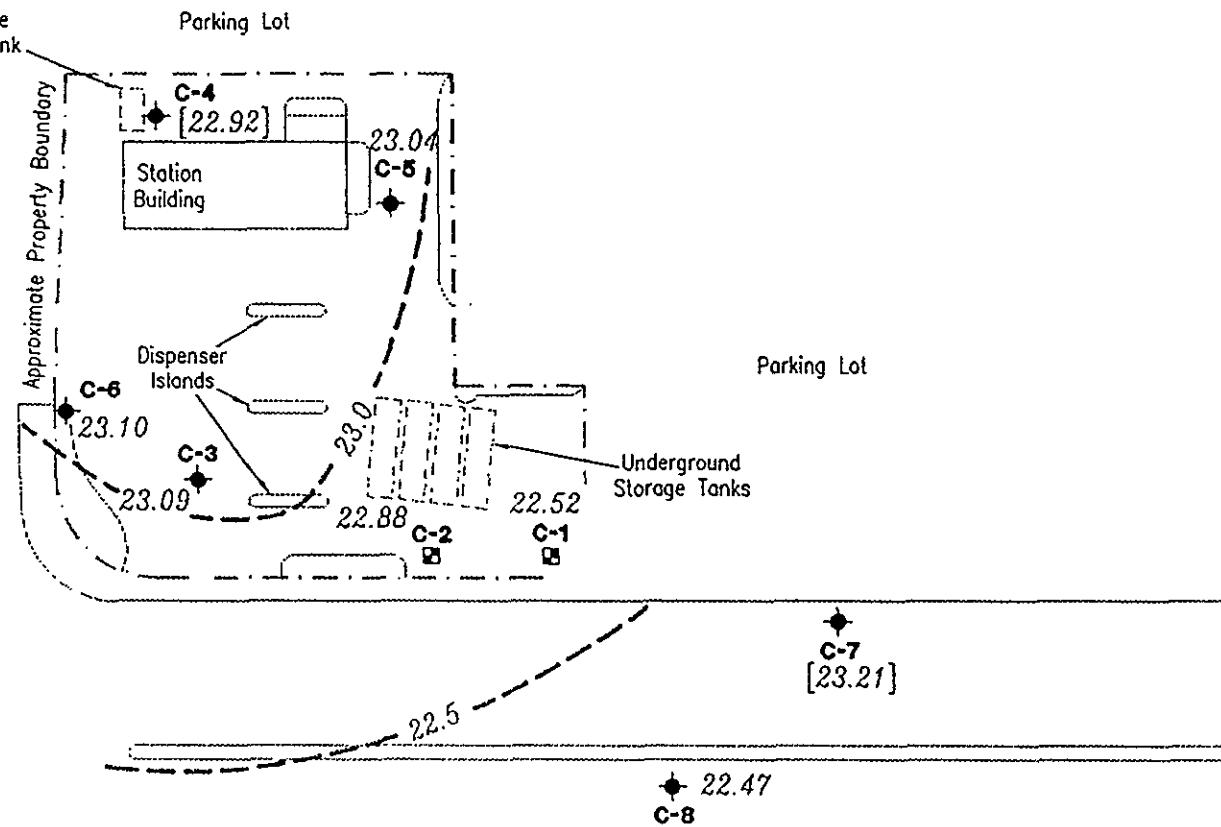
JOB NUMBER  
5259

REVIEWED BY  
PLS

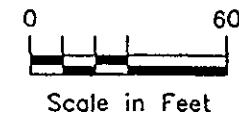
**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
January 3, 1997

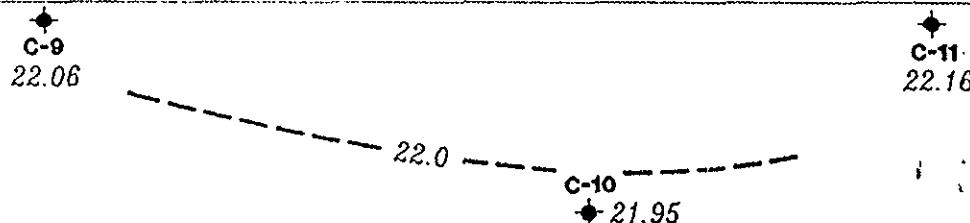
REVISED DATE



Approximate groundwater flow direction at a gradient of 0.006 Ft./Ft.



### HESPERIAN BOULEVARD



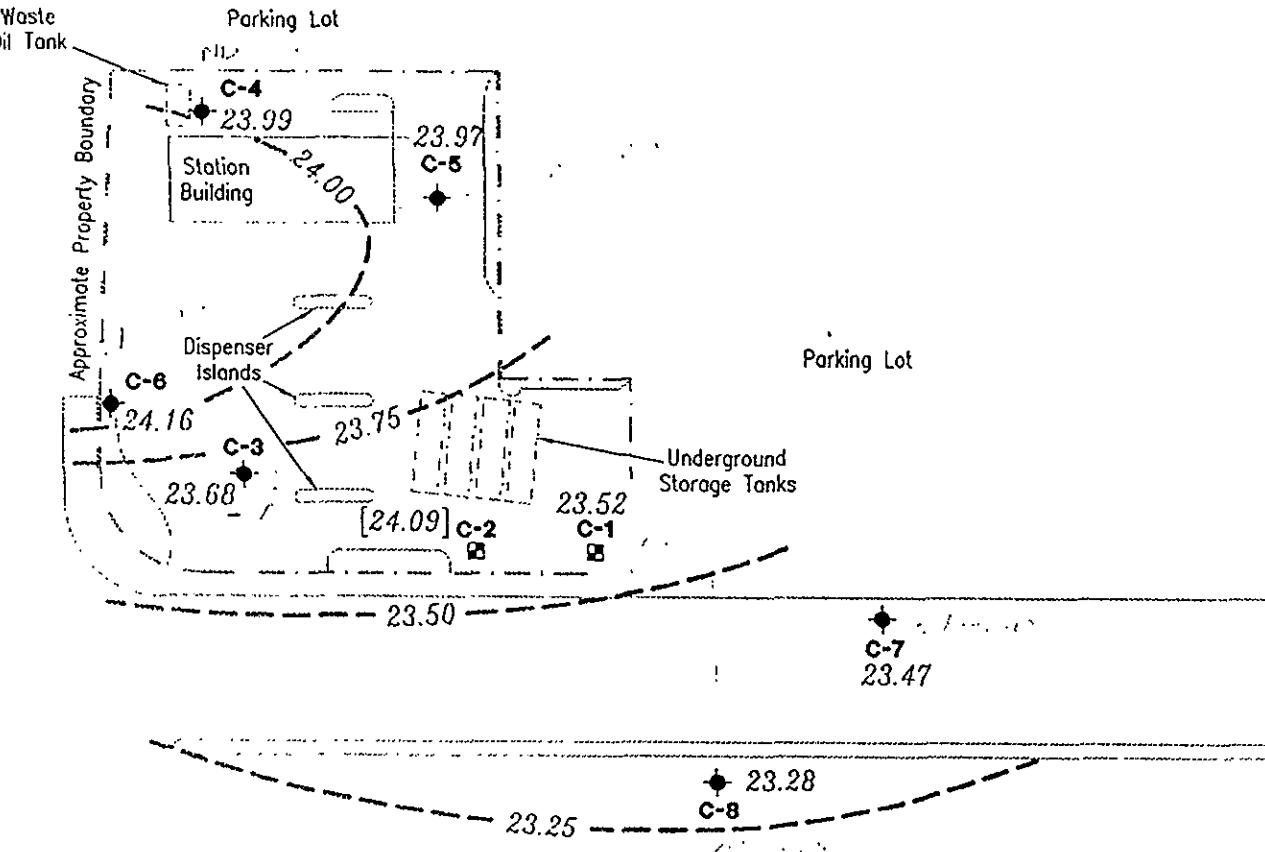
**Gettler - Ryan Inc.**  
6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259

REVIEWED BY  
PLS

**POTENIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California  
DATE  
September 27, 1996

FIGURE  
1

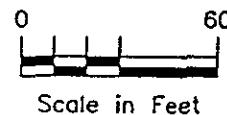


#### EXPLANATION:

- ◆ Groundwater monitoring well
- Vapor extraction well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.
- [99.99] Not used in contouring

Approximate groundwater flow direction at a gradient of 0.003 FT./FT.

#### HESPERIAN BOULEVARD



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

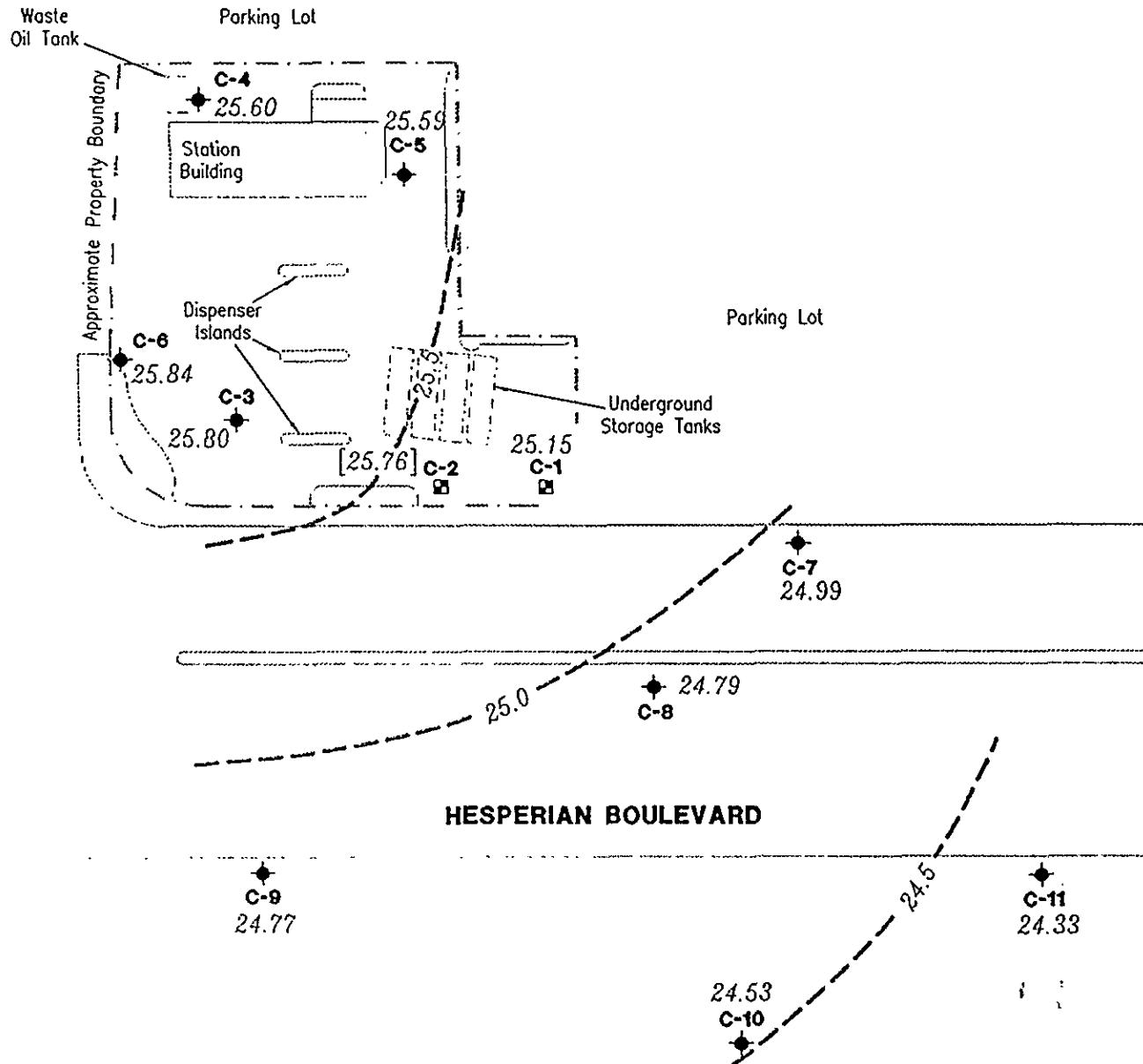
JOB NUMBER  
5259

REVIEWED BY

POTENTIOMETRIC MAP  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
June 21, 1996

REVISED DATE



#### EXPLANATION:

- ◆ Groundwater monitoring well
- ▣ Vapor extraction well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.
- [99.99] Not used in contouring

Approximate groundwater flow direction at a gradient of 0.007 FT./FT.



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259

REVIEWED BY

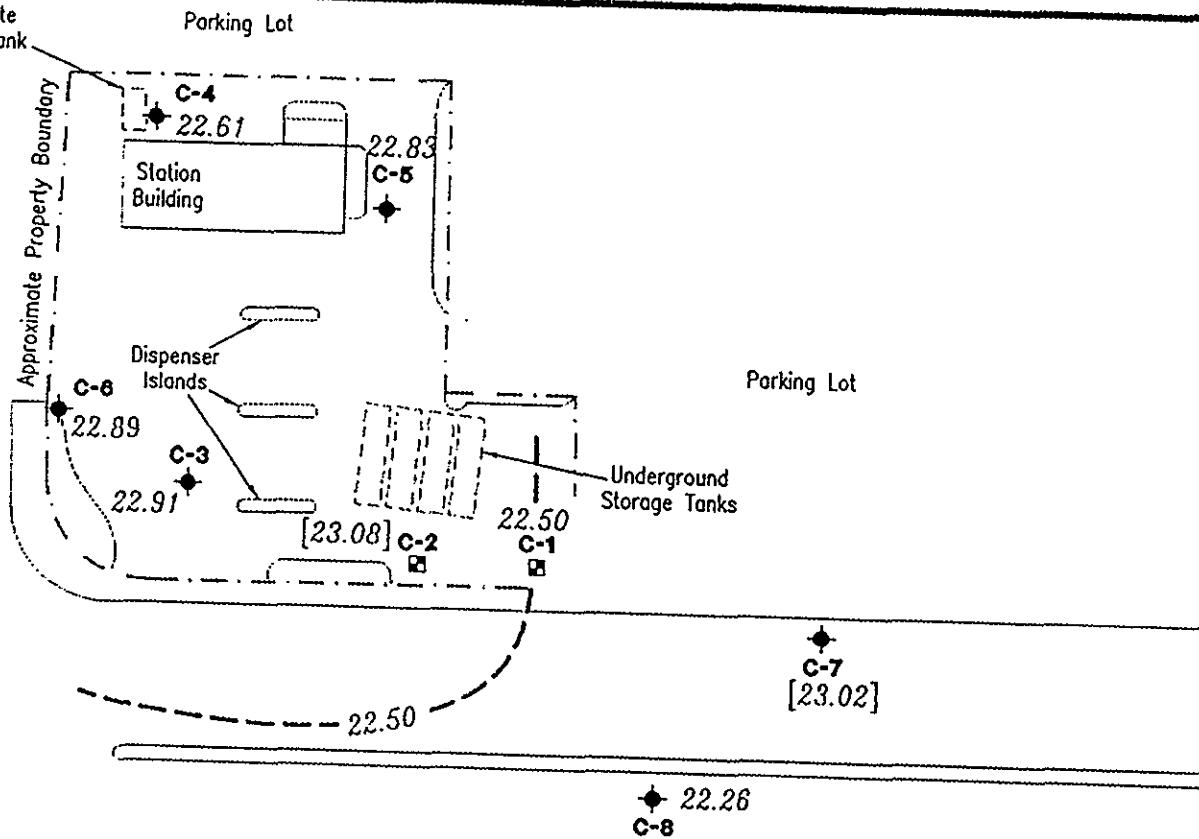
**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
March 8, 1996

REVISED DATE

1

FIGURE

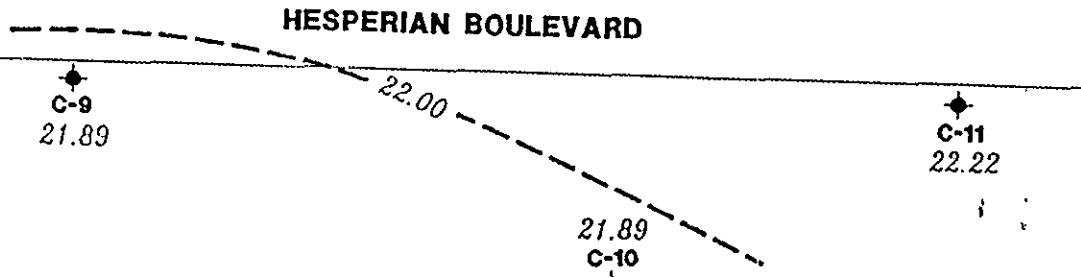


### EXPLANATION:

- ◆ Groundwater monitoring well
- Vapor extraction well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.
- [99.99] Not used in contouring



Approximate groundwater flow direction at a gradient of 0.007 ft./ft.



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J  
Dublin, CA 94568

(510) 551-7555

JOB NUMBER  
5259.80

REVIEWED BY  
PES

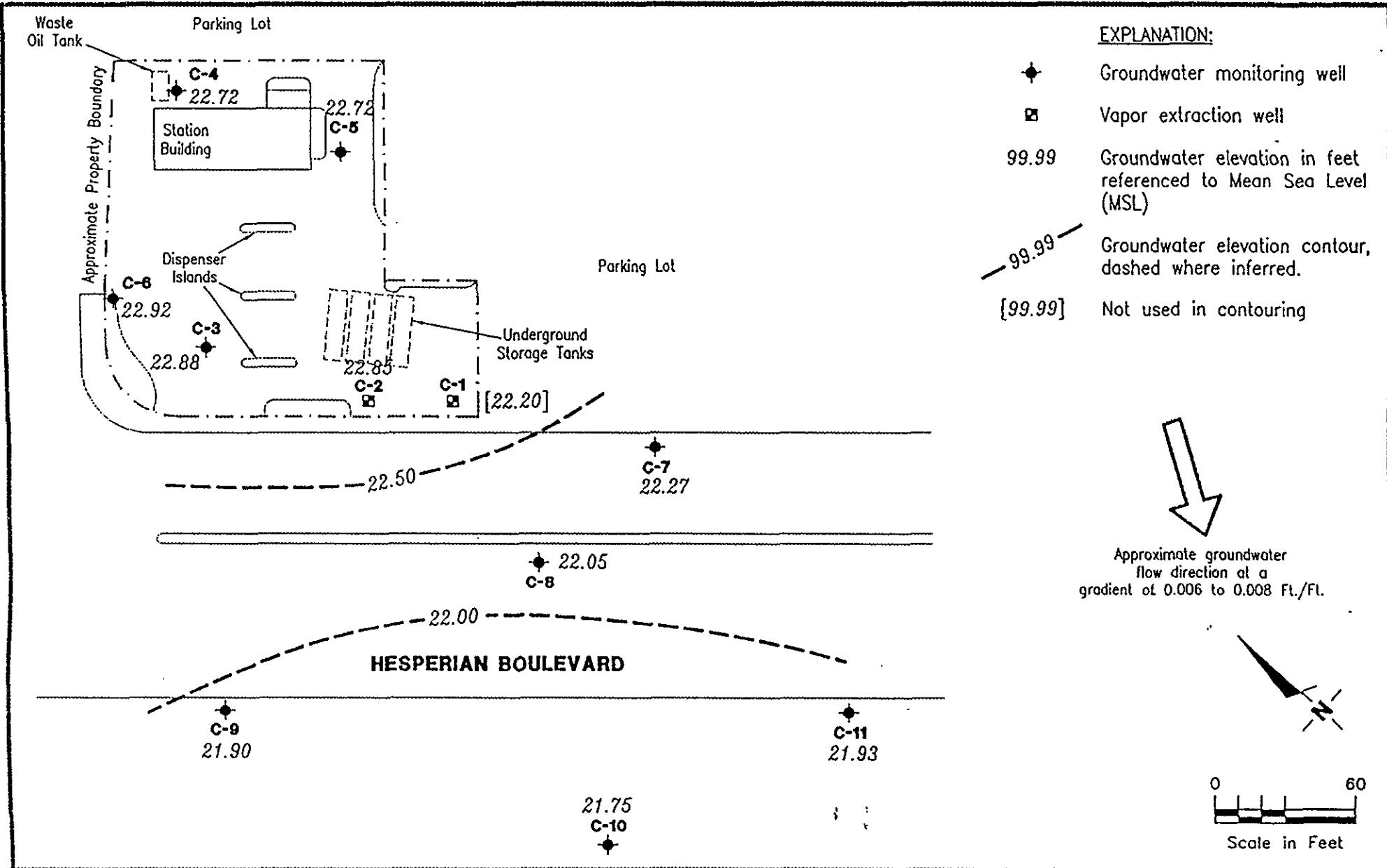
**POTENIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
December 11, 1995

REVISED DATE

1

FIGURE



**Gettler - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

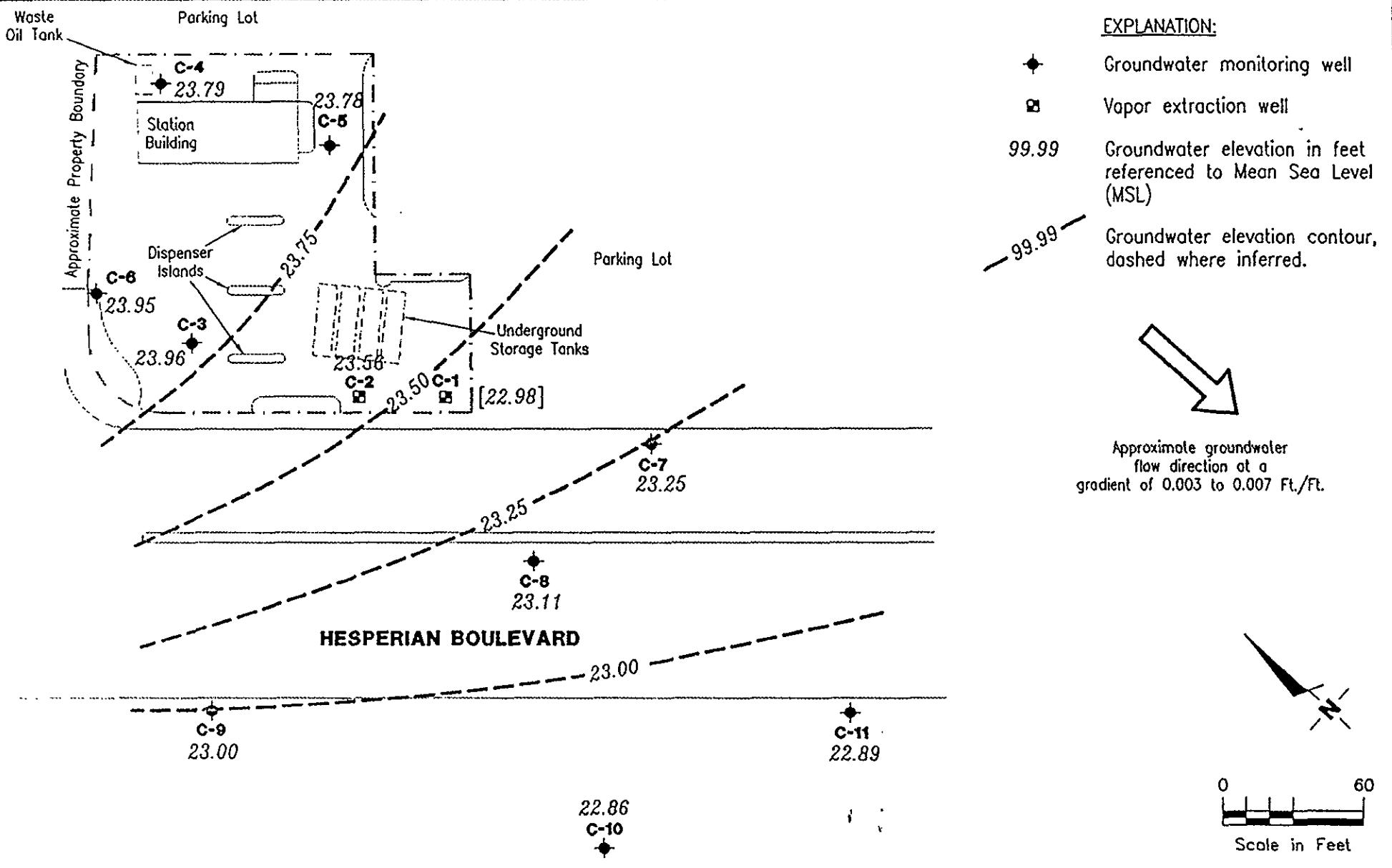
JOB NUMBER  
5259.85

REVIEWED BY

DATE  
September 22, 1995

REVISED DATE

FIGURE  
1



**Gettier - Ryan Inc.**

6747 Sierra Ct., Suite J (510) 551-7555  
Dublin, CA 94568

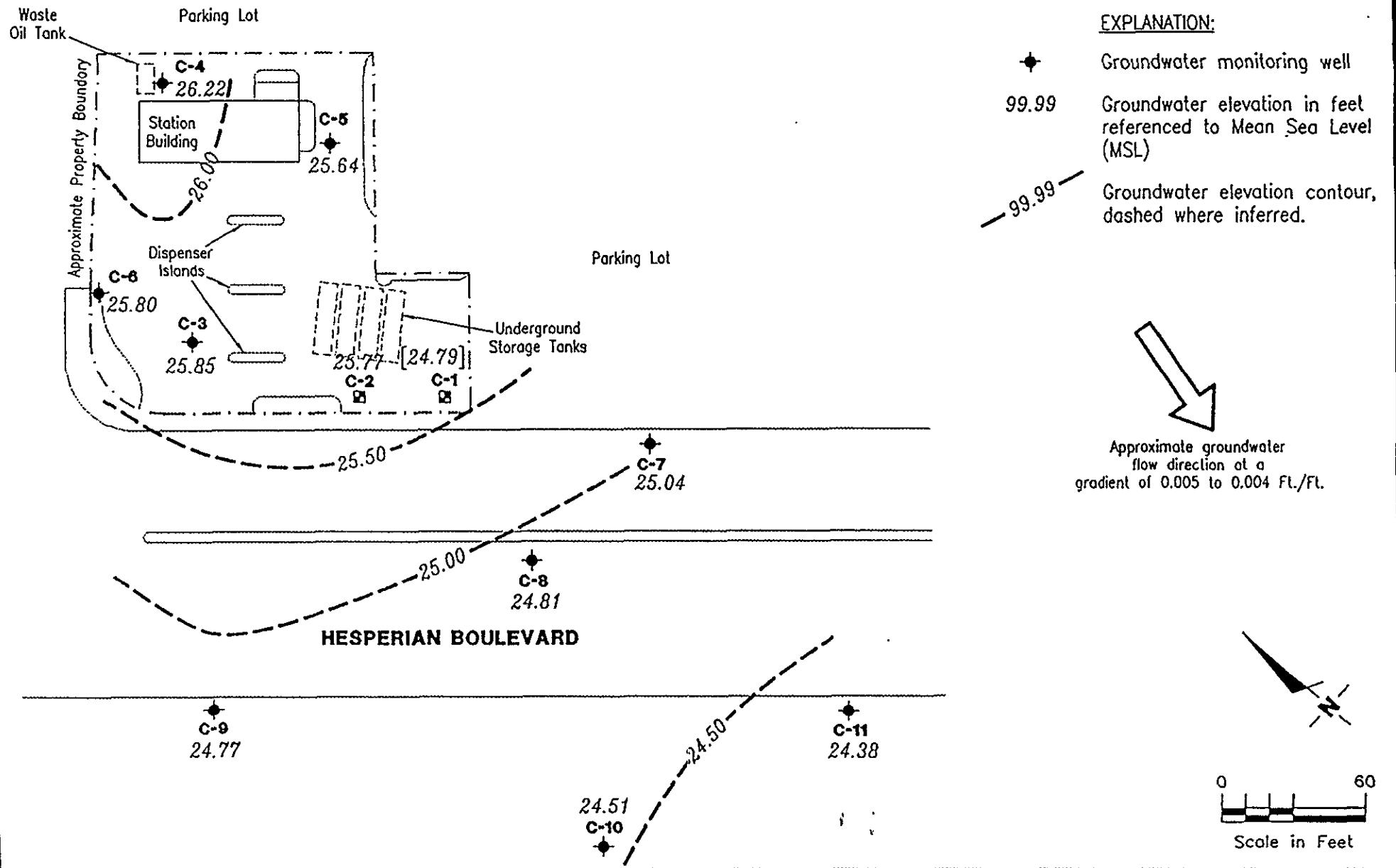
JOB NUMBER  
5259.85

REVIEWED BY  
*[Signature]*

**POTENTIOMETRIC MAP**  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
June 30, 1995

REVISED DATE



**Gettler - Ryan Inc.**

6747 Sierra Ct., Suite J      (510) 551-7555  
Dublin, CA 94568

JOB NUMBER  
5259.80

REVIEWED BY

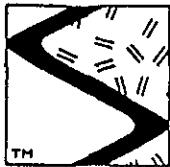
POTENTIOMETRIC MAP  
Chevron Service Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
March 30, 1995

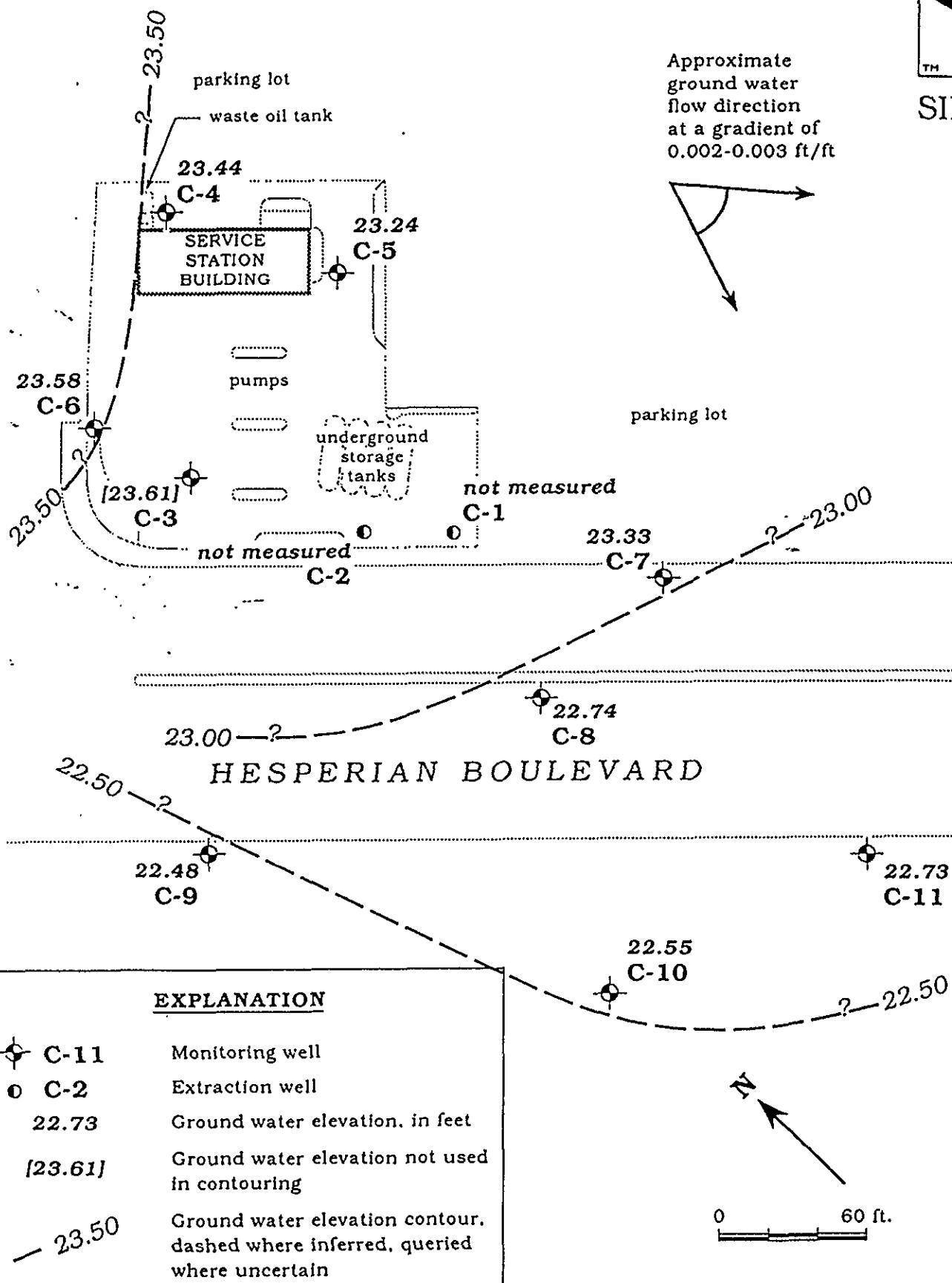
REVISED DATE

1

FIGURE



SIERRA



Base map after Weiss Associates after Geostrategies, Inc

Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - December 14, 1994 - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

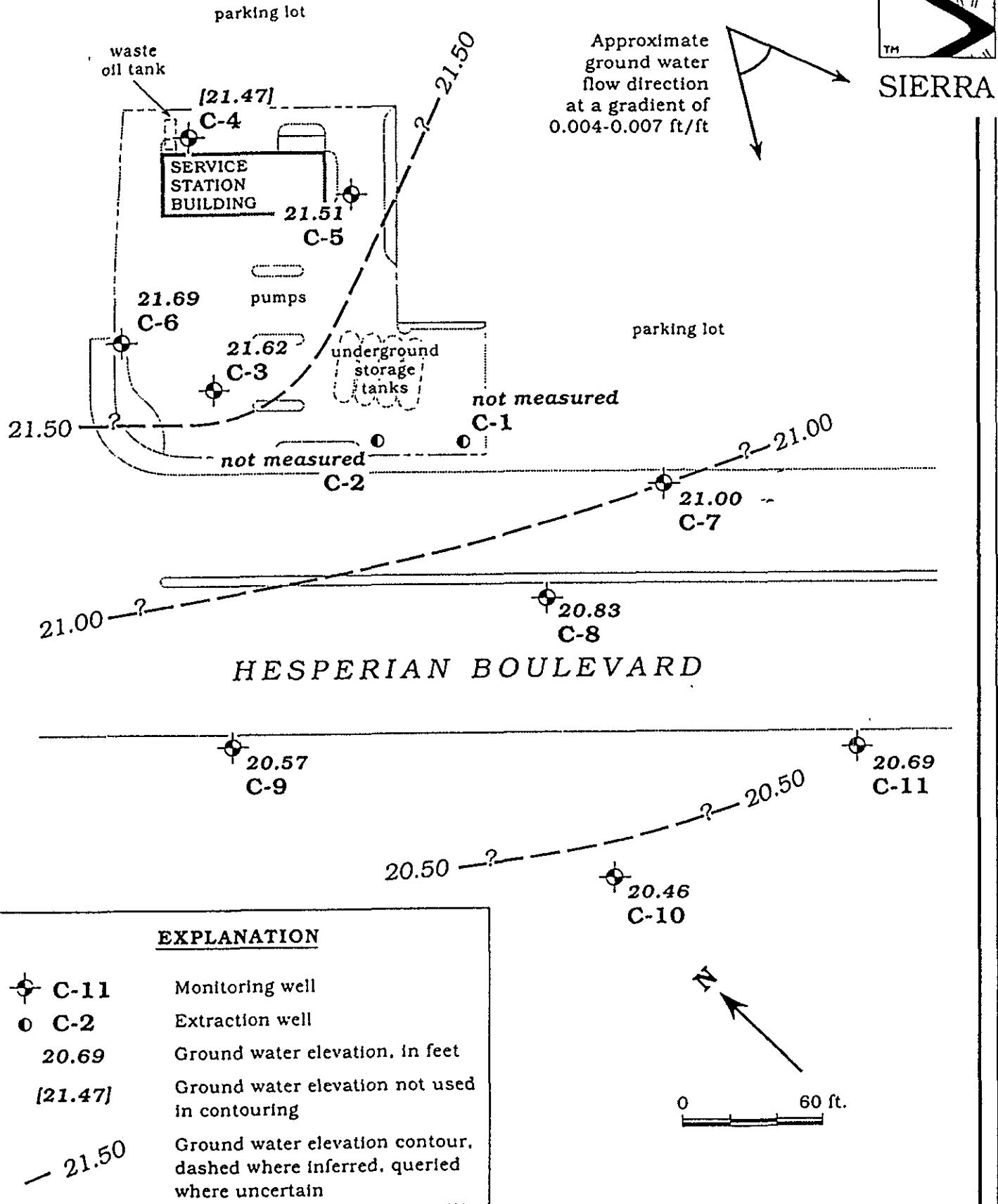


Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - September 29, 1994 -  
Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

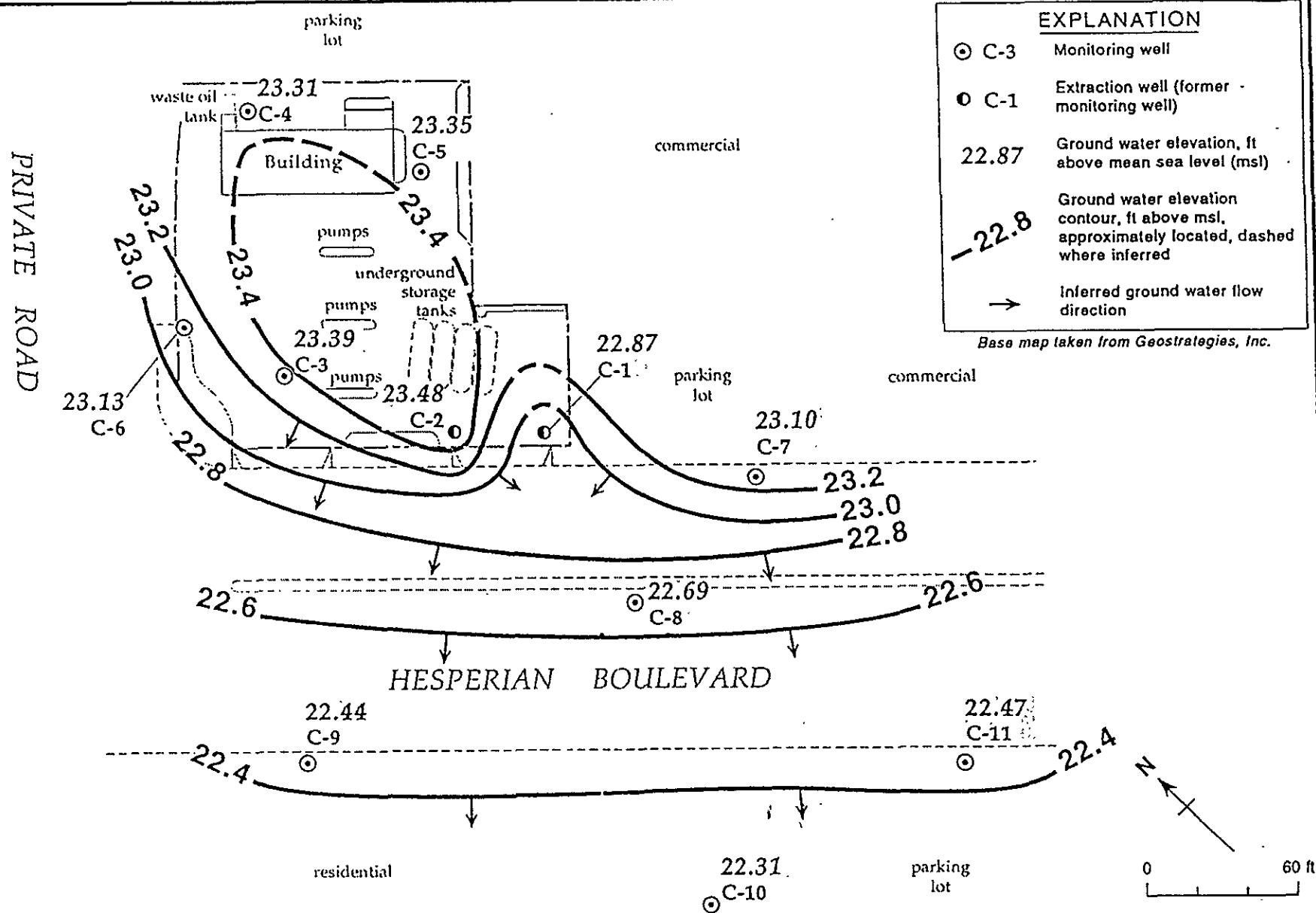
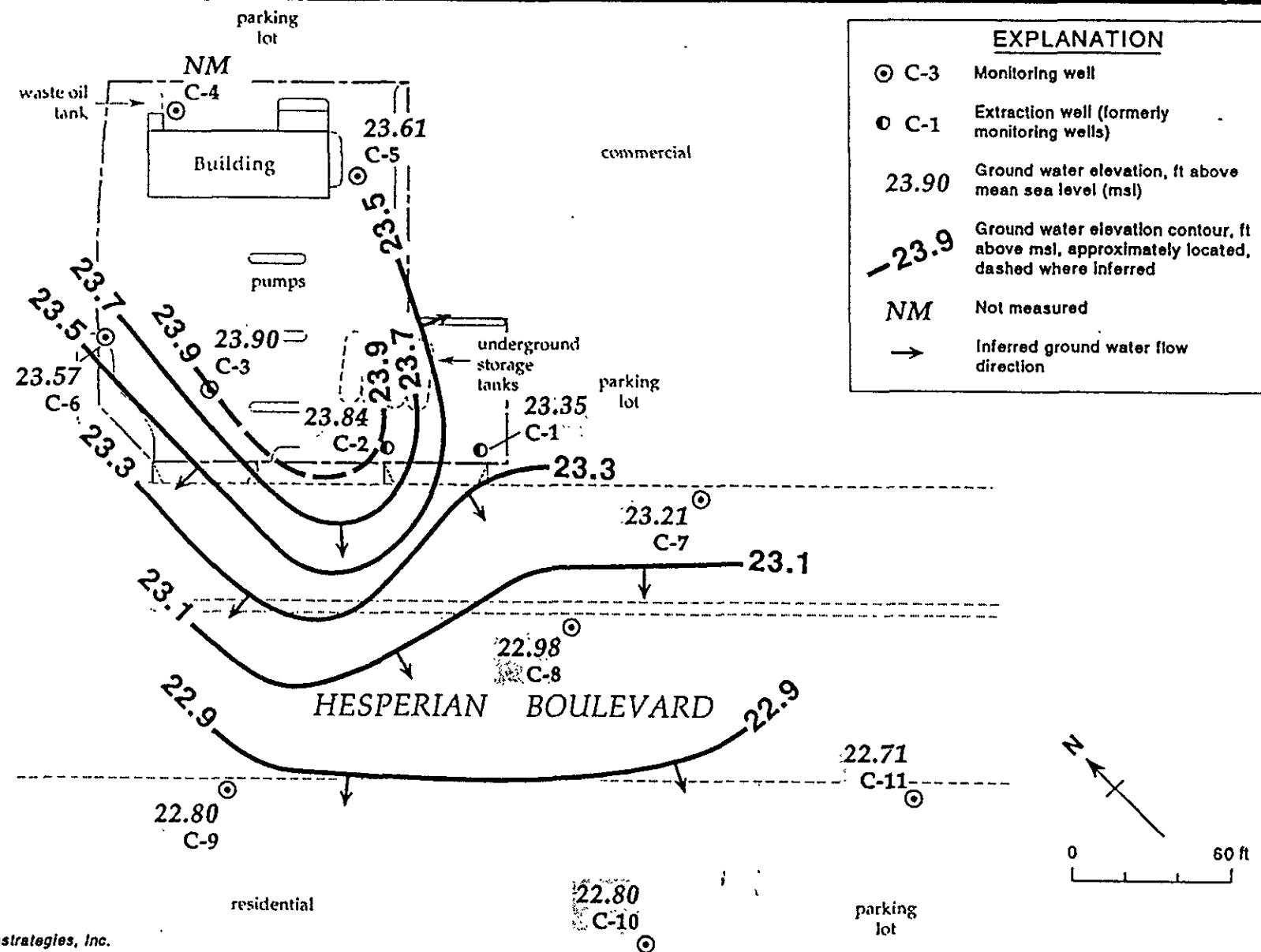


Figure 2. Ground Water Elevation Contour Map - June 8, 1994 - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

PRIVATE ROAD



Base map taken from Geostrategies, Inc.

Figure 2. Ground Water Elevation Contour Map - March 31, 1994 - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California

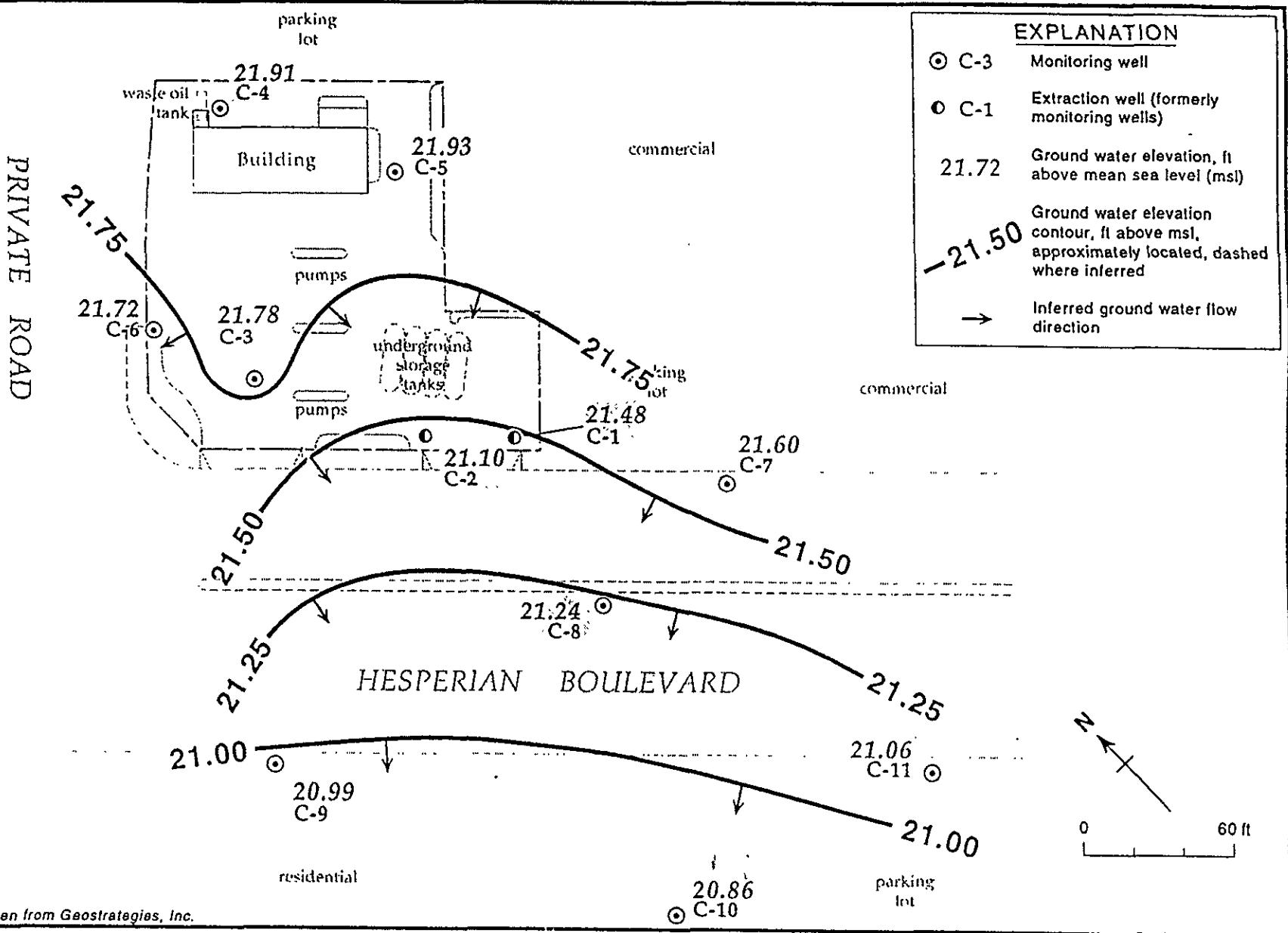
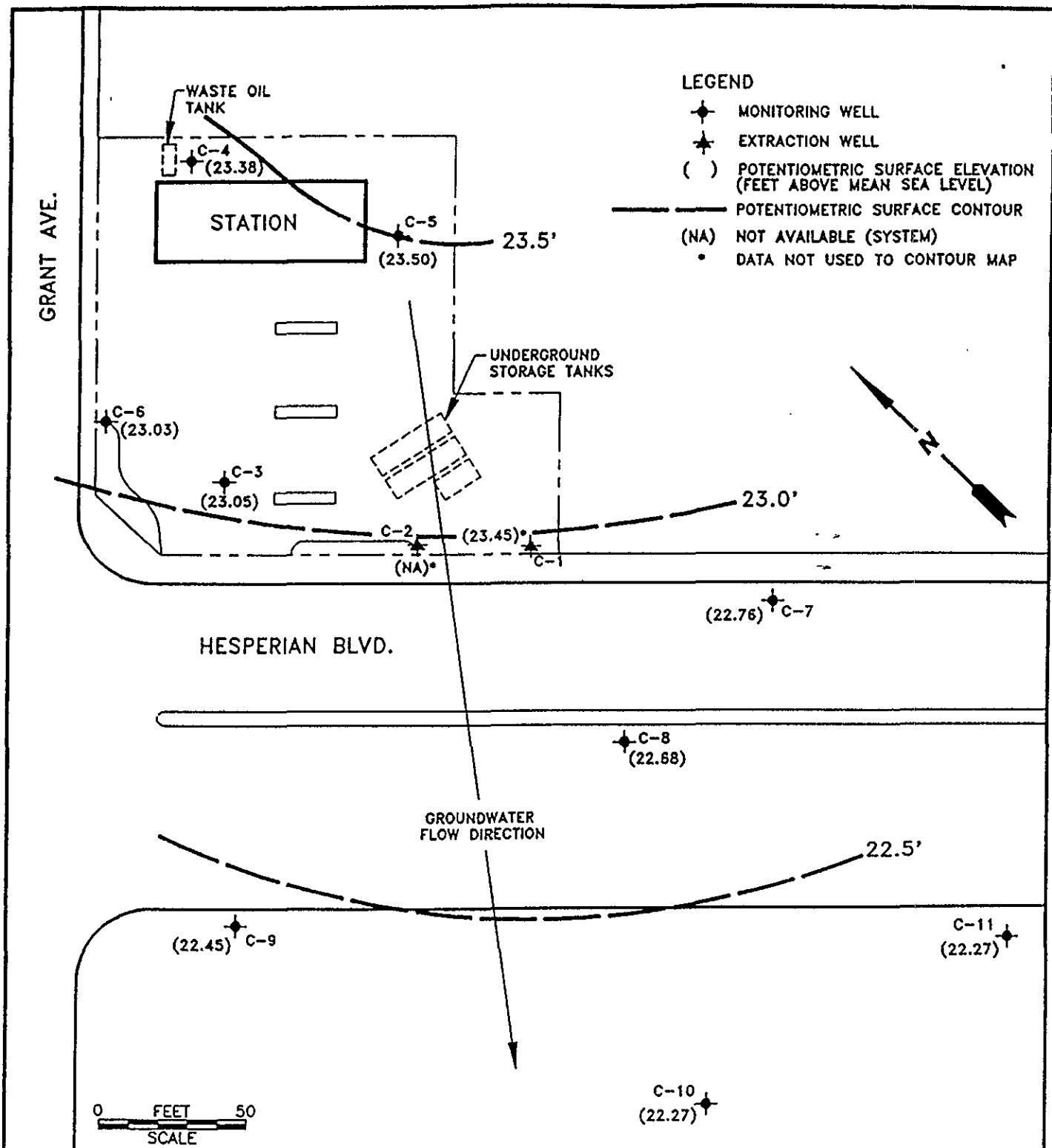
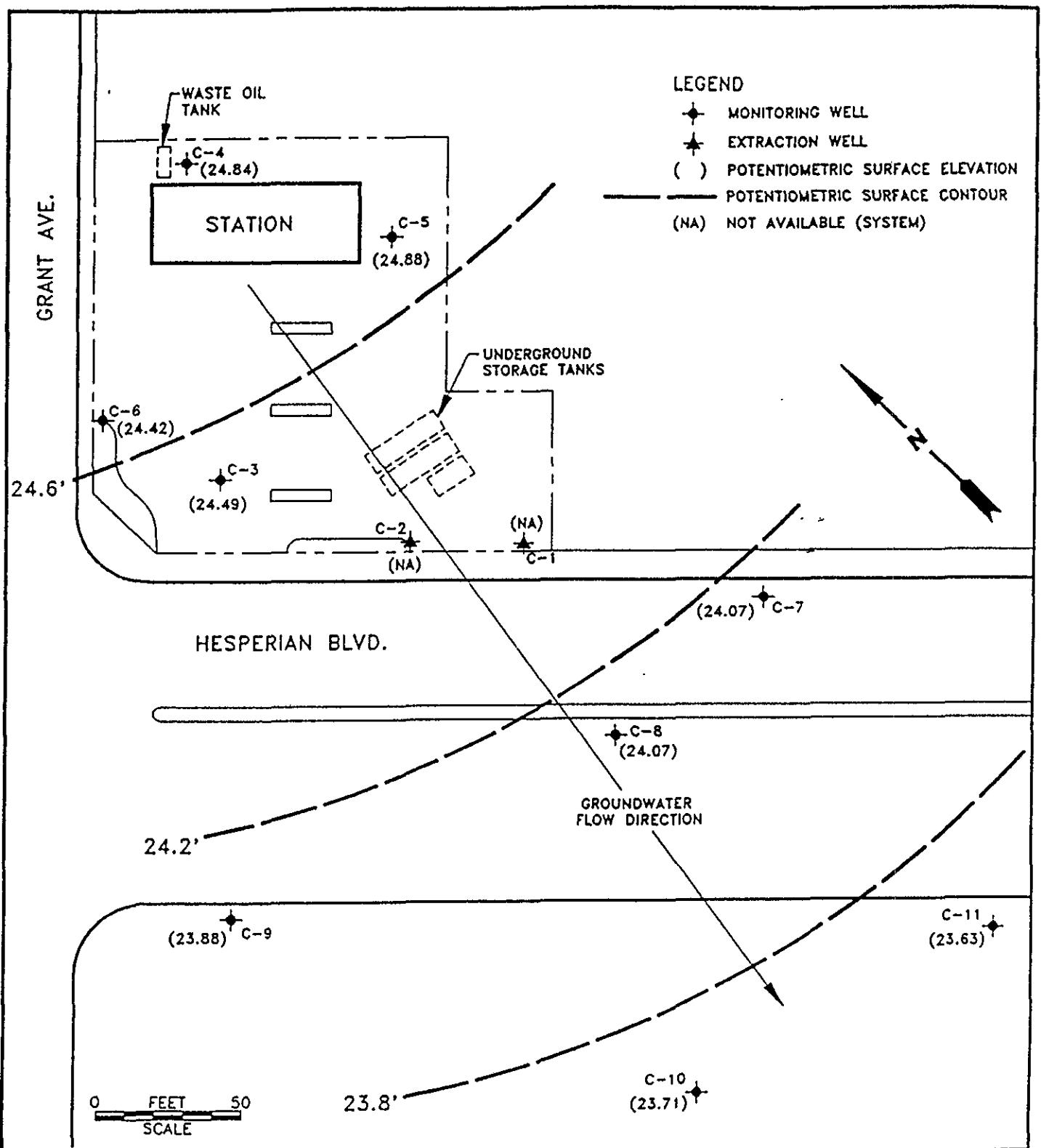


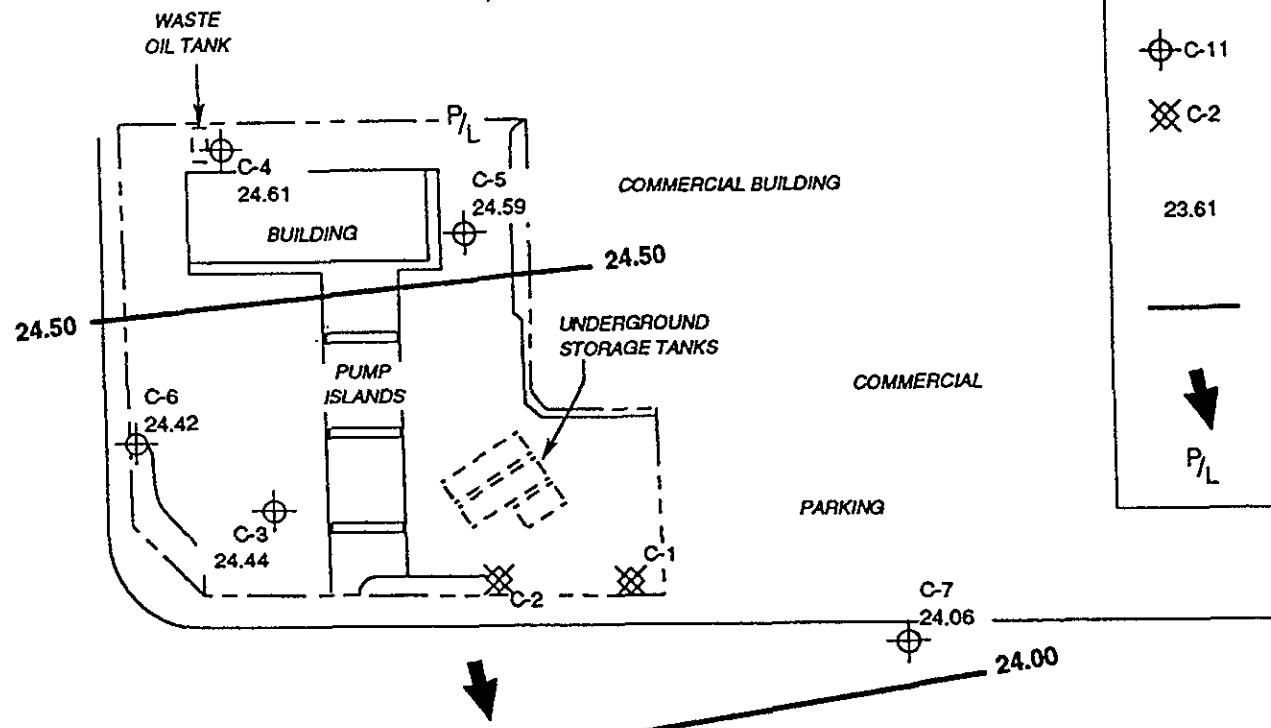
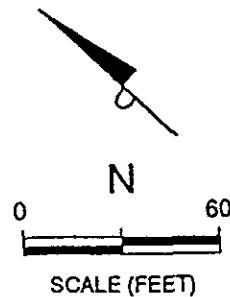
Figure 1. Ground Water Elevation Contour Map - October 27, 1993 - Chevron Service Station #9-0504, 15900 Hesperian Boulevard, San Lorenzo, California



<b>GROUNDWATER TECHNOLOGY</b>			4057 PORT CHICAGO HWY. CONCORD, CA 94520 (510) 671-2387		<b>POTENTIOMETRIC SURFACE MAP (7/28/93)</b>		
CLIENT: <b>CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0504</b>			LOCATION: <b>15900 HESPERIAN BLVD. SAN LORENZO, CALIFORNIA</b>		REV. NO.: <b>0</b>	DATE: <b>9/8/93</b>	
PM <i>JRW</i>	PE/RG <i>DJK</i>	DESIGNED <i>SCH</i>	DETAILED <i>ML</i>	ACAD FILE: <b>PSM72893/SP693</b>	PROJECT NO.: <b>020204115</b>	FIGURE: <b>1</b>	



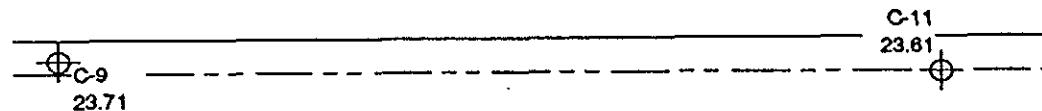
	GROUNDWATER TECHNOLOGY	4057 PORT CHICAGO HWY. CONCORD, CA 94520 (510) 671-2387	POTENTIOMETRIC SURFACE MAP (5/3/93)				
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0504	LOCATION: 15900 HESPERIAN BLVD. SAN LORENZO, CALIFORNIA		REV. NO.: 0	DATE: 6/11/93			
PM <i>JRW</i>	PE/RG <i>ORK</i>	DESIGNED <i>TW</i>	DETAILED <i>ML</i>	ACAD FILE: PSM5393/SP693	PROJECT NO.: 020204115	FIGURE: 1	



### LEGEND

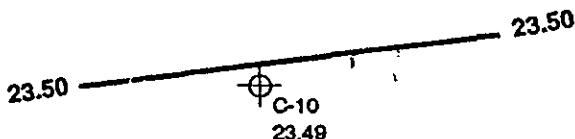
- C-11 Ground water monitoring well
- × C-2 Extraction well
- 23.61 Ground water elevation in feet above mean sea level [NGVD-1929]
- Ground water elevation contour line
- ↓ General direction of ground water gradient
- P/L Property line

HESPERIAN BOULEVARD



GROUND WATER ELEVATION  
CONTOUR MAP  
January 20, 1993

Chevron Station No. 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

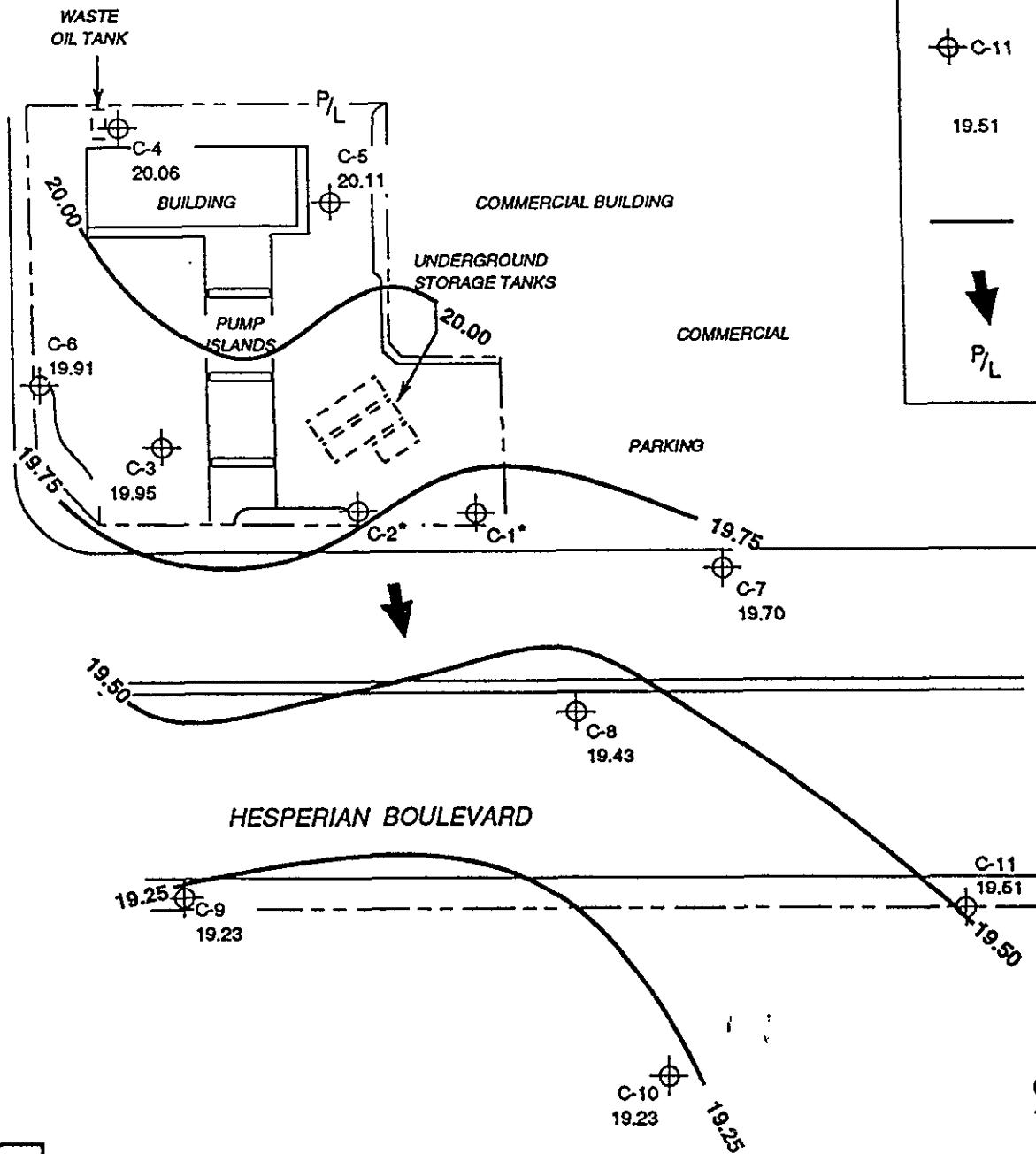
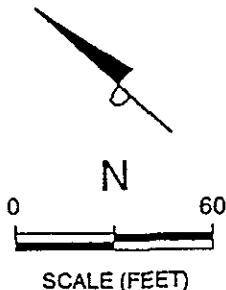


NOTES:  
Contour lines are interpretive based  
on fluid-level measurements  
collected January 20, 1993.  
Contour interval = 0.50 foot.

 ALTON  
GEOSCIENCE  
Pleasanton, California

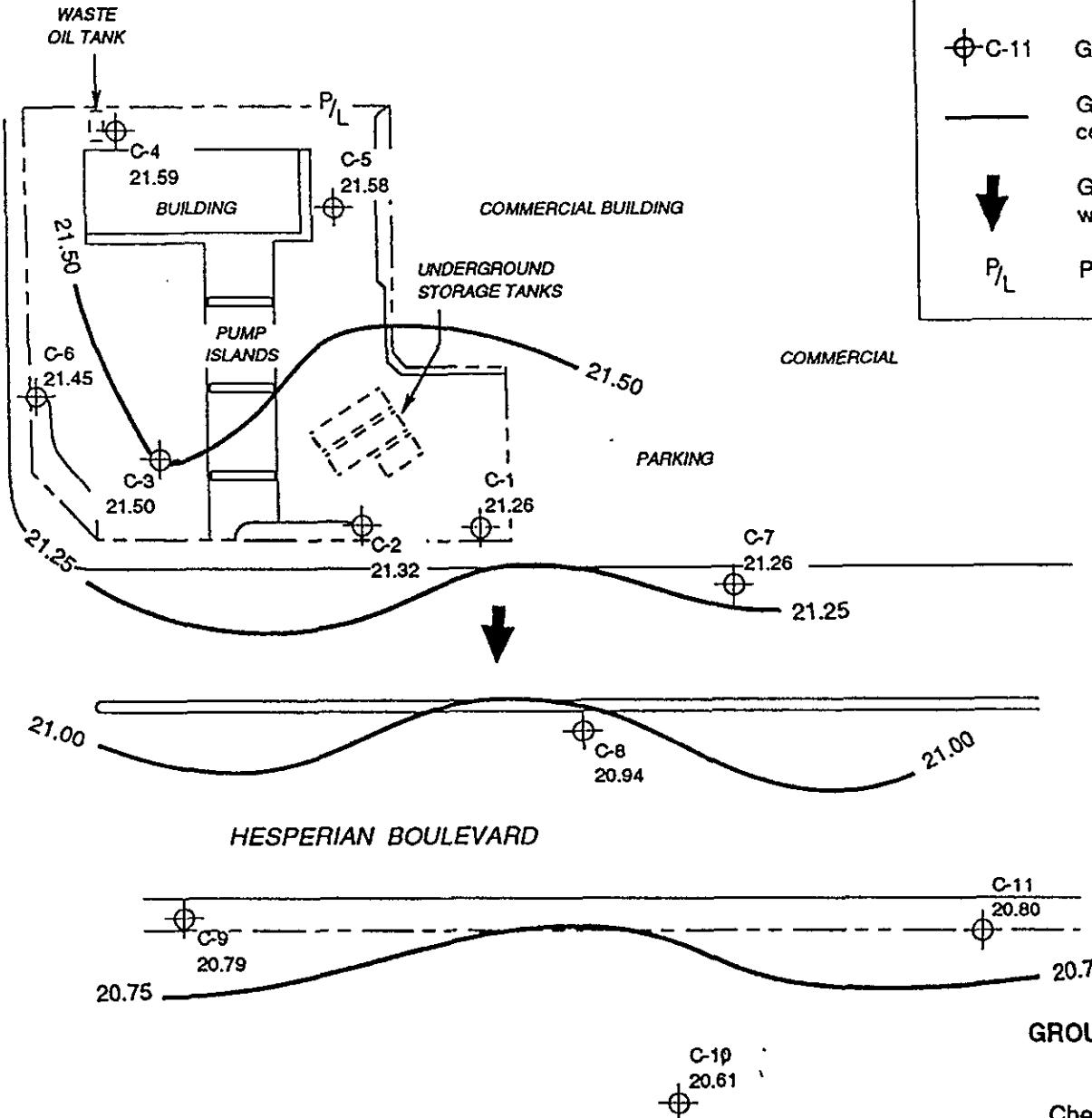
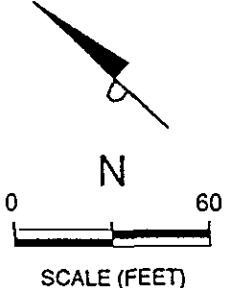
Source: Geostrategies, Inc.

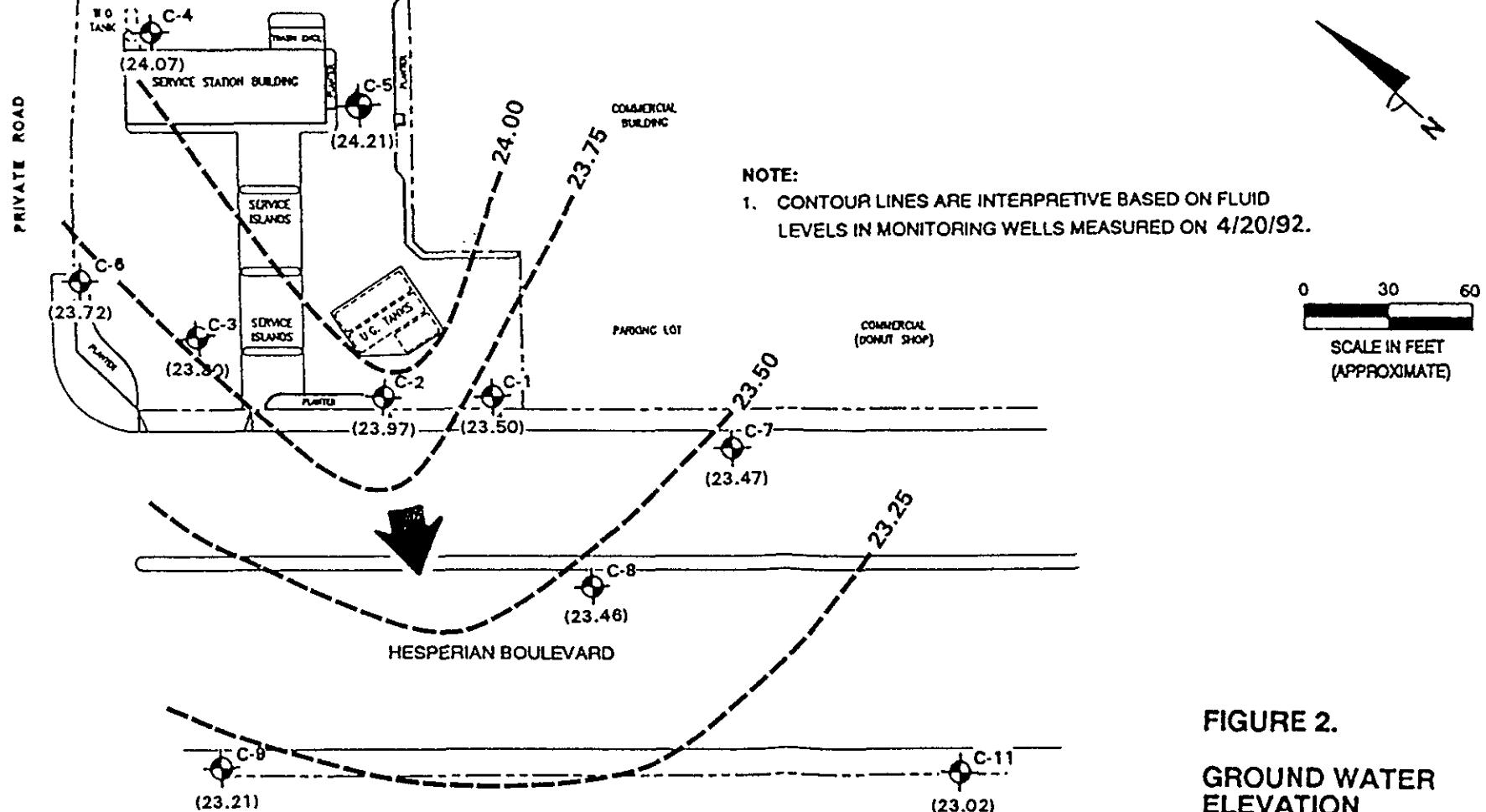
**FIGURE 2**



### LEGEND

- C-11 Ground water monitoring well
- 19.51 Ground water elevation in feet above mean sea level [NGVD-1929]
- Ground water elevation contour line
- ↓ General direction of ground water gradient
- P/L Property line





#### LEGEND:

- GROUND WATER MONITORING WELL
- GROUND WATER ELEVATION CONTOUR
- ▼ GENERAL GROUND WATER GRADIENT DIRECTION

SOURCE: GEOSTRATEGIES, INC.

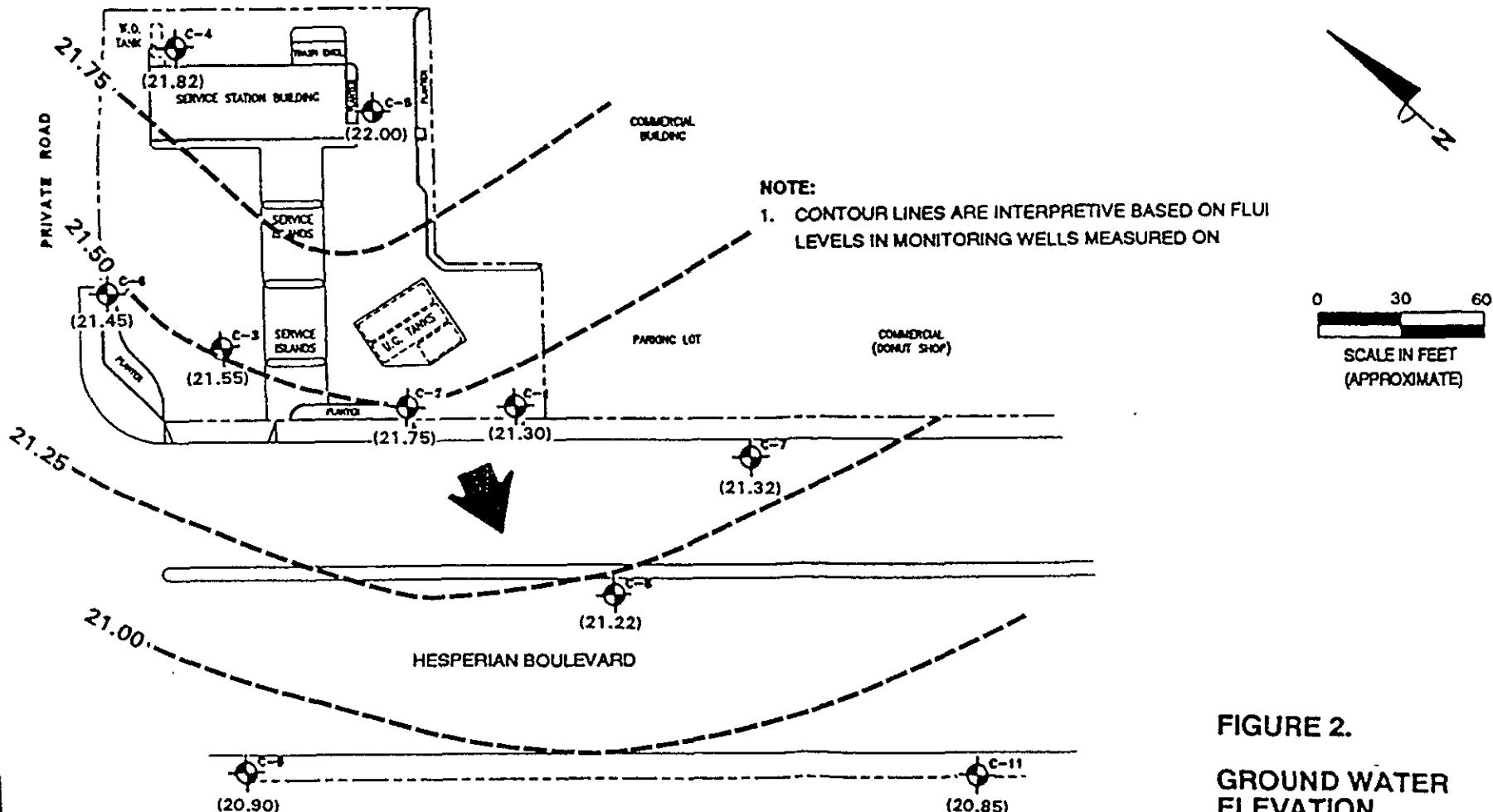
PROJECT NO. 31-0561



ALTON GEOSCIENCE  
Pleasanton, California

CHEVRON SERVICE STATION  
NUMBER 9-0504  
15900 HESPERIAN BOULEVARD  
SAN LORENZO, CALIFORNIA

FIGURE 2.  
GROUND WATER  
ELEVATION  
CONTOUR MAP



**FIGURE 2.**  
**GROUND WATER ELEVATION CONTOUR MAP**

**LEGEND:**

◆ GROUND WATER MONITORING WELL

GROUND WATER ELEVATION  
(FEET ABOVE MEAN SEA LEVEL [NGVD-1929]) (20.79)

GROUND WATER ELEVATION CONTOUR

◆ GENERAL DIRECTION OF GROUND WATER FLOW

**NOTE:**

1. CONTOUR LINES ARE INTERPRETIVE BASED ON FLUID LEVELS IN MONITORING WELLS MEASURED ON 1/27/92.
2. MW C-2 WAS NOT USED IN CONTOURING

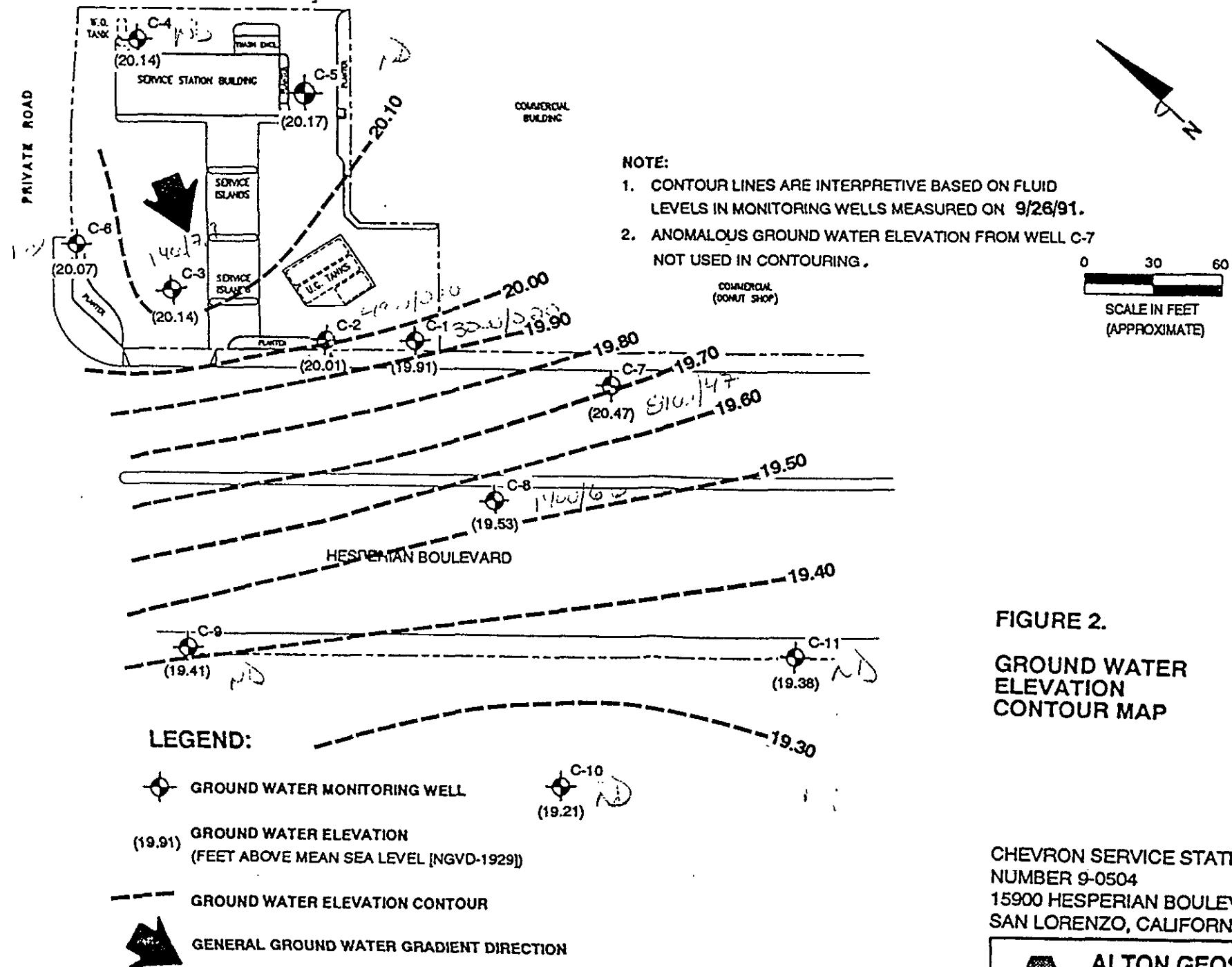
SOURCE: GEOSTRATEGIES, INC.

PROJECT NO. 31-0561

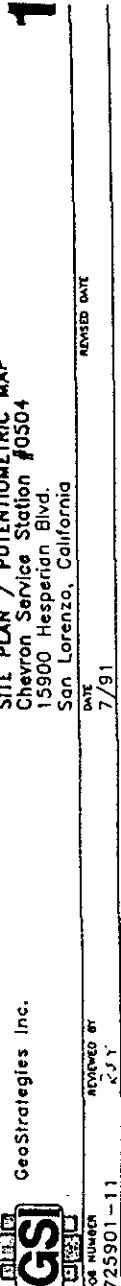


**ALTON GEOSCIENCE**  
Pleasanton, California

CHEVRON SERVICE STATION  
NUMBER 9-0504  
15900 HESPERIAN BOULEVARD  
SAN LORENZO, CALIFORNIA



**ALTON GEOSCIENCE**  
1000 Burnett Ave. Ste. 140  
Concord, California

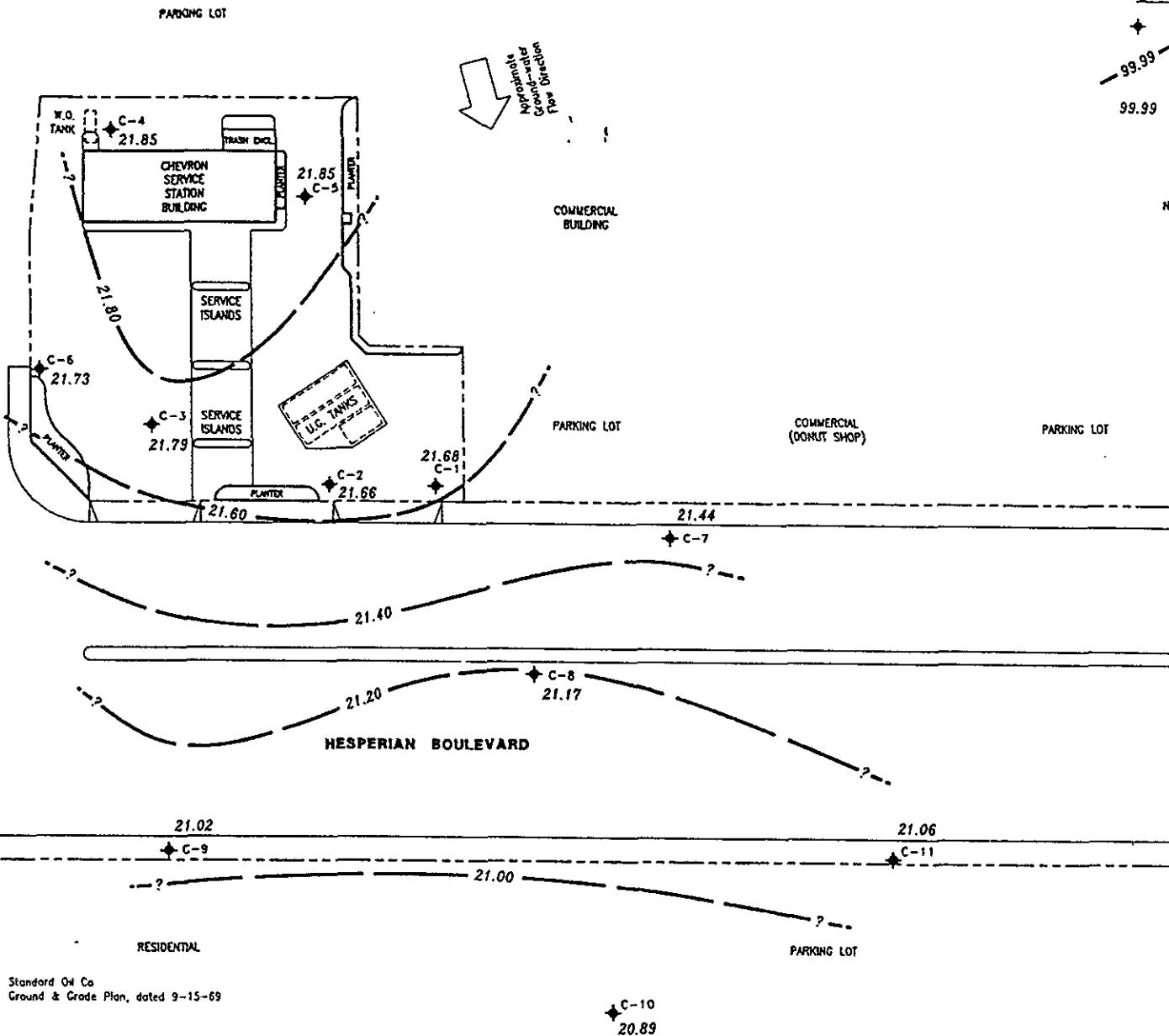


#### EXPLANATION

- Ground-water monitoring well
- Ground-water elevation contour Approximate Gradient = 0.003
- 99.99 Ground-water elevation in feet referenced to Mean Sea Level (MSL) measured on June 28, 1991

Note: 1. Contours may be influenced by irrigation practices and/or site construction activities.

PRIVATE ROAD

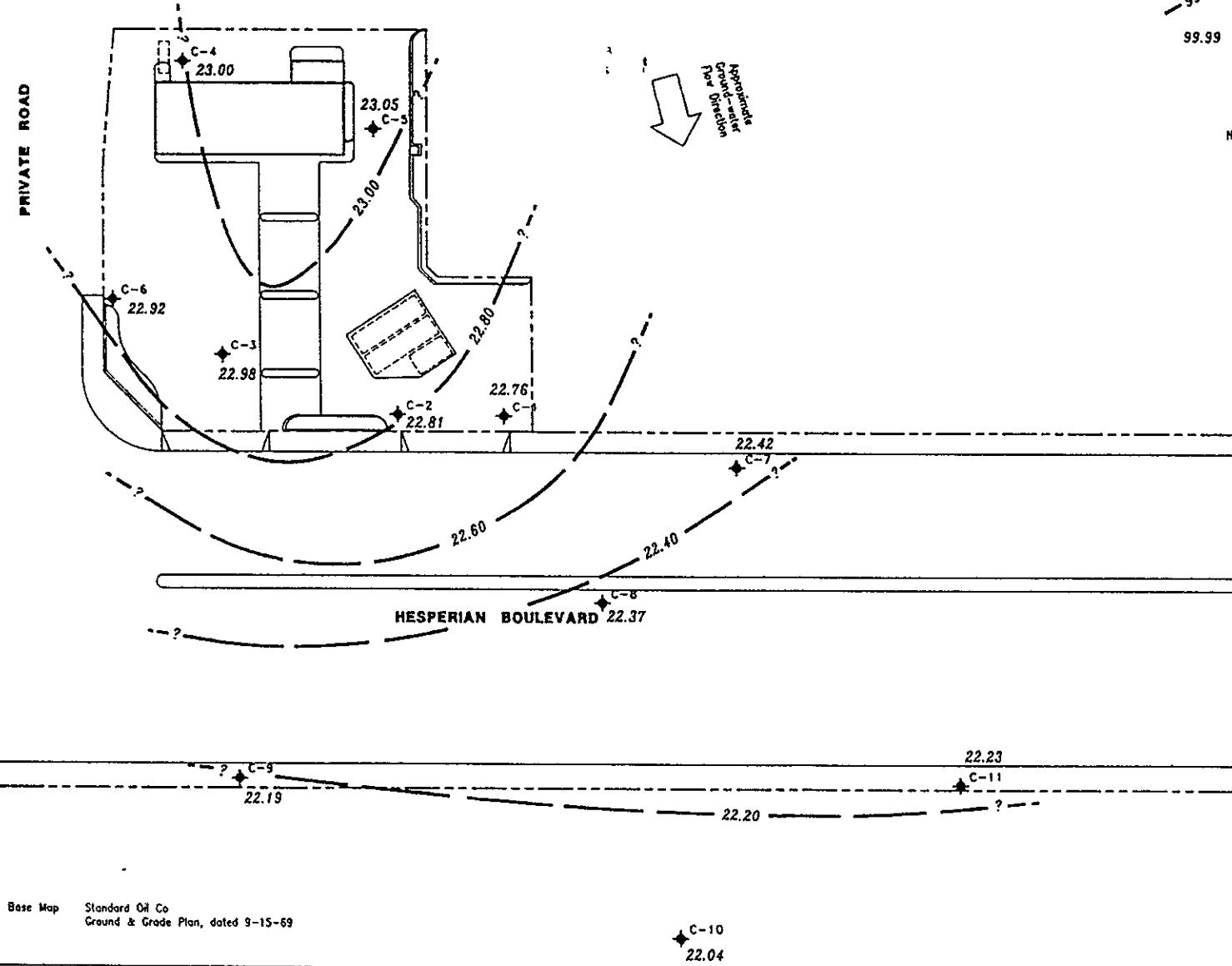


Base Map: Standard Oil Co  
Ground & Grade Plan, dated 9-15-69



Job Number  
725901-11

PRIVATE ROAD



EXPLANATION

◆ Ground-water monitoring well  
99.99 Ground-water elevation contour  
Approximate Gradient = 0.003  
99.99 Ground-water elevation in feet  
referenced to Mean Sea Level  
(MSL) measured on March 22,  
1991

Note: 1. Contours may be influenced by  
irrigation practices and/or site  
construction activities.

PAGE

POTENSIOMETRIC MAP  
Chevron Service Station #0504  
15900 Hesperian Blvd.  
San Lorenzo, California

DATE

4/91

GeoStrategies Inc.  
EARTH SCIENCES  
REVIEWED BY

GSI  
EARTH SCIENCES  
JOB NUMBER

725901-10

POTENSIOMETRIC MAP  
Chevron Service Station #0504  
15500 Hesperian Blvd.  
San Lorenzo, California

DATE  
1/91

GeoStrategies Inc.  
Amesbury, MA  
DHP

Job Number  
725901

## EXPLANATION

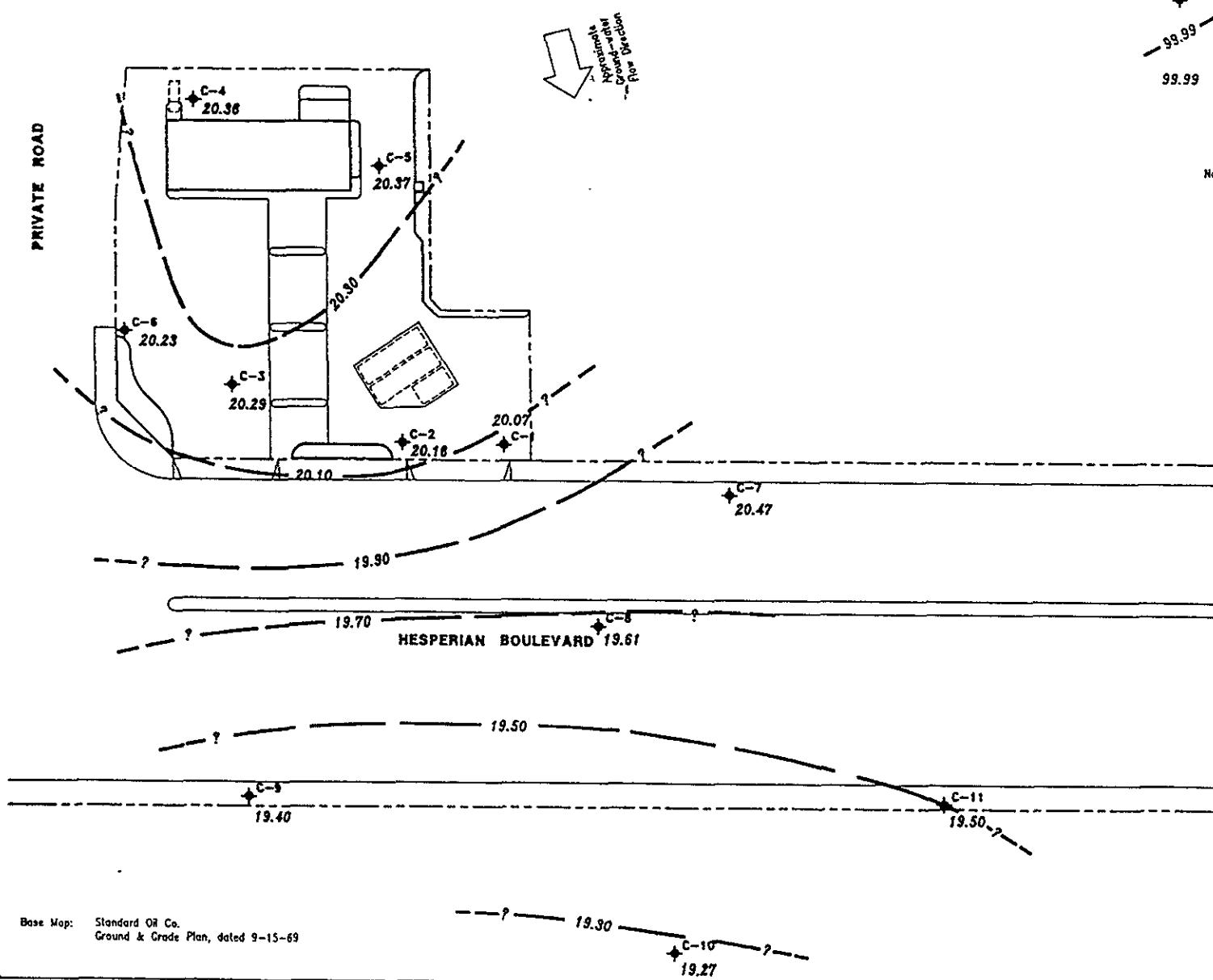
♦ Ground-water monitoring well

99.99  
Ground-water elevation contour  
Approximate Gradient = 0.004

99.99  
Ground-water elevation in feet  
referenced to Mean Sea Level  
(MSL) measured on December 20,  
1990

- Note:
1. Well C-7 was not used in contouring.
  2. Contours may be influenced by irrigation practices and/or site construction activities.

PRIVATE ROAD



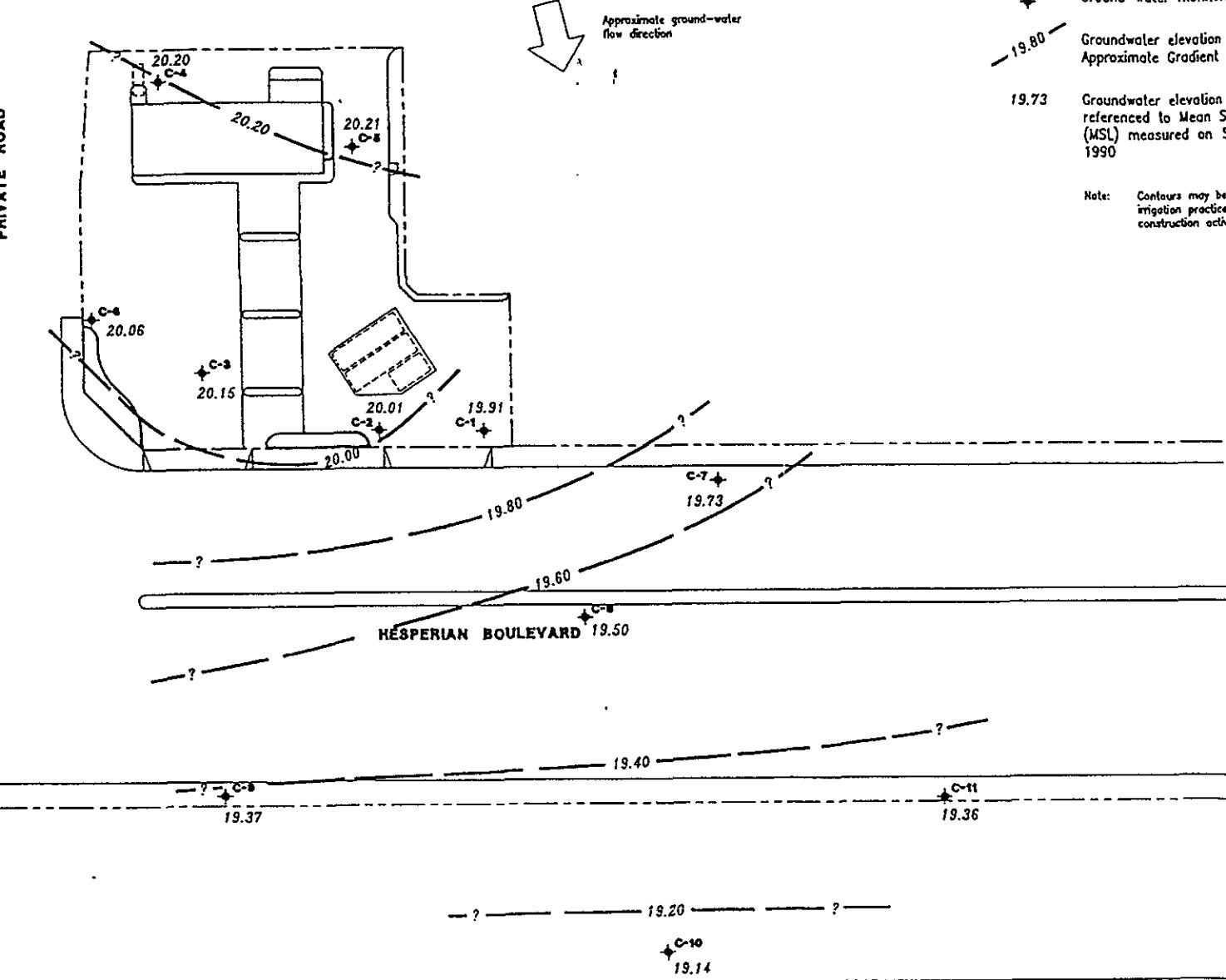
POTENTIALMETRIC MAP  
Chevron Service Station #0504  
15900 Hesperian Blvd.  
San Lorenzo, California

10/90

GeoStrategies Inc.

DRAWN BY RE/CEC  
COPA CALIFORNIAPage Number  
7.259

PRIVATE ROAD

EXPLANATION

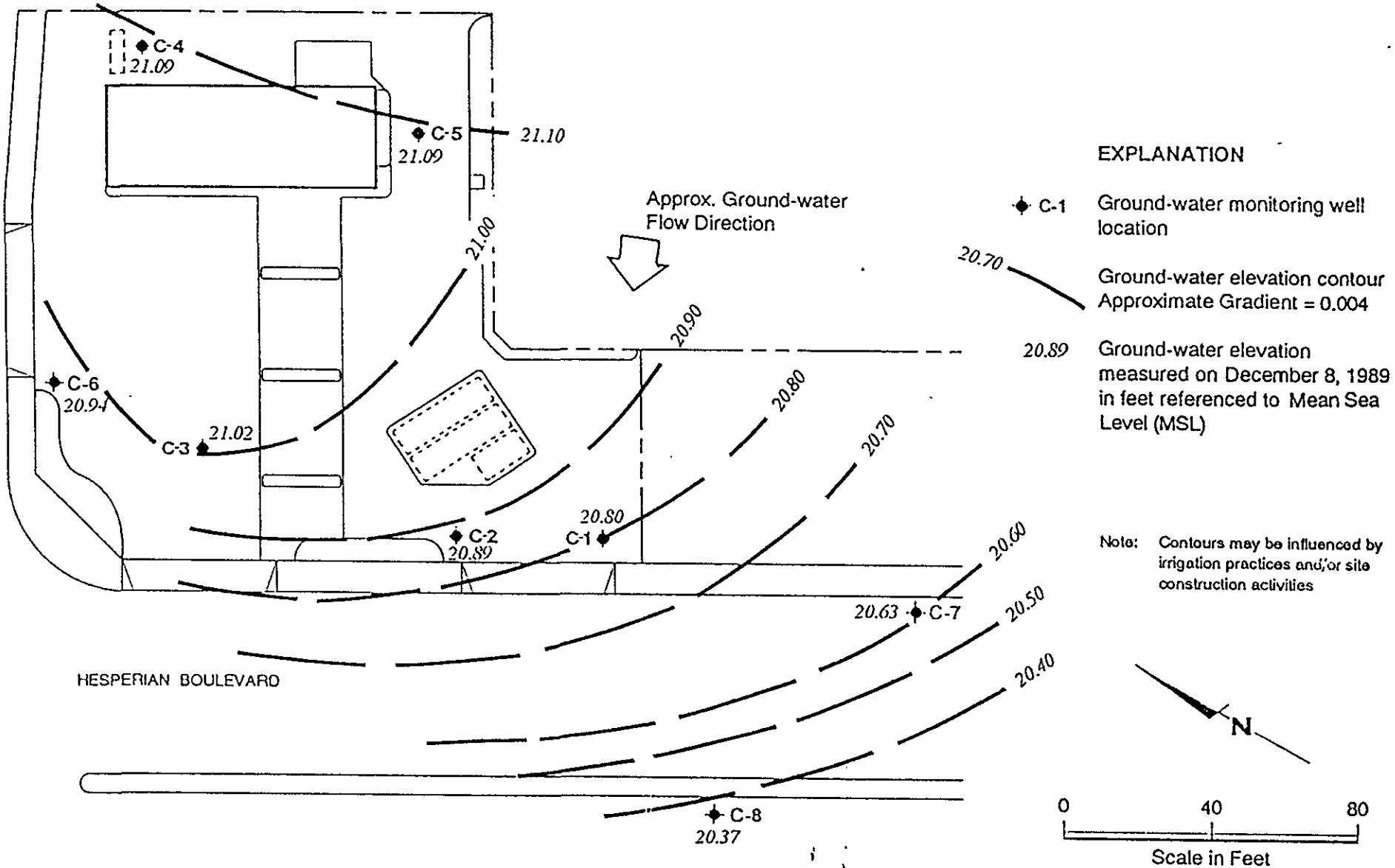
◆ Ground-water monitoring well

— Groundwater elevation contour  
Approximate Gradient = 0.004

19.73  
Groundwater elevation in feet  
referenced to Mean Sea Level  
(MSL) measured on September 7,  
1990

Note: Contours may be influenced by  
irrigation practices and/or site  
construction activities.

POST OFFICE ROAD



GeoStrategies Inc.

JOB NUMBER  
7259

REVIEWED BY NG/CEG  
Chup CE4/1202

Potentiometric Map  
Chevron Service Station #0504  
15900 Hesperian Boulevard  
San Lorenzo, California

DATE  
1/90

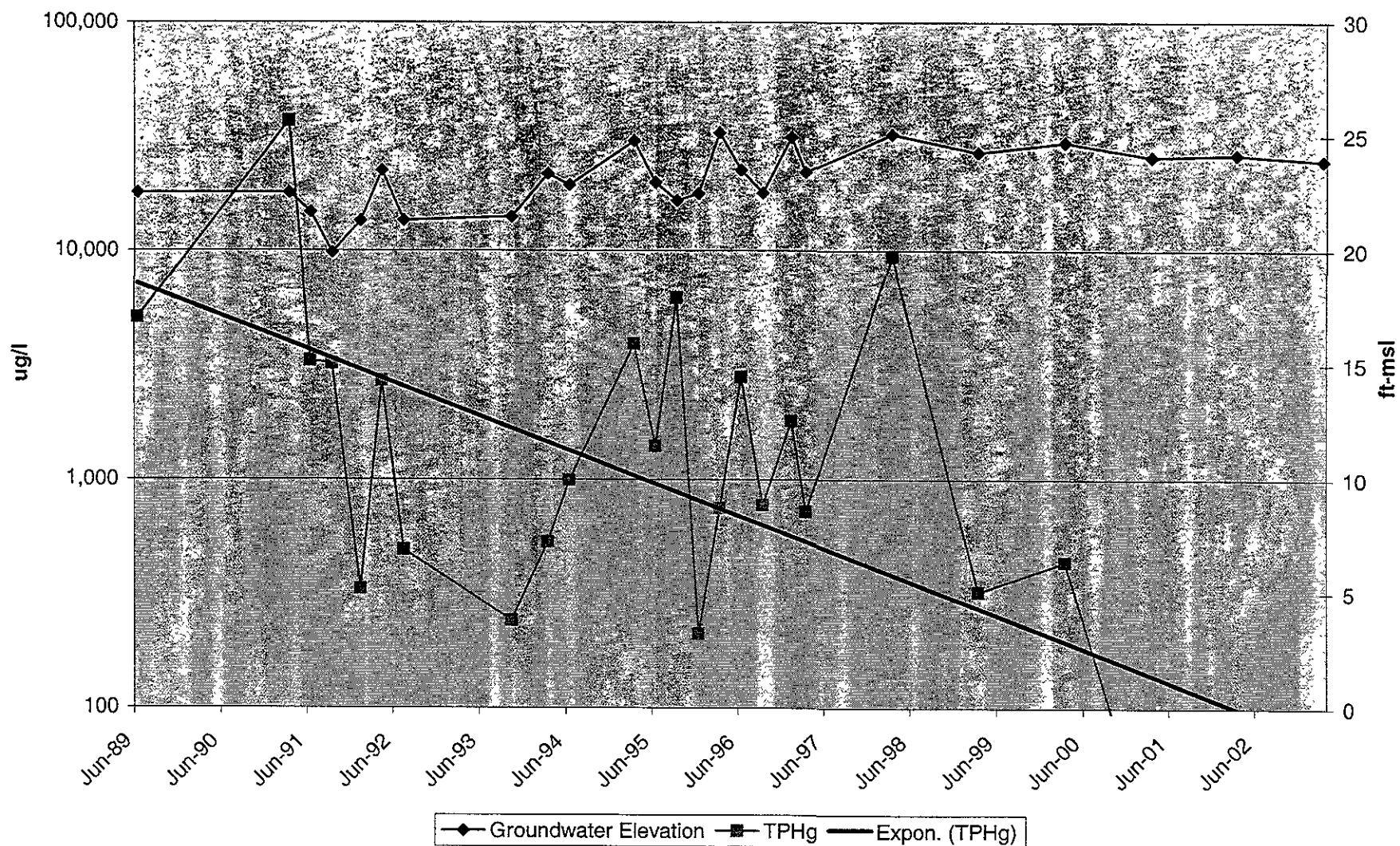
REVISED DATE  
REVISED DATE

PLATE  
3

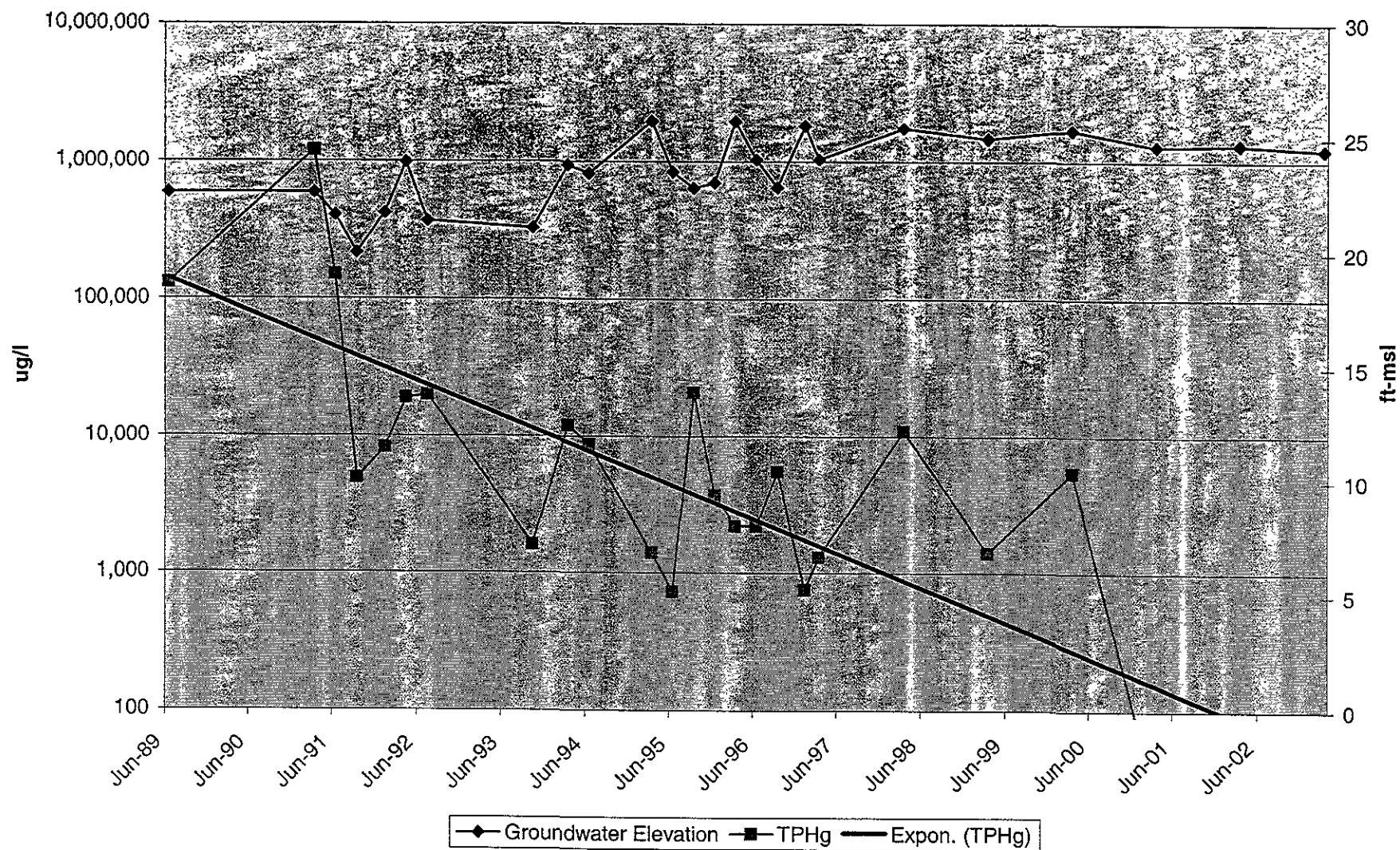
## **APPENDIX J**

### **Concentration versus Time Graphs**

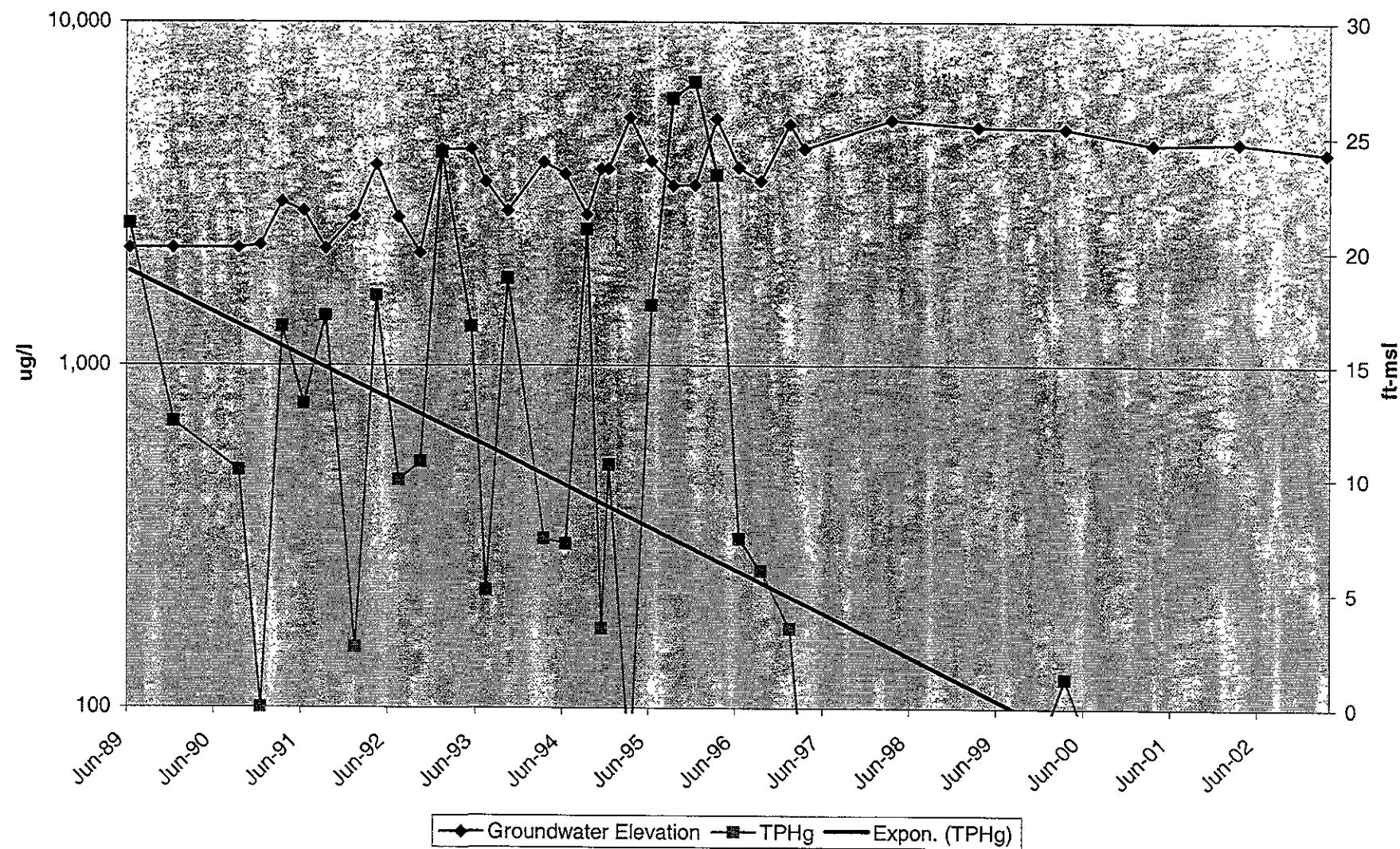
**TPHg Concentrations in Groundwater - Well C-1**  
**Chevron Station 9-0504**



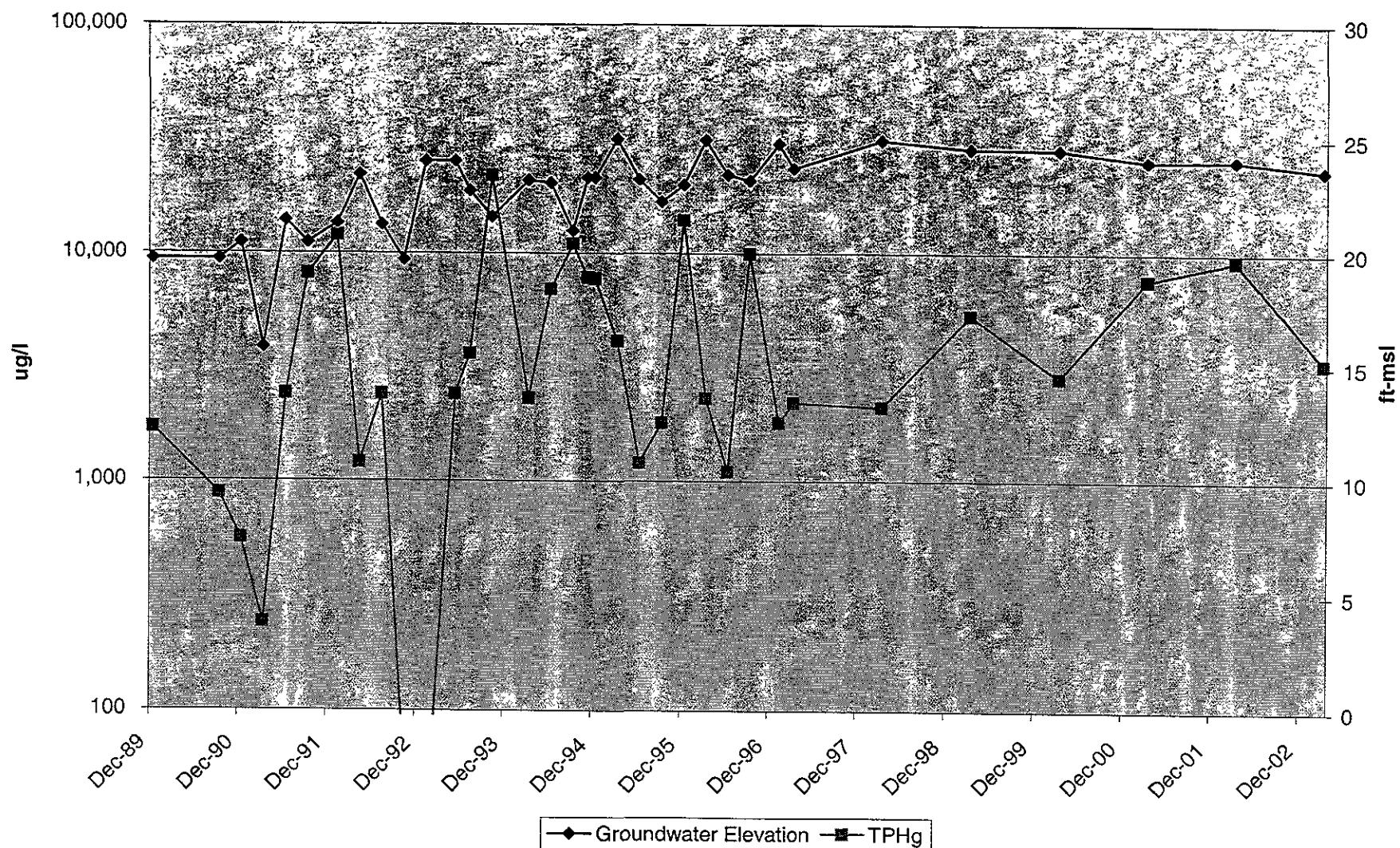
**TPHg Concentrations in Groundwater - Well C-2**  
**Chevron Station 9-0504**



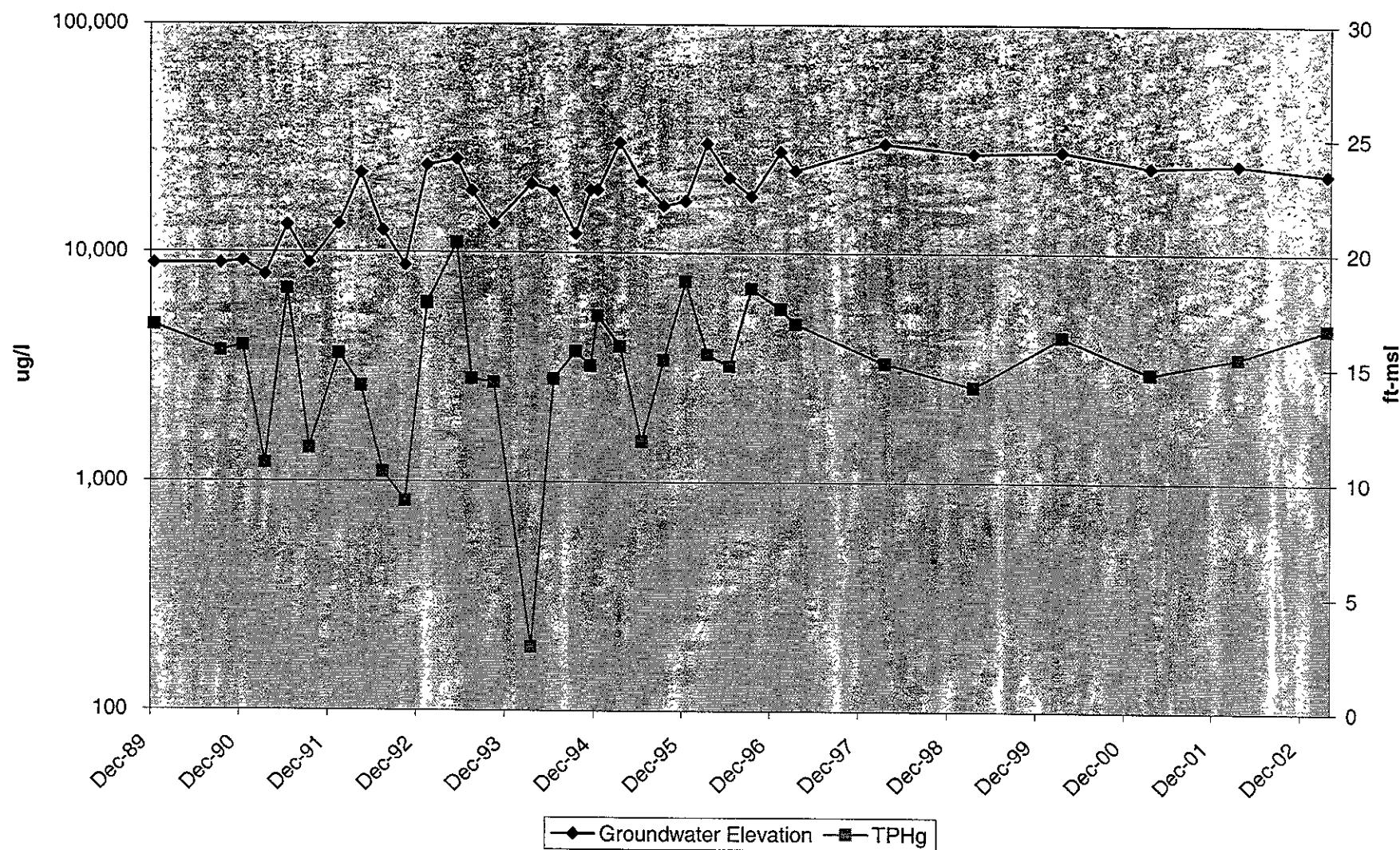
**TPHg Concentrations in Groundwater - Well C-3**  
**Chevron Station 9-0504**



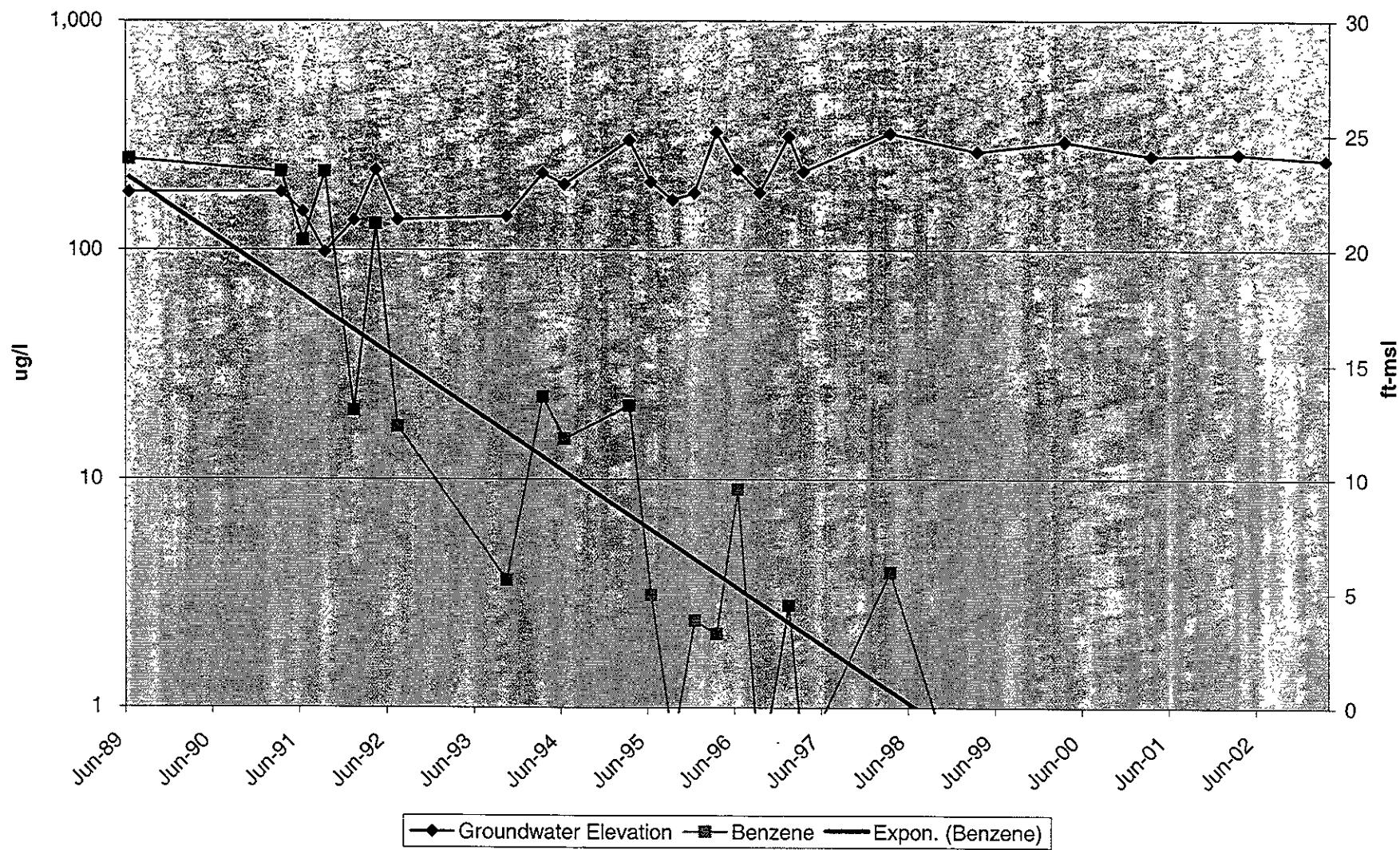
**TPHg Concentrations in Groundwater - Well C-7**  
**Chevron Station 9-0504**



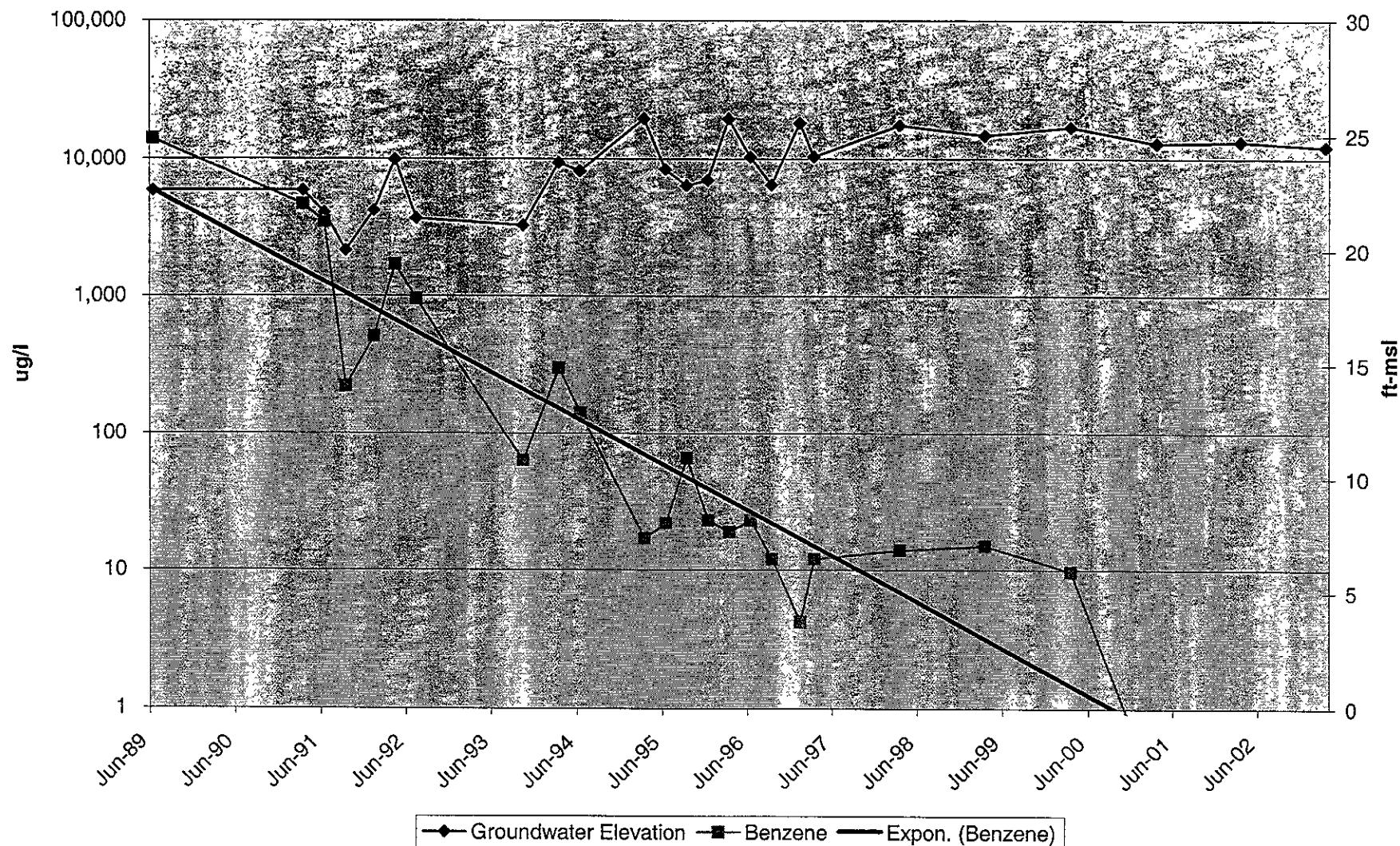
**TPHg Concentrations in Groundwater - Well C-8**  
**Chevron Station 9-0504**



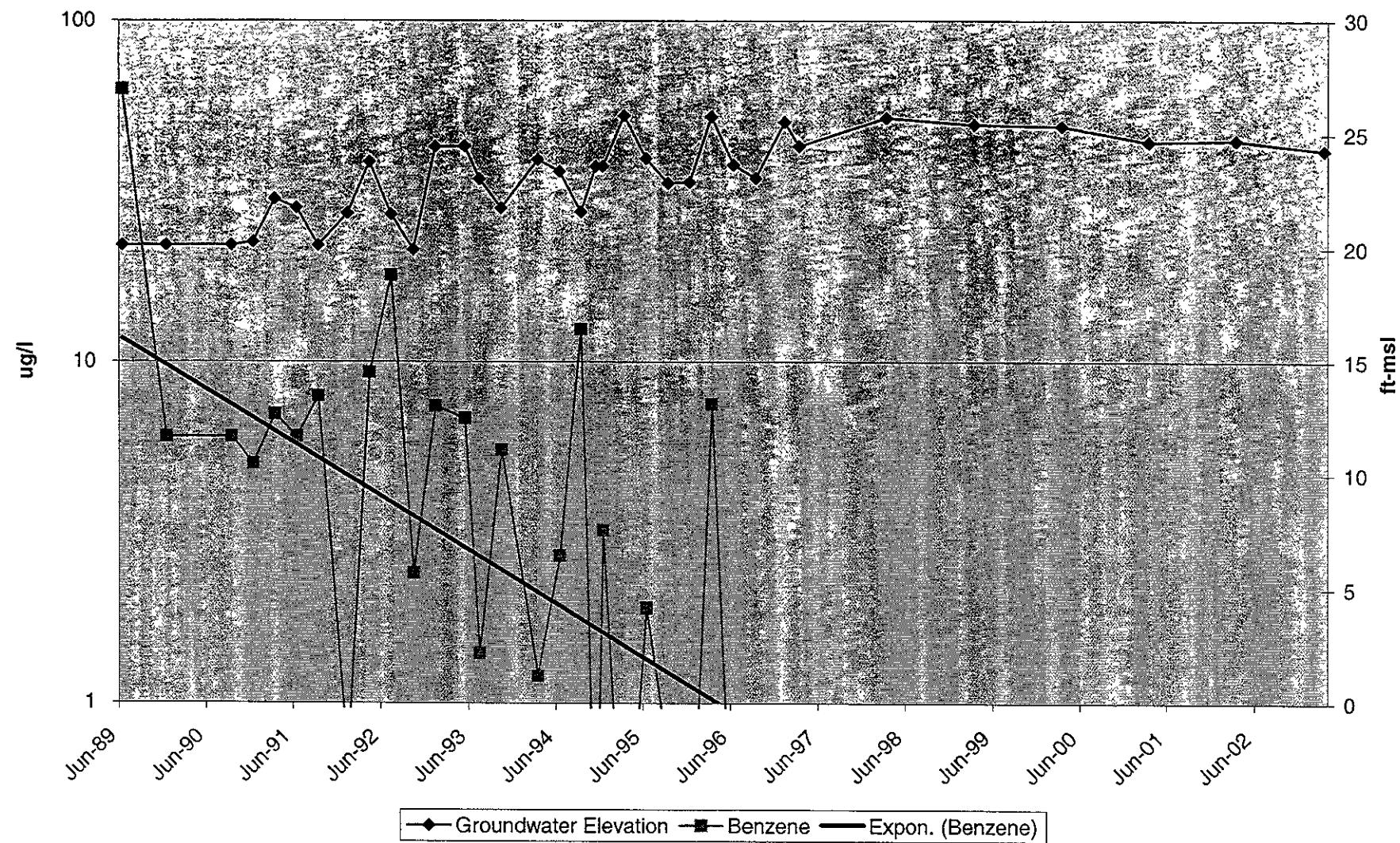
**Benzene Concentrations in Groundwater - Well C-1**  
**Chevron Station 9-0504**



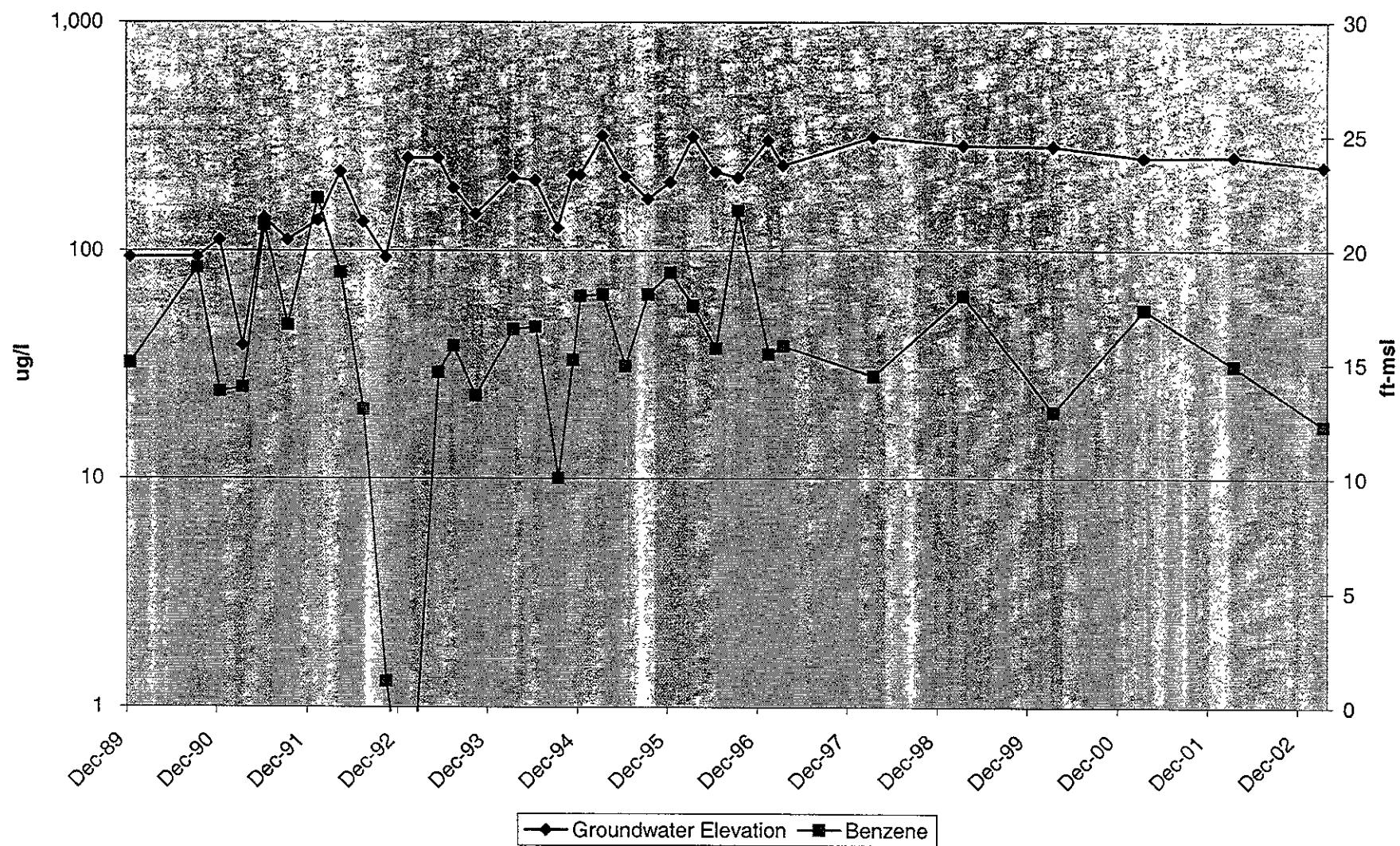
**Benzene Concentrations in Groundwater - Well C-2**  
**Chevron Station 9-0504**



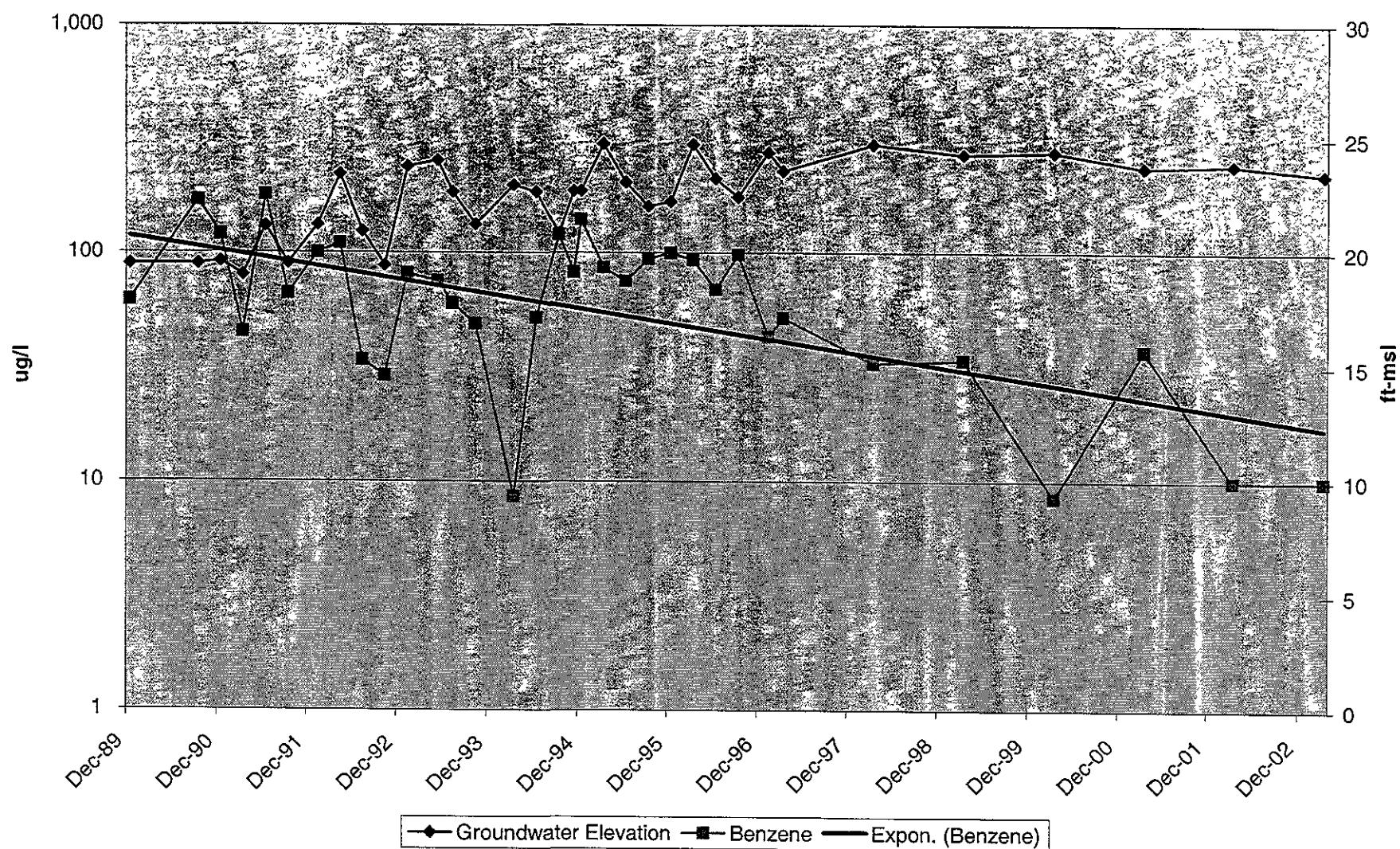
Benzene Concentrations in Groundwater - Well C-3  
Chevron Station 9-0504



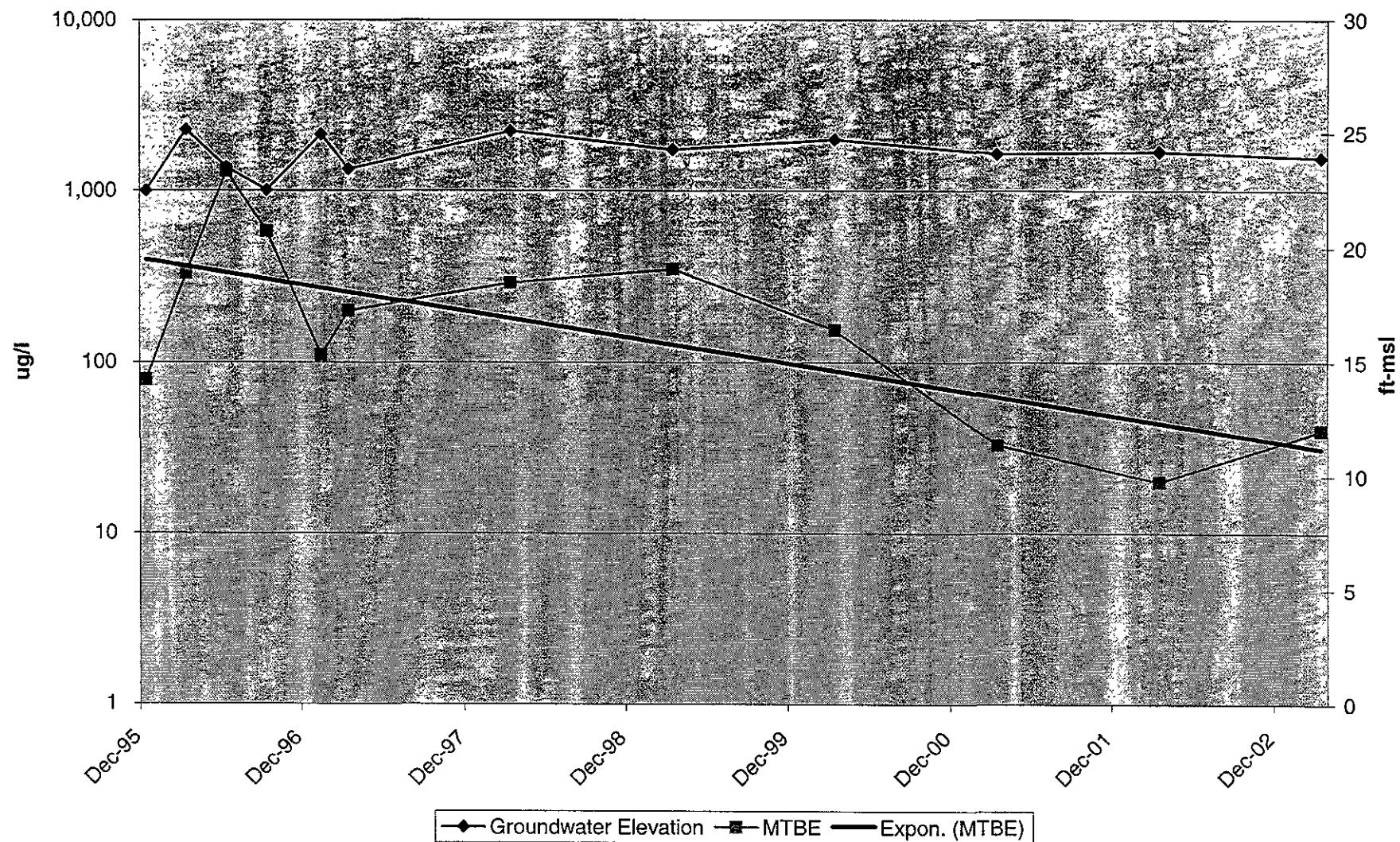
**Benzene Concentrations in Groundwater - Well C-7**  
**Chevron Station 9-0504**



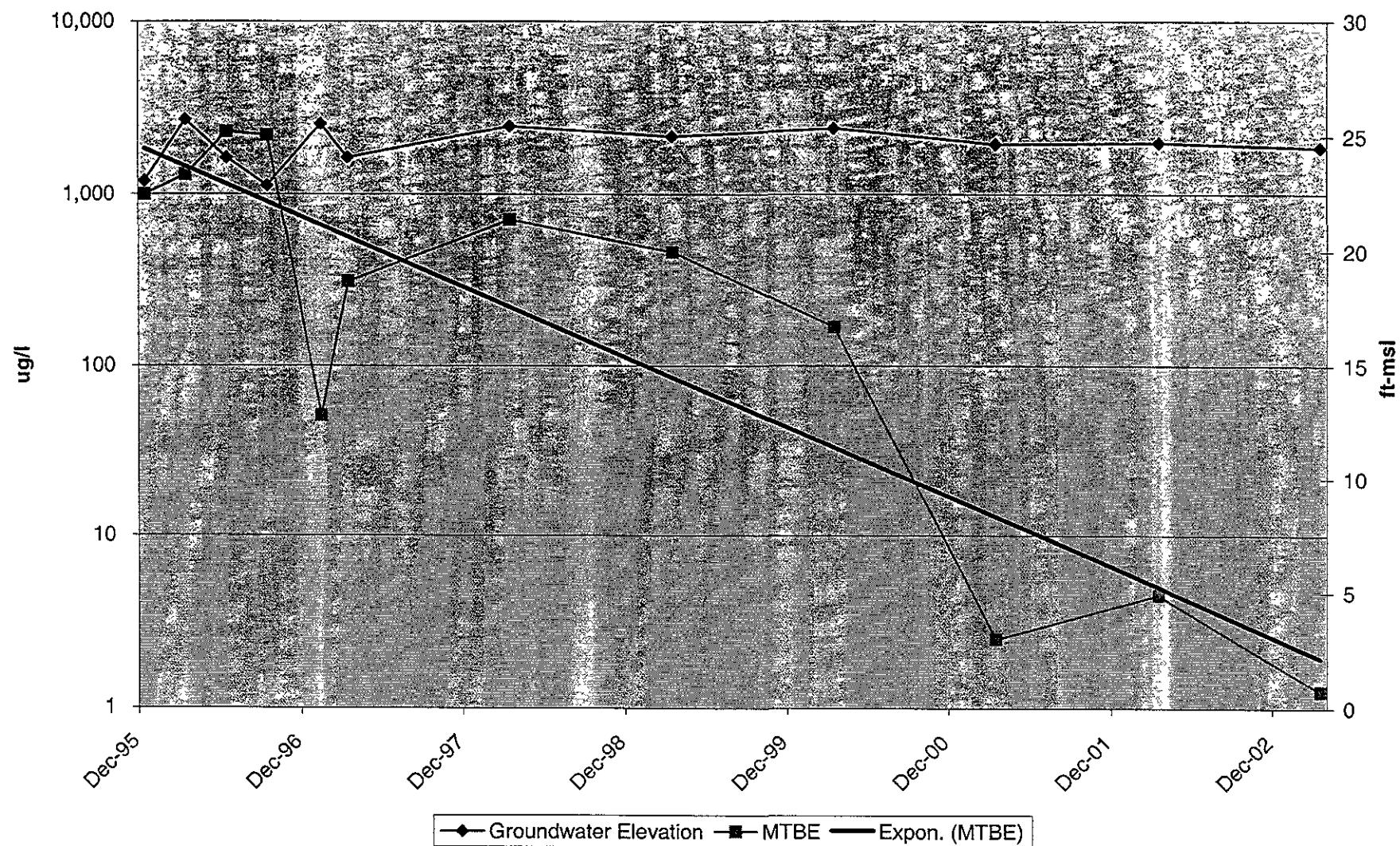
**Benzene Concentrations in Groundwater - Well C-8**  
**Chevron Station 9-0504**



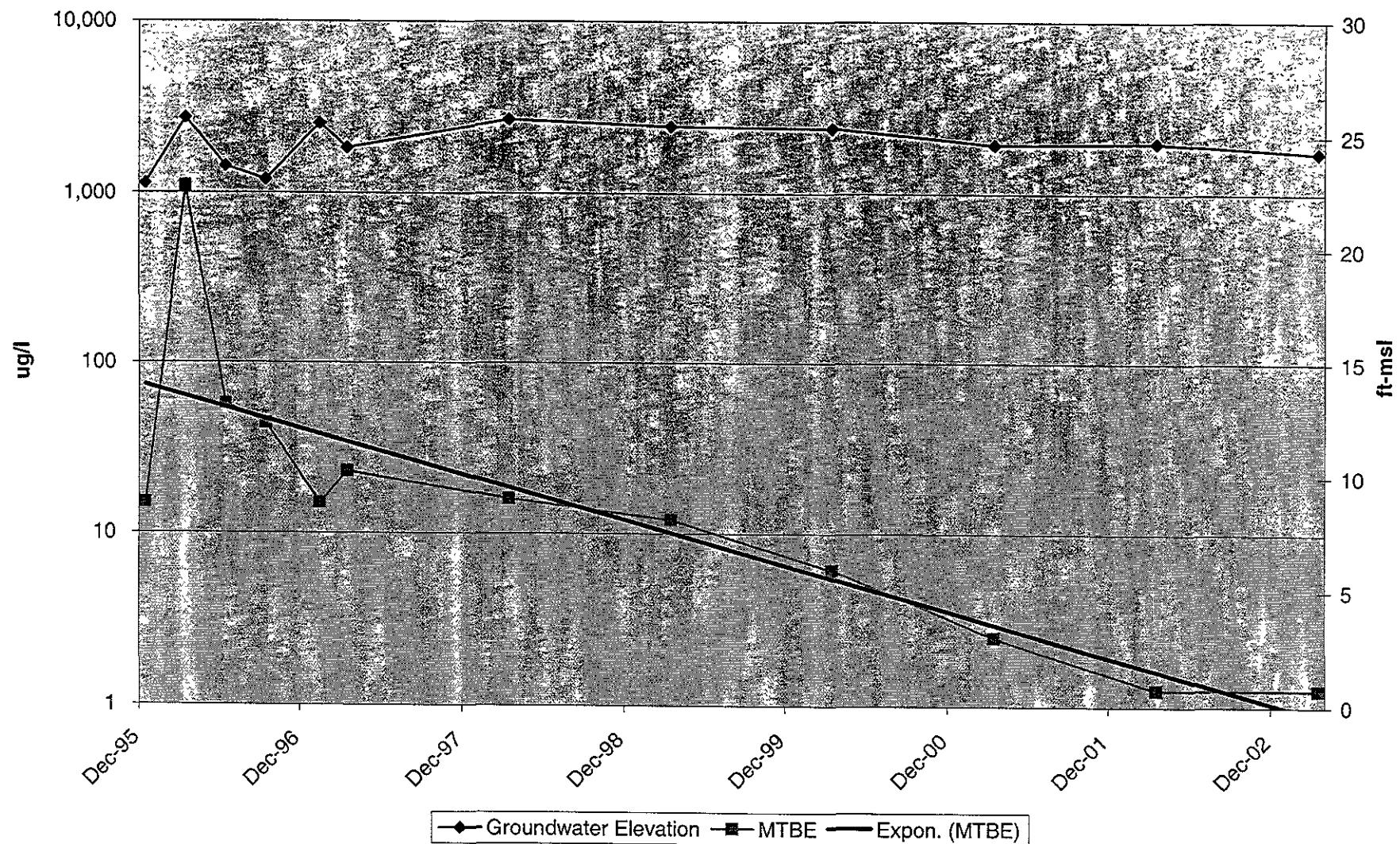
**MTBE Concentrations in Groundwater - Well C-1**  
**Chevron Station 9-0504**



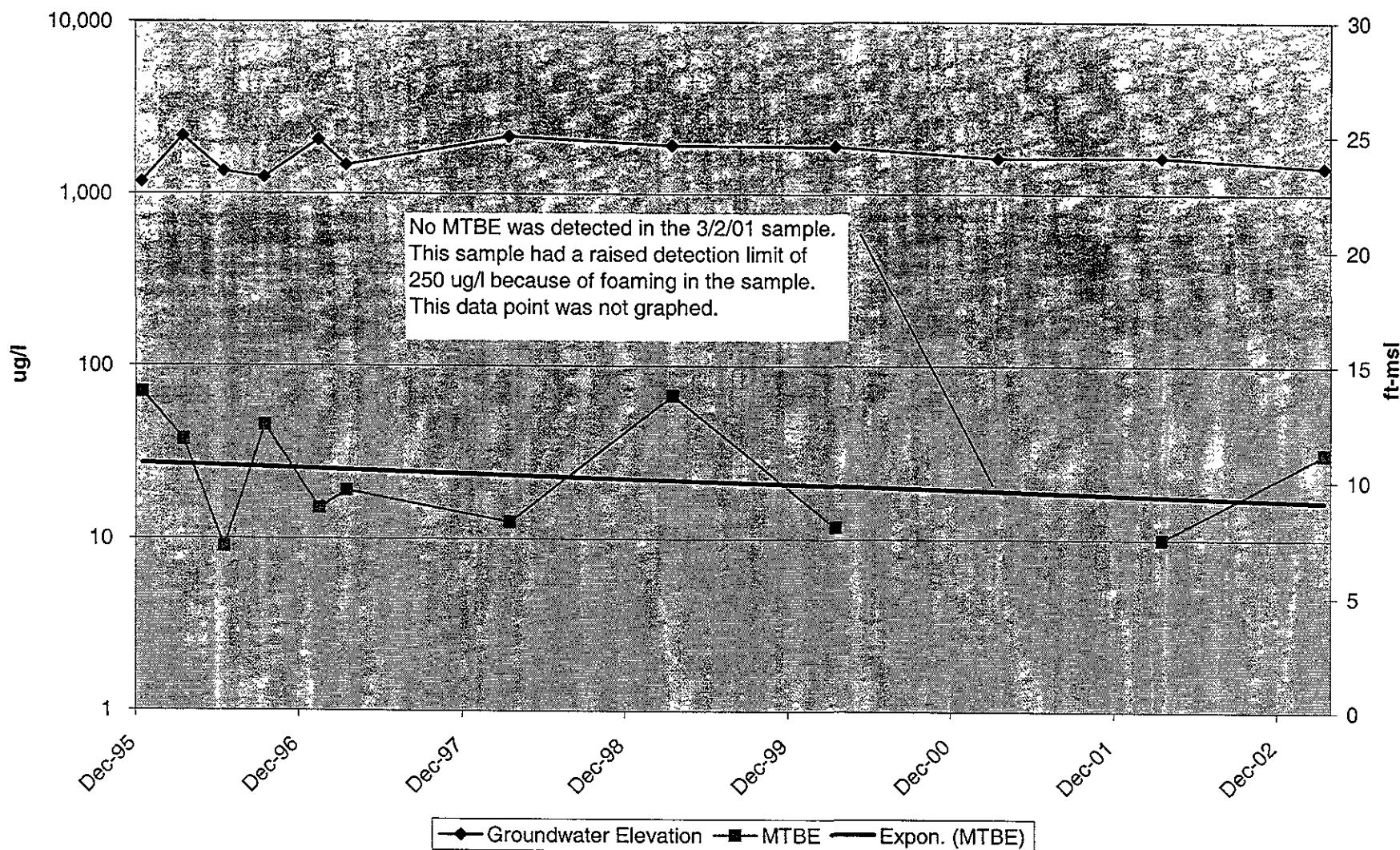
**MTBE Concentrations in Groundwater - Well C-2**  
**Chevron Station 9-0504**



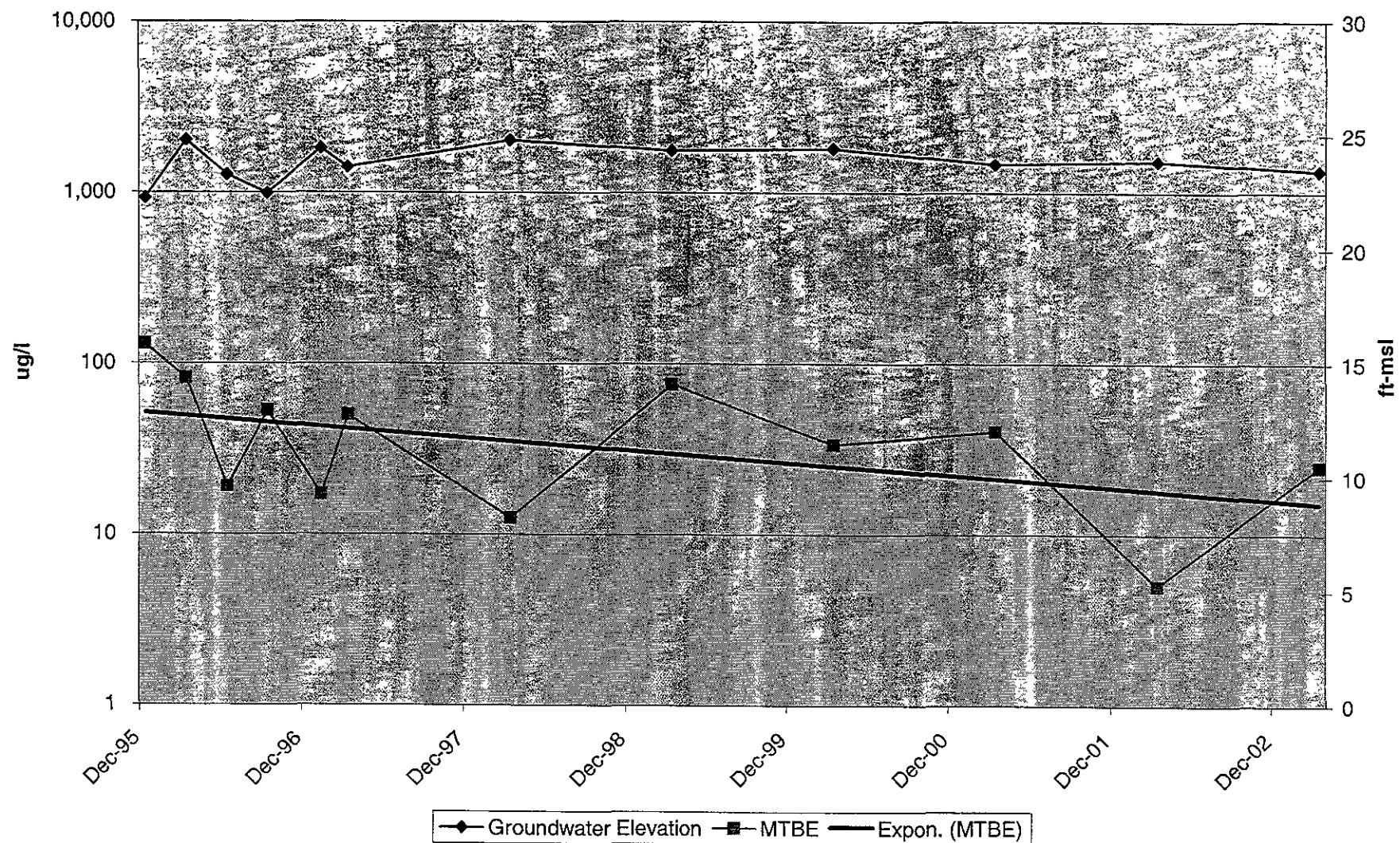
**MTBE Concentrations in Groundwater - Well C-3**  
**Chevron Station 9-0504**



**MTBE Concentrations in Groundwater - Well C-7**  
**Chevron Station 9-0504**



**MTBE Concentrations in Groundwater - Well C-8**  
**Chevron Station 9-0504**



## **APPENDIX K**

### **Mass Balance Tables And Figures**

**TABLE 1**  
**ESTIMATE OF RESIDUAL PETROLEUM HYDROCARBONS IN SOIL**

Chevron Service Station No. 9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

Source Area	Volume (ft <sup>3</sup> )	Soil Density (ft <sup>3</sup> )	Concentration <sup>1</sup> (mg/kg)	Total Pounds (lbs)
<b>Benzene (lb) = Volume (ft<sup>3</sup>) x soil density (lb/ft<sup>3</sup>) x concentration (mg/kg)/1x10<sup>6</sup> mg/kg</b>				
A 131' x 66' x 12'	103,752	110	0.09 <sup>1</sup>	1.03
B 115' x 68' x 12'	93,840	110	0.05 <sup>1</sup>	0.52
<b><i>1.55 lbs</i></b>				
<b>TPHg (lb) = Volume (ft<sup>3</sup>) x soil density (lb/ft<sup>3</sup>) x concentration (mg/kg)/1x10<sup>6</sup> mg/kg</b>				
A 131' x 66' x 12'	103,752	110	57.9	660.80
B 115' x 68' x 12'	93,840	110	10.68	110.24
<b><i>771.04 lbs</i></b>				

---

<sup>1</sup> Concentration is estimate of residual petroleum hydrocarbons from unsaturated soil samples collected above the average depth to water (11.69 feet bgs).

---

TABLE 2

## ESTIMATE OF DISSOLVED PETROLEUM HYDROCARBONS IN GROUNDWATER

Former Chevron Service Station No. 9-0504  
 15900 Hesperian Boulevard  
 San Lorenzo, California

Source Area	Volume (ft <sup>3</sup> )	Density of Water (lb/ft <sup>3</sup> )	Concentration (µg/L)	Porosity <sup>4</sup> (%)	Total Pounds (lbs)
<b>Benzene (lb) = Volume (ft<sup>3</sup>) x density of water (lb/ft<sup>3</sup>) x concentration (ug/L) x porosity/1x10<sup>9</sup> ug/L</b>					
Area A 160'x80'x14'	179,200	62.4	1.27 <sup>1,3</sup>	0.487	0.007
Area B 115'x68'x14'	109,480	62.4	26.05 <sup>2,3</sup>	0.487	0.087
				<b>Total</b>	<b>0.094</b>
<b>TPHg (lb) = Volume (ft<sup>3</sup>) x density of water (lb/ft<sup>3</sup>) x concentration (µg/L) x porosity/1x10<sup>9</sup> ug/L</b>					
Area A 160'x80'x14'	179,200	62.4	535 <sup>1,3</sup>	0.487	2.91
Area B 115'x68'x14'	109,480	62.4	4,816.25 <sup>2,3</sup>	0.487	16.0
				<b>Total</b>	<b>18.93</b>
<b>MTBE (lb) = Volume (ft<sup>3</sup>) x density of water (lb/ft<sup>3</sup>) x concentration (µg/L) x porosity/1x10<sup>9</sup> ug/L</b>					
Area A 160'x80'x14'	179,200	62.4	36.91 <sup>1,3</sup>	0.487	0.20
Area B 115'x68'x14'	109,480	62.4	55.9 <sup>2,3</sup>	0.487	0.186
				<b>Total</b>	<b>0.39</b>

<sup>1</sup> Concentrations estimated from source area wells C-1, C-2, and C-3.

<sup>2</sup> Concentrations estimated from source area wells C-7 and C-8.

<sup>3</sup> Concentrations based on average of four quarters of groundwater analytical results.

<sup>4</sup> Average porosity based on estimates from Freeze and Cherry; soil beneath the site ranges from clay to silts at porosities ranging between 35 % and 70 %.

CAMBRIA

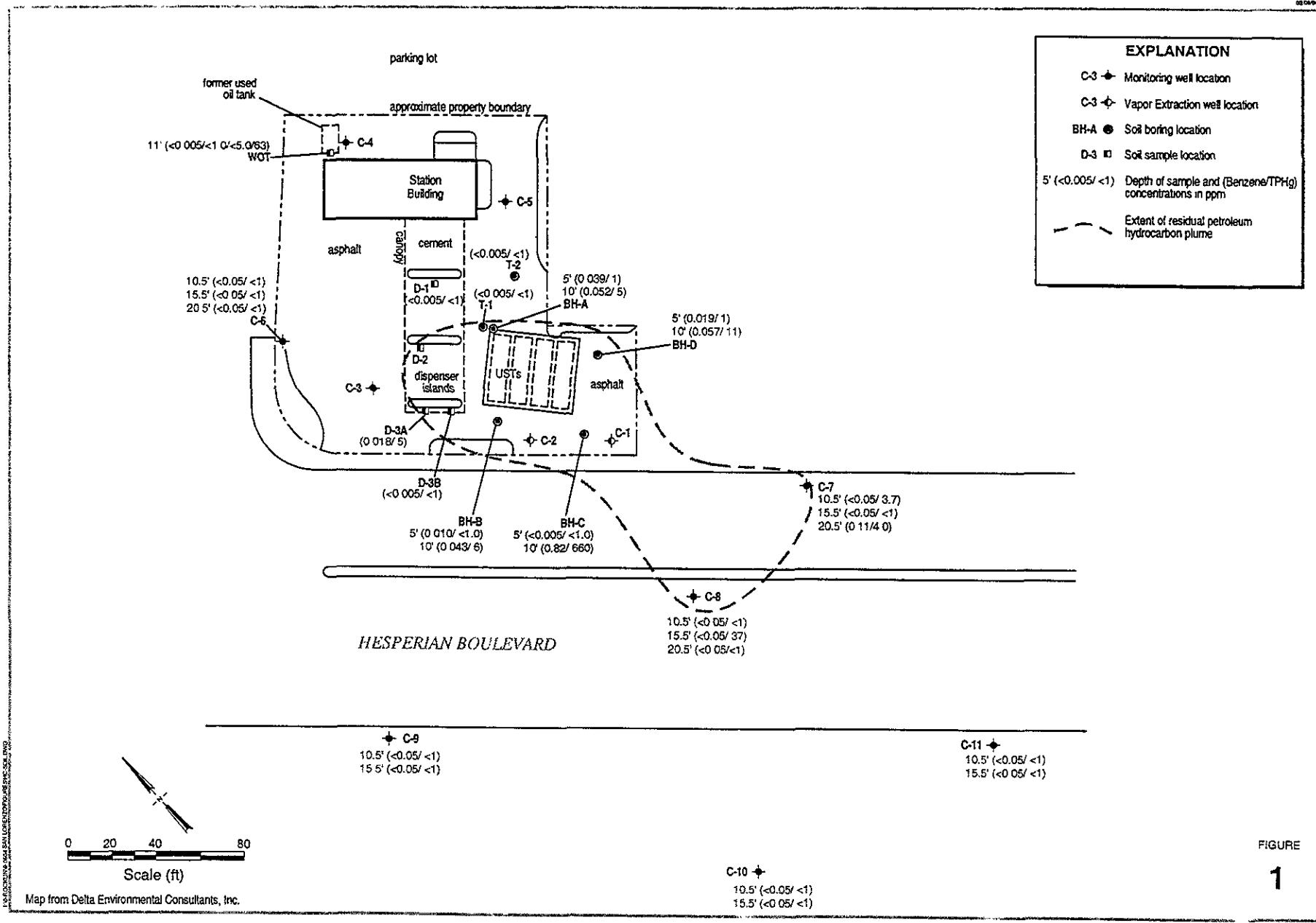
### Residual Petroleum Hydrocarbon Concentration In Soil

C

Chevron Service Station 9-0504  
15900 Hesperian Boulevard  
San Lorenzo, California

FIGURE

1



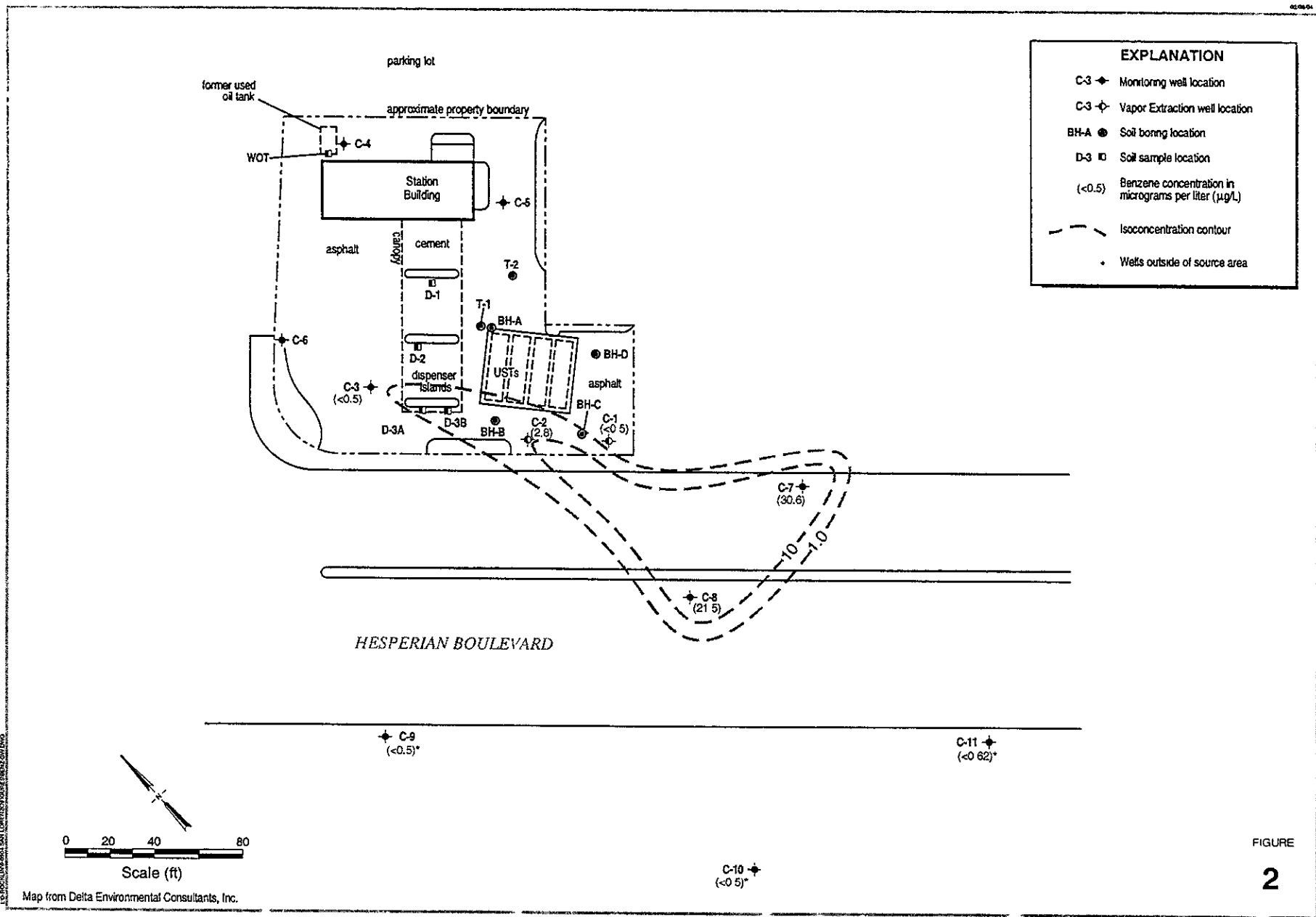
42-0804

**Benzene In Groundwater  
Isoconcentration Map**



**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

**FIGURE  
2**

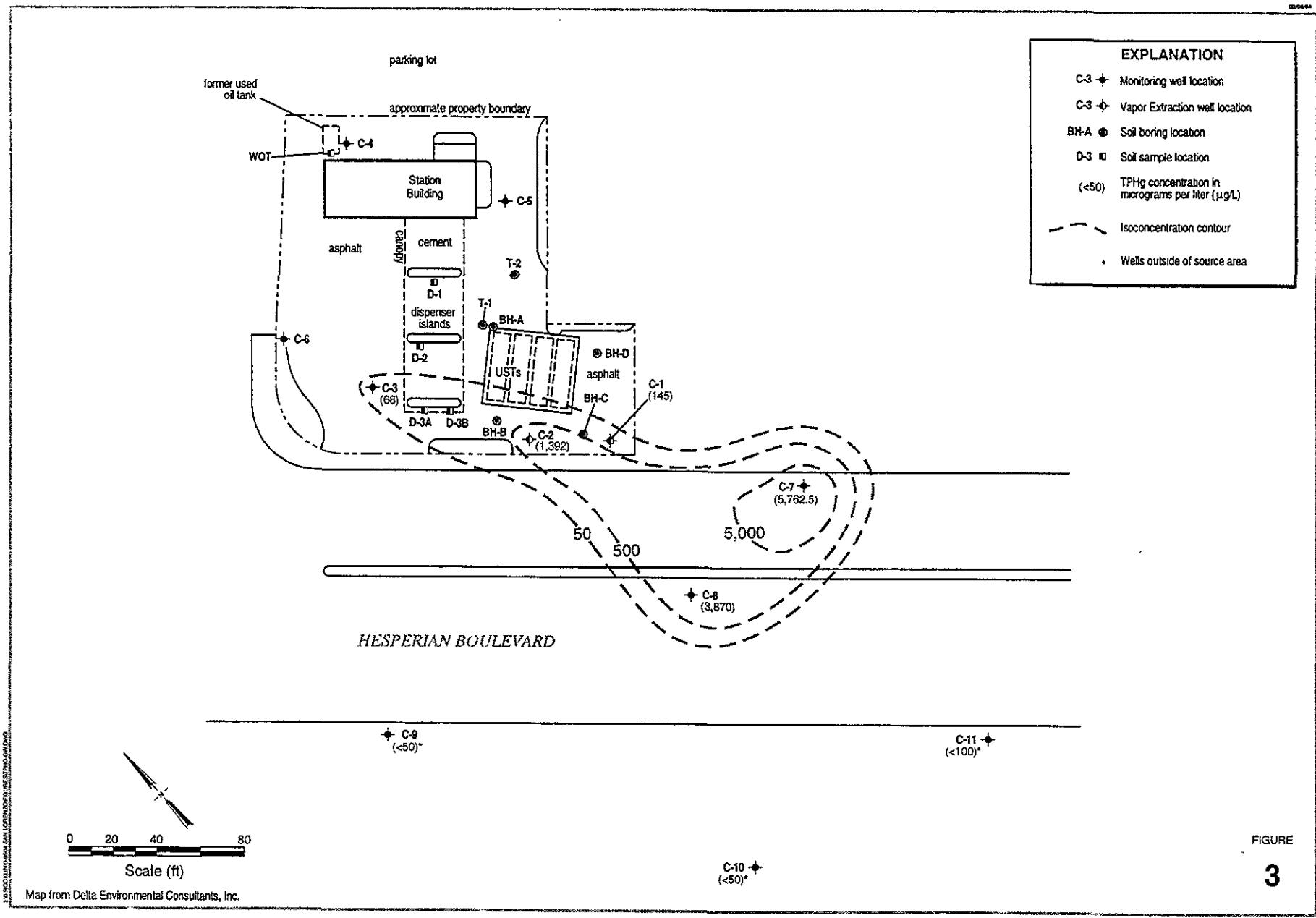


TPHg In Groundwater  
Isoconcentration Map



C A M B R I A

**FIGURE 3**  
**Chevron Service Station 9-0504**  
 15900 Hesperian Boulevard  
 San Lorenzo, California

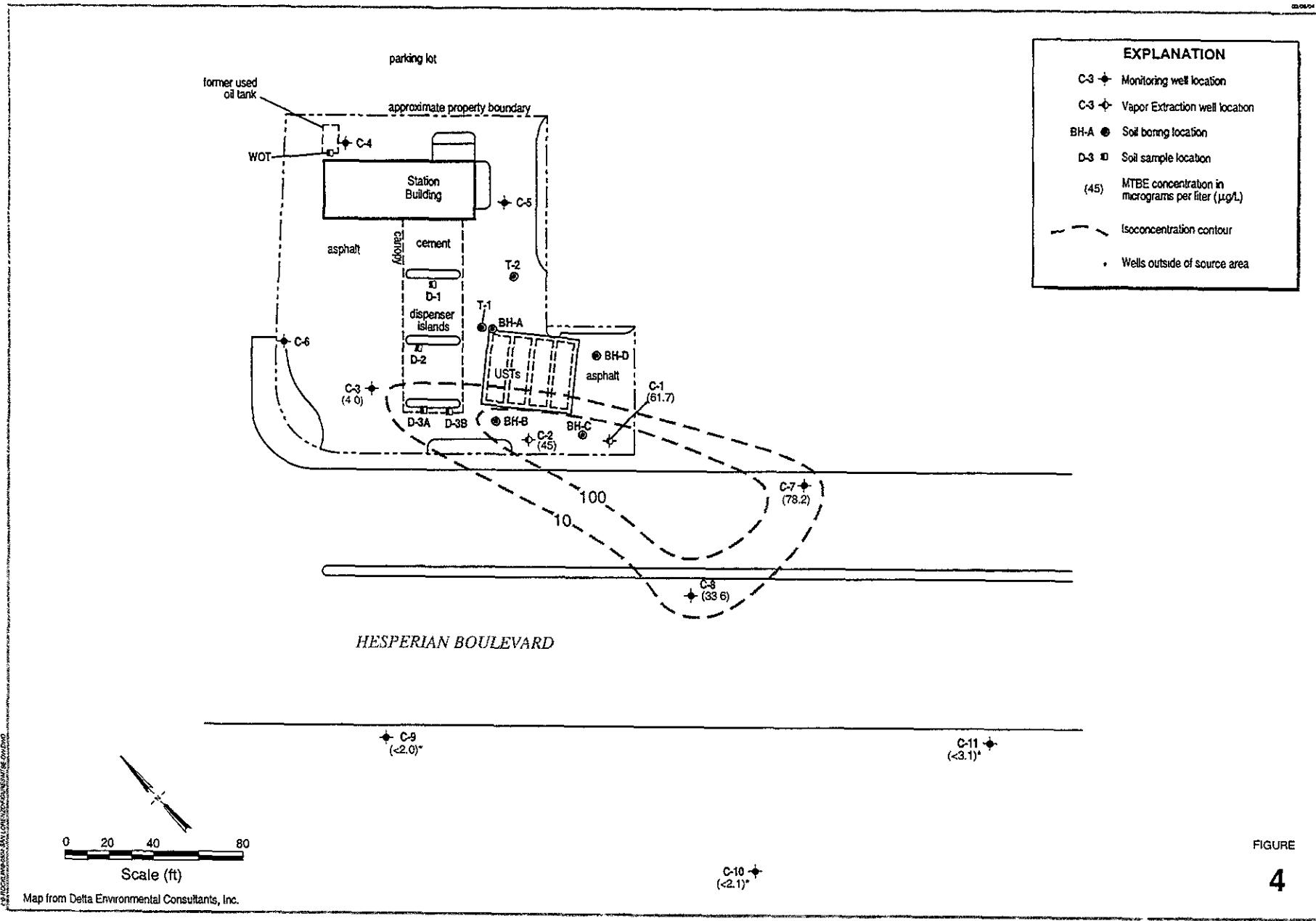


**MTBE in Groundwater  
Isoconcentration Map**

C A M B R I A

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

**FIGURE  
4**



CAMBRIA

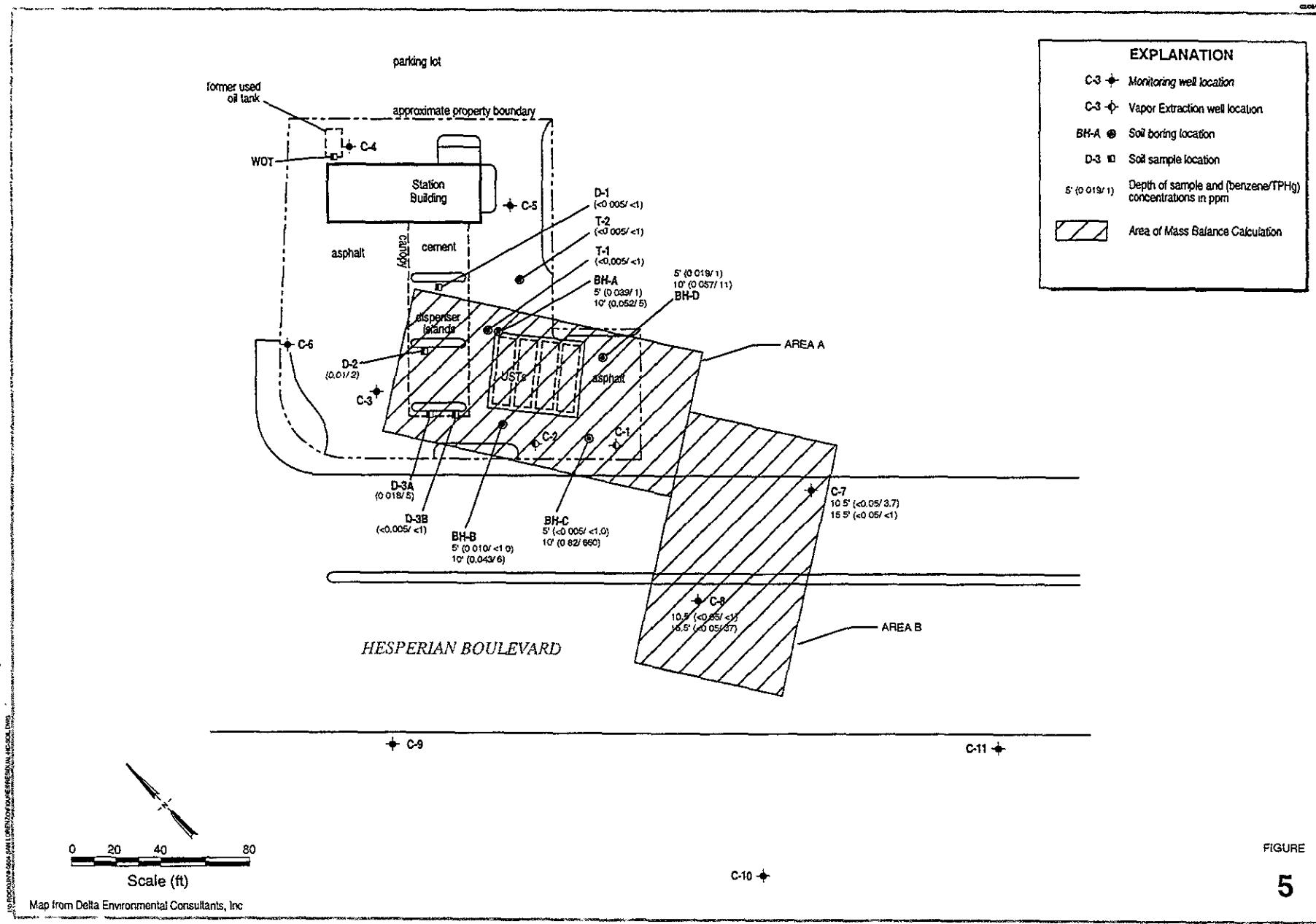
### Residual Petroleum Hydrocarbon Concentrations in Soil



**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

**51**

FIGURE



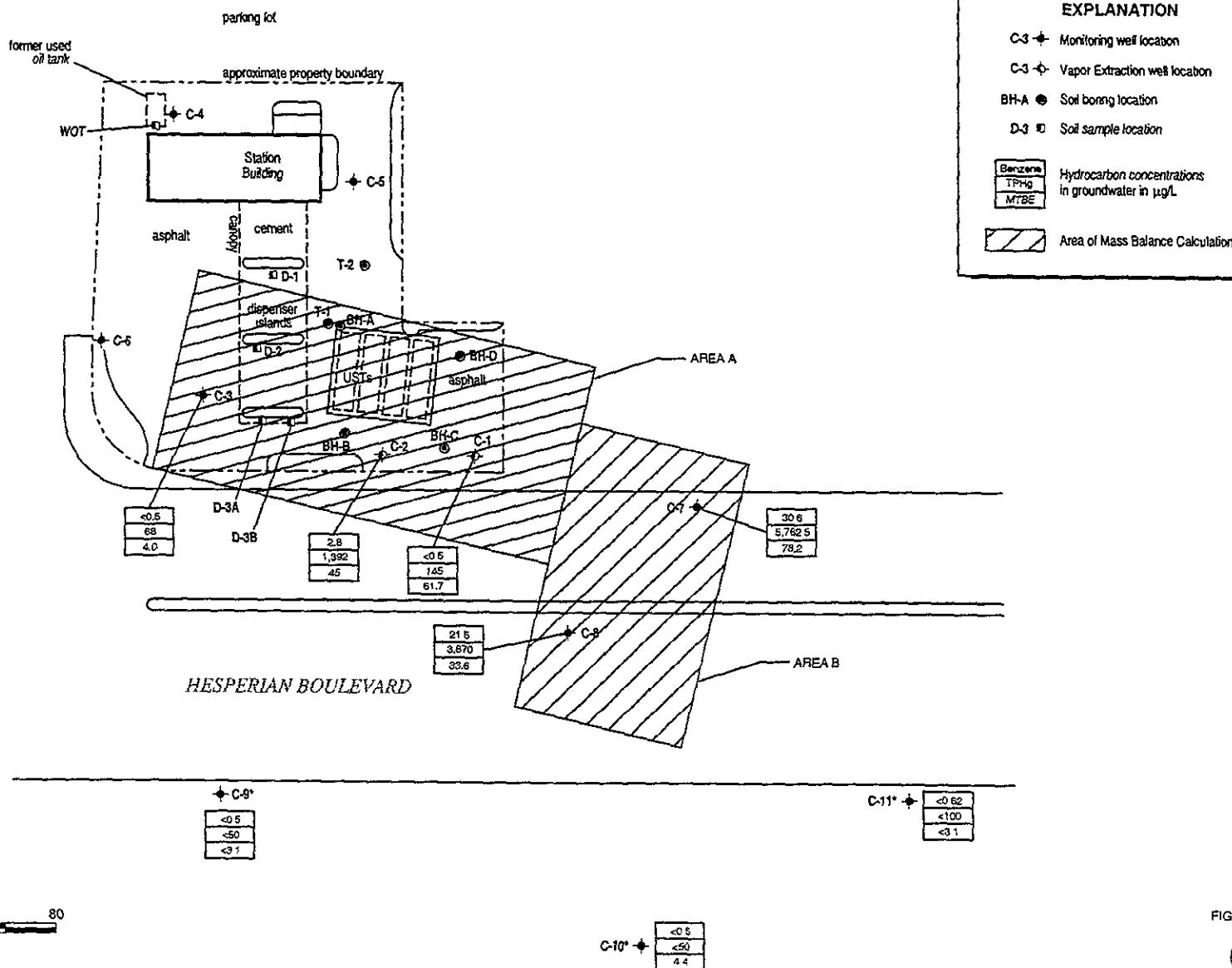
**Dissolved Petroleum Hydrocarbon Concentrations in Groundwater**

C A M B R I A

**Chevron Service Station 9-0504**  
15900 Hesperian Boulevard  
San Lorenzo, California

**6**

**FIGURE**



Map from Delta Environmental Consultants, Inc