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November 15, 2005

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

Re: **Investigation Workplan (Revised)**
Former Chevron Station # 9-2506
2630 Broadway
Oakland, CA

Dear Mr. Chan:

Cambria Environmental Technology, Inc. (Cambria) has prepared this revised workplan on behalf of Chevron Environmental Management Company (Chevron) to further evaluate the lateral extent of the hydrocarbon plume at the above referenced site. This workplan replaces Cambria's previous workplan for this site submitted to the ACHCS on September 24, 2004. The site description and Cambria's proposed scope of work are presented below.

SITE DESCRIPTION AND BACKGROUND

The site is located on the southeast corner of Broadway and 27th Street in Oakland, California and is occupied by Connell car dealership. The site is surrounded by other commercial properties. A USGS topographic map, with the site centered on the map, is presented on Figure 1. A map illustrating the site is shown on Figure 2.

The site was previously occupied by a Chevron service station renovated in 1993. As a part of the renovation activities, three 10,000-gallon underground storage tanks (USTs) and associated underground product piping were removed from the site and replaced with a UST system including new fiberglass tanks and lines. A 1,000-gallon single wall fiberglass used-oil tank, located just east of the former station building, one of the two dispenser islands located north of the former station building, and two semi-hydraulic hoists located in the service bays of the former station were permanently removed from the property (Figure 2).

Regional and Site Geology: This site is located west of the Piedmont Hills, approximately 2 miles east of San Francisco Bay and 0.5 mile north of Lake Merritt. The nearest surface water is Glen Echo Creek, approximately 400 feet east of the site. The soil in the site vicinity consists of Late Pleistocene alluvium consisting of weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand and gravel. Coarser grained materials (clayey gravel and sandy to gravelly silt) were

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generally encountered immediately below ground surface during site investigation activities. These materials extended to depths ranging from 4 to 15.5 fbg and are underlain by clay and sandy clay.

Hydrogeology and Groundwater Trend: Historically, depth to groundwater has varied from 2.14 feet (B-12, 04/98) to 12.38 feet (B-1, 08/00). Groundwater flow varies on-site with no consistent direction.

PROPOSED SCOPE OF WORK

Cambria proposes to install three groundwater monitoring wells to further define hydrocarbons laterally in groundwater, and to establish groundwater definition and establish a potentially consistent hydraulic gradient at the site (Figure 2), because no predominate flow direction has been identified. Wells B-13, B-14 and B-15 will be installed to monitor groundwater southwest and southeast of the former tanks and dispenser islands, the apparent source area. B-13 will be installed to determine current extent of hydrocarbons southeast of the dispenser islands. B-14 and B-15 will be installed to define lateral extent of hydrocarbons southwest of B-9. One additional soil boring (SB-1) will be drilled through the location of over excavation sample PX7-9' to determine the current concentrations and vertical extent of impact. Cambria will also redevelop monitoring well B-3, previously reported to contain "insufficient water," and sample in an attempt to make the well usable for future monitoring events. Groundwater monitoring and sampling (including re-sampling of B-3) will be continued on a semi-annual basis.

Cambria will re-survey all new and existing wells and conduct a sensitive receptor survey to identify the presence or absence of nearby wells. Due to the historically inconsistent groundwater flow patterns and the fluctuating depth to groundwater, Cambria will conduct a utility survey of the area surrounding the site to determine if hydrocarbons flow along any preferential pathways during varying flow directions.

Site Health and Safety Plan: Cambria will prepare a site safety plan to inform site workers of known hazards and to provide health and safety guidance. The plan will be kept on site at all times and signed by all site workers.

Underground Utility Location: Cambria will review the as-built site plans and piping diagrams to assist in well placement. We will also contact an underground utility locator to clear the well and boring locations prior to drilling. Cambria will also clear all well and boring locations with an airknife, or equivalent equipment, to 8 feet below grade (fbg) prior to drilling.

Permits: Cambria will obtain boring/well installation permits from the ACHCS prior to beginning field operations. A minimum of 72-hours notice will be given to the ACHCS prior to field work. An encroachment permit will be obtained from the City of Oakland for well B-15.

Well Installation: Each boring will be advanced to approximately 20 fbg using 8-inch diameter hollow-stem augers. Three, 2-inch diameter monitoring wells will be installed to a depth of 20 fbg. The screened interval of each well casing will be constructed from approximately 5 to 20 fbg, using 0.020-inch slotted screen and #2/12 filter sand. Actual well construction will be based on boring lithology and groundwater elevations. Cambria's standard field procedure for well installation is presented in Attachment A.

Soil Sampling: At a minimum, soil samples will be collected at five foot intervals, at obvious lithologic changes and immediately above the water table. Samples will be collected using split-barrel samplers lined with clean brass sampling tubes driven into undisturbed sediments ahead of the drill bit. Sediments encountered will be recorded on a boring/well log.

Soil Screening: Soil samples will be screened using a photoionization detector (PID). PID readings, evidence of discoloration, stratigraphic location, depth to groundwater, and the collection depth of previous samples containing hydrocarbons will be used to select soil samples for laboratory analysis.

Well Development and Groundwater Sampling: The wells will be developed using surge-block agitation and evacuation prior to setting the sanitary seal. Gettler-Ryan, Inc. (G-R) will include the wells in routine quarterly monitoring and sampling program for the site. Groundwater analytical results will be presented under separate cover in the routine quarterly report.

Chemical Analysis: Groundwater and select soil samples will be analyzed for:

- TPHg by EPA Method 8015M; and
- Benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), ethanol, 1,2-dichloroethane (1,2-DCA), and ethyl dibromide (EDB) by EPA Method 8260B.

Well Elevation Survey: The top of casing elevation of all wells will be surveyed by a California licensed land surveyor to mean sea level datum. The survey will use a nearby benchmark as a reference datum. Horizontal well coordinates will be measured in compliance with AB2886 (GeoTracker), and uploaded into GeoTracker. The results of the survey and depth to groundwater measurements will be used to estimate the groundwater gradient and flow direction.

Soil and Water Disposal: Soil cuttings will be temporarily stockpiled and covered with plastic or placed in sealed DOT-approved drums on-site. Rinsate water will be stored in drums pending proper disposal. These wastes will be transported to an appropriate Chevron-approved disposal facility following receipt of sample analytical results.

Reporting: Upon completion, Cambria will document all field activities and analytical results in a report which, at a minimum, will contain:

- A brief summary of the site background and history,
- A description of the drilling technique,
- Sampling methodology and well locations,
- Boring logs,
- Tabulated soil sample results,
- A figure illustrating the location of the borings/wells and former site features,
- Analytic reports and chain-of-custody forms,
- Soil/water disposal methods,
- A discussion of hydrocarbon distribution at the site,
- Results and discussion of sensitive receptor and conduit surveys, and
- Conclusions and recommendations.

CLOSING

Cambria will coordinate and perform these activities upon receiving written approval of this work plan from the ACHCS, or following 60 days from submittal of the workplan if no response is received from the ACHCS. We will submit our investigation report approximately six to eight weeks after completion of field activities. Please contact David Herzog (ext. 112) or Leon Gearhart (ext. 115) at (916) 630-1855 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Leon Gearhart
Staff Scientist

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

Figures: Figure 1 – Vicinity Map
Figure 2 – Site Plan

Attachments: A - Standard Field Procedures for Soil Borings and Monitoring Well Installations

cc: Mr. Dana Thurman, Chevron Environmental Management Company, P.O. Box 6012, San Ramon, CA 94583

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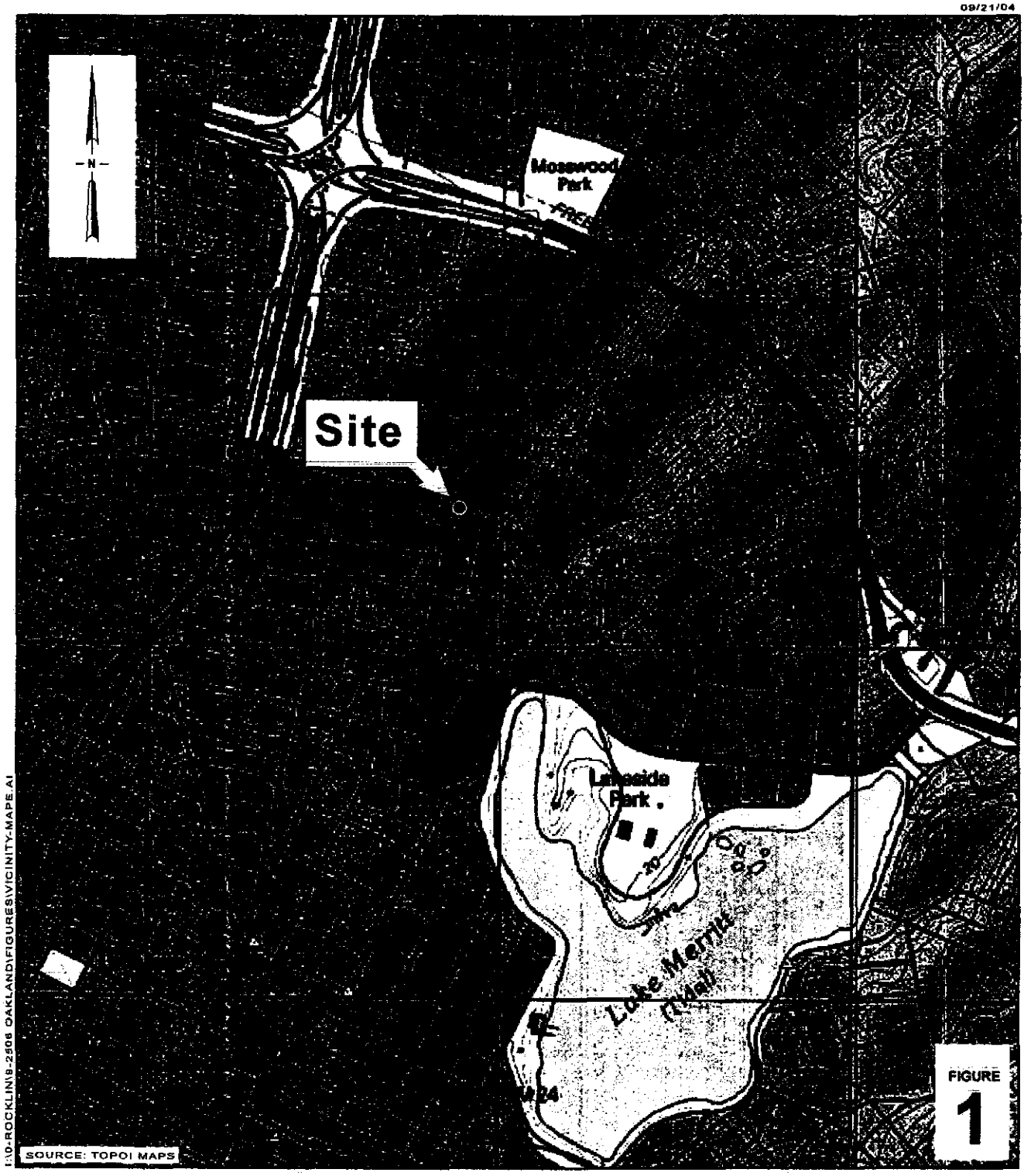

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FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Former Chevron Station 9-2506

2630 Broadway

Oakland, California

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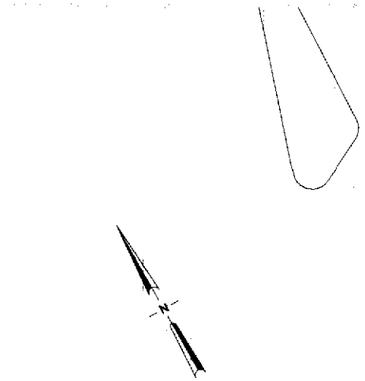
Vicinity Map

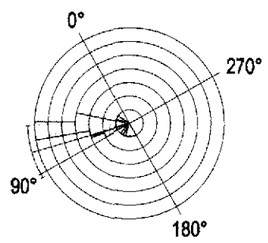
10/31/05

Site Plan with Proposed Well Lcoations

EXPLANATION

- B-13 ⊕ Proposed monitoring well location
- B-1 ● Monitoring well location
- B-4 ⊠ Abandoned well location
- TP-1 ⊕ Tank Pit well location
- SB-1 ◉ Soil Boring Location





Historical Groundwater Flow Direction

FIGURE

2

Former Chevron Station 9-2506

2630 Broadway
Oakland, California

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ATTACHMENT A

Standard Field Procedures for Soil Borings and Monitoring Well Installations

STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

DRILLING AND SAMPLING

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Prior to drilling, the first 8 feet of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

Soil samples are collected at least every five feet to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole. Following sample collection, if the boring is not being converted to a monitoring well, then the boring will be abandoned by backfilling with neat cement placed by tremie pipe if necessary and finished to grade with concrete, asphalt patch, or native material to match surface.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytical laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two foot thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytical laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytical laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.