

RO439

C A M B R I A

June 14, 2005

Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCSA)
Dept. of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: **Investigation Workplan**
Chevron Service Station 9-0917
5280 Hopyard Road
Pleasanton, California
RO439

RECEIVED
JUN 17 2005
ELECTRONIC MAIL

Dear Mr. Chan;



On behalf of Chevron Environmental Management Company (Chevron), Cambria Environmental Technology, Inc. (Cambria) has prepared this investigation workplan for the site referenced above. Our objective is to define the lateral extent of hydrocarbons in groundwater and assess the human health risk. The site background and our proposed scope of work are detailed below.

SITE BACKGROUND

The site is located at the southern corner of the intersection of Hopyard Road and Owens Drive in Pleasanton, California (Figure 1). The site is an active Chevron station with a station building, car wash facility, four underground storage tanks (USTs), and three dispenser islands (Figure 2).

Local topography is flat and the site is approximately 335 feet above meal sea level. The closest surface water is Chabot Canal approximately 250 feet east of the site. The area surrounding the site is primarily commercial.

Site Geology: Site geology consists of generally silty and sandy clay, and clayey sand to the maximum explored depth of 21.5 feet below grade (fbg).

Site Hydrogeology: The Livermore Valley Groundwater Basin is divided into twelve sub-basins based on fault traces and hydrologic discontinuities. The site is located in the Dublin Sub-Basin (DSB). Regionally, the upper, unconfined groundwater in the DSB generally flows south. Aquifers in the DSB are generally flat lying, but there is a drop in groundwater elevation of approximately 50 feet across the Parks Fault (*Evaluation of Groundwater Resources: Livermore and Sonol Valleys*, Department of the Water Resources Bulletin Number 118-2, June 1974). The Park Fault trends east-northeast approximately 1 mile south of the site (Pacific Environmental Group, Inc., *Soil and Groundwater Investigation*, dated August 11, 1997).

**Cambria
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Historically, the site groundwater flow direction has been variable, but recent events indicate a south-southeast flow direction at an approximate gradient between 0.004 to 0.009. Measured depth to groundwater at the site ranges between 7.5 and 10 fbg.

PREVIOUS INVESTIGATIONS

August 1989, Monitoring Well Installation: In August 1989, Groundwater Technology, Inc. (GTI) installed three on-site groundwater monitoring wells (MW-1, MW-2, and MW-3). Soil samples from these well borings do not appear to have been submitted for laboratory analysis based on the information supplied by Chevron.



June 1991, UST Replacement and Soil Excavation: In June 1991, Blaine Tech Services, Inc. observed the UST system removal and soil excavation, and collected soil and grab-groundwater samples for chemical analyses. Five fiberglass USTs, consisting of three 10,000-gallon gasoline, one 10,000-gallon diesel, and one 500-gallon used-oil USTs were removed and replaced with four 12,000-gallon double-walled fiberglass gasoline USTs. TPHg and benzene were reported in soil samples collected from the bottom of the UST excavation at maximum concentrations of 70 milligrams per kilogram (mg/kg) and 0.64 mg/kg, respectively, at depths of 9.5 fbg to 10 fbg. TPHg and benzene were reported in over-excavation soil samples collected from beneath the fuel product piping at concentrations of 440 mg/kg and 1.1 mg/kg, respectively, at 7 fbg. Total petroleum hydrocarbons as diesel (TPHd) were reported at maximum concentrations of 8.0 mg/kg from 10 fbg in the product piping area. Over-excavation of UST and product piping areas extended to maximum depths of approximately 10 fbg. Total petroleum hydrocarbons as gasoline (TPHg) and benzene were reported in a grab-groundwater sample collected from the bottom of the UST excavation at concentrations of 24,000 micrograms per liter ($\mu\text{g/L}$) and 1,000 $\mu\text{g/L}$, respectively. Depth to water in the excavation was measured at approximately 10 fbg. Approximately 90 cubic yards of soil, not including additional gravel, was removed during UST removal and over-excavation and approximately 70 cubic yards of soil were removed during product line removal and over-excavation. The probable source area, based on reported soil and grab-groundwater samples, is the former dispenser island and associated northeastern product lines. Soil analytical results and sample locations are found in Gettler-Ryan's (G-R) *Site Conceptual Model and Closure Request*, dated January 25, 2002.

July 1991, Monitoring Well Destruction and Well Installation: In July 1991, GTI destroyed wells MW-1, MW-2, and MW-3, and installed three groundwater monitoring wells (MW-4, MW-5, and MW-6). Based on information provided by Chevron, no soil samples from the well borings were submitted for chemical analyses. Groundwater was encountered in the well borings at a depth of approximately 9 fbg.

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Dana Thurman
Project Manager

R0439

June 14, 2005

(date)

ChevronTexaco

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

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JUN 17 2005
ALAMEDA COUNTY HEALTH CARE SERVICES

Re: Chevron Service Station # 9-0917

Address: 5280 Hopyard Road, Pleasanton, CA.

I have reviewed the attached report titled Investigation Workplan
and dated June 14, 2005.

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

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

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

Sincerely,



Dana Thurman
Project Manager

Enclosure: Report

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May 1997, Monitoring Well Installation: On May 5, 1997, Pacific Environmental Group, Inc. (PEG), installed three off-site groundwater monitoring wells (MW-7, MW-8, and MW-9) to define the extent of petroleum hydrocarbons and methyl tertiary butyl ether (MTBE) in groundwater south of the source area. Selected soil samples were analyzed for TPHg, MTBE, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260. These compounds were not reported in any of the soil samples. Selected soil samples were sent to Cooper Testing Facilities for physical analysis for moisture, density, porosity, specific gravity, and organic content.

March 1999, Enhanced Bioremediation: Oxygen releasing compound (ORC) socks were installed in wells MW-5 and MW-6 on March 26, 1999, to increase the dissolved oxygen concentrations in groundwater in the areas of known petroleum hydrocarbons to oxidize organic contaminants and enhance biodegradation within the plume. A significant decrease in dissolved hydrocarbon concentrations was observed in wells MW-5 and MW-6 after installation of the ORC. A significant decrease in dissolved oxygen (DO) concentrations in wells MW-5 and MW-6 was reported from samples collected from June 19, 2000 to September 18, 2000, suggesting that the ORC socks were spent and oxidation and biodegradation were occurring. DO concentrations stabilized around 3.6 mg/L and 4.3 mg/L in wells MW-5 and MW-6, respectively, for the next five quarters. A second significant decrease in DO was reported from samples collected from September 7, 2001 to December 5, 2001. DO concentrations have stabilized to an average of 1.3 mg/L and 1.4 mg/L in wells MW-5 and MW-6, respectively.

PROPOSED SCOPE OF WORK

The objective of our proposed scope of work is to further define the lateral extent of TPHg and MTBE in groundwater. Furthermore, GP-1 will be advanced to evaluate the possible risk to on-site workers in and around the station building. To accomplish this, Cambria proposes three Geoprobe® borings. The proposed locations are shown on Figure 2. Cambria's Standard field methods and procedures are included in Attachment A.

Soil Borings: Cambria proposes advancing three GeoProbe® soil borings (GP-1 through GP-3). After clearing to 8 fbg, each boring will be advanced to approximately 15 fbg. Soil will be collected for chemical analysis at 3 fbg, 5 fbg, and 10 fbg in GP-1, near the source area, adjacent the station building. GP-2 is located approximately north of the source area between MW-5 and MW-6. GP-3 is located southeast of MW-5. Soil will be collected for chemical analysis at 5 fbg and 10 fbg in GP-2 and GP-3. Upon completion of each boring, the borings will be grouted to surface with neat Portland cement.

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Groundwater Sampling: A grab-groundwater sample will be collected from each boring at approximately 5 feet below first encountered groundwater.

Soil Sample Screening: Soil samples will be screened in the field for hydrocarbon vapors using a photo-ionization detector (PID), visual observation of soil characteristics such as discoloration, sample depth relative to the capillary fringe and soil-texture considerations.

Chemical Analysis: All soil and grab-groundwater samples will be analyzed for:

- TPHg by EPA Method 8015;
- BTEX, MTBE, di-isopropyl ether (DIPE), ethyl tert-butyl alcohol (ETBE), tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), and ethanol by EPA Method 8260.



Site Health and Safety Plan: Cambria will prepare a comprehensive site safety plan to protect site workers. The plan will be kept on-site during field activities and signed by each site worker.

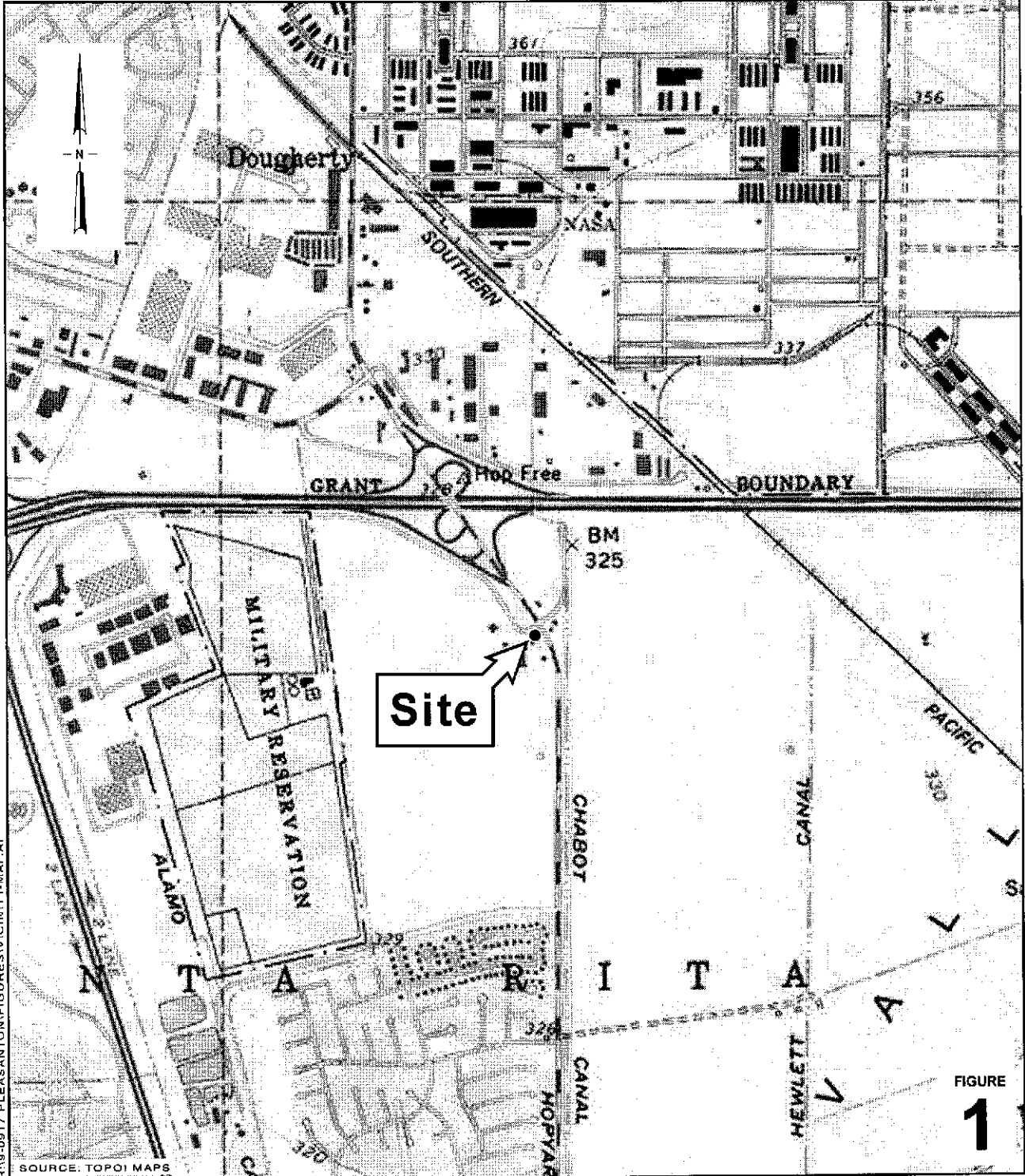
Permits: Cambria will obtain all necessary permits from the Alameda County Public Works Agency for the proposed Geoprobe® borings and any necessary encroachment permits with the City of Pleasanton.

Utility Location: Cambria will notify Underground Service Alert of our drilling activities to identify utilities in the drilling area. We will also use a vacuum truck to clear all drilling locations to at least 8 fbg.

Soil and Water Disposal/Recycling: Soil and water produced during field activities will be temporarily stored on-site. Following review of analytical results, the soil and water will be transported to a Chevron approved facility for disposal/recycling.

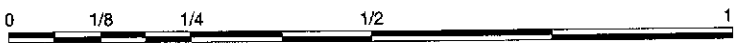
Reporting: Upon completion of field activities and review of the analytical results, we will prepare a report that, at a minimum, will contain:

- Descriptions of the soil boring and sampling methods;
- Boring logs;
- Tabulated soil and groundwater analytical results;
- A discussion of hydrocarbon definition in groundwater;
- A discussion of human health risks;
- Analytical reports and chain-of-custody forms;
- Soil and water disposal methods; and
- Conclusions and recommendations.



R:19-0917 PLEASANTON FIGURES VICINITY-MAP.A1

SOURCE: TOPOI MAPS



SCALE : 1" = 1/4 MILE

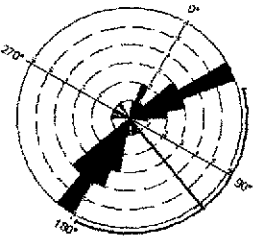
FIGURE 1

Chevron Service Station 9-0917
 5280 Hopyard Road
 Pleasanton, California



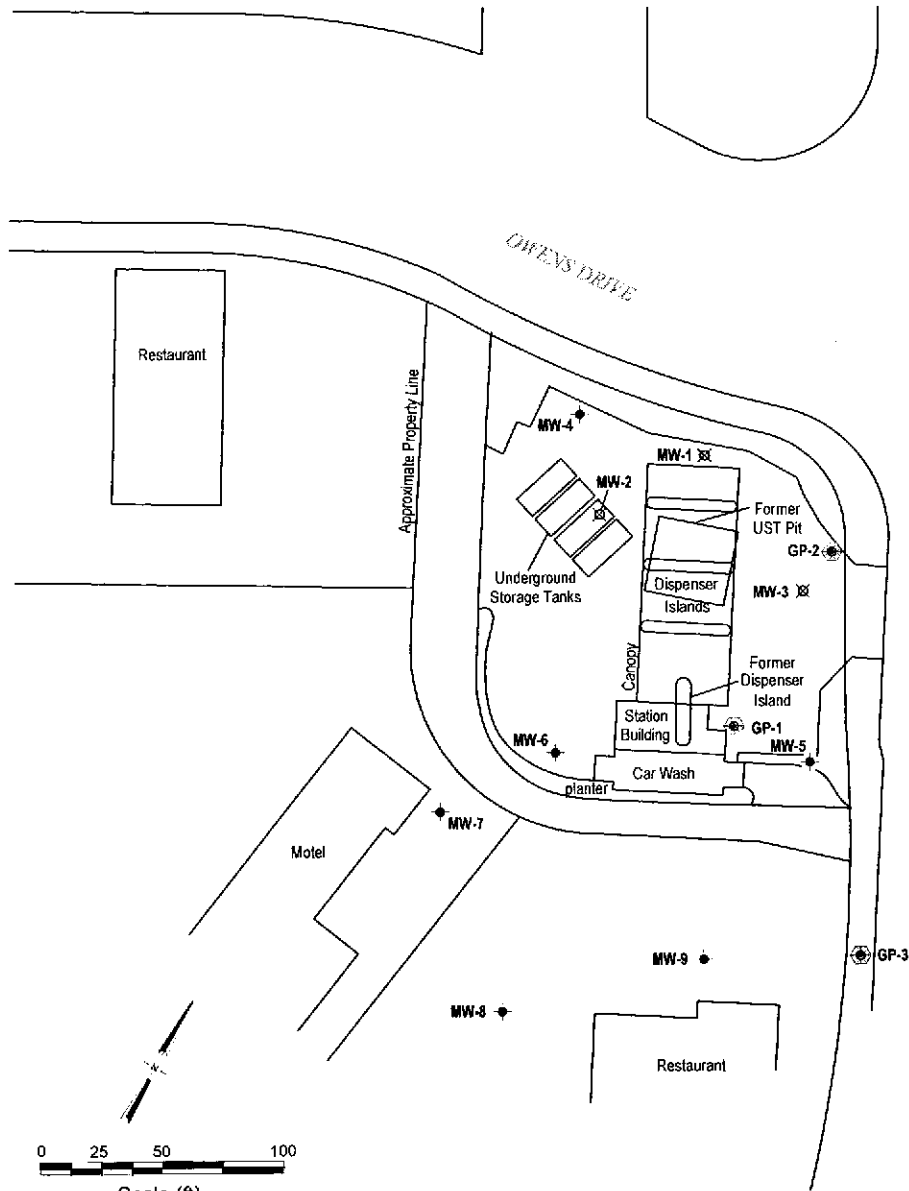
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Vicinity Map



Historical groundwater flow direction
1989 - 2005
(Scale per 1997/2002)

EXPLANATION	
GP-2	Proposed Monitoring Well Location
MW-1	Monitoring Well Location
SB-1	Soil Boring Location



HOPYARD ROAD

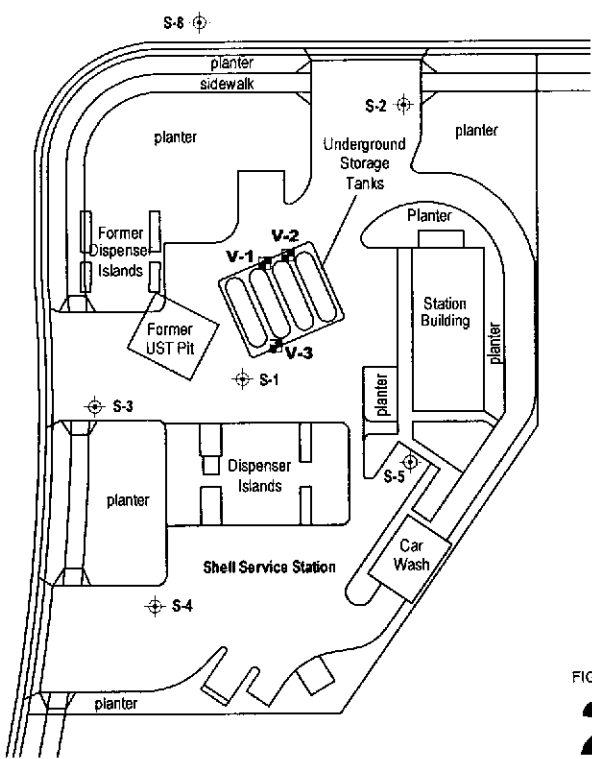


FIGURE
2

