CAMBRIA

January 12, 2007

Mr. Steven Plunkett, Hazardous Materials Specialist
Alameda County Health Care Services Agency, Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502
510/383-1767

Re: **Offsite and Soil Gas Work Plan**
Former Exxon Service Station
3055 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000271
Cambria Project No. 130-0105

Dear Mr. Plunkett,

On behalf of Golden Empire Properties, Inc.(GEP), Cambria Environmental Technology, Inc. (Cambria) is pleased to present this *Offsite and Soil Gas Work Plan* for the above referenced site. This is in response to your December 6, 2006 letter. We also request that the agency not send out the *Adjacent Property Owner – Access Cooperation Request* letter, attached to the December 6, 2006 correspondence. We will contact the selected property owners directly for an access agreement. If we have a problem acquiring access to a property, we may ask for your support.

Pending your approval, we proposed to characterize onsite soil and place on-hold in-situ chemical oxidation using ozone. This will allow us to collect a more current representation of soil conditions to evaluate onsite risk, remediation, and closure. Upon approval, we will present our approach in an *Onsite Characterization Work Plan.*

After we have completed the offsite, soil gas, and onsite characterization, we would like to meet with you to discuss the project.

Please call me at (510) 420-3307 if you have any questions regarding this report or the project.

Sincerely,
Cambria Environmental Technology, Inc.

Mark Jonas, P.G.
Senior Project Manager

Attachment: *Offsite and Soil Gas Work Plan*

cc: Golden Empire Properties, Inc. 5942 MacArthur Blvd., Suite B, Oakland, CA 94605
Mr. Jeff Lawson, SVLG, 25 Metro Drive, Suite 600, San Jose, CA 95110

Cambria Environmental Technology, Inc.

5900 Hollis Street
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Emeryville, CA 94608
Tel (510) 420-0700
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OFFSITE AND SOIL GAS WORK PLAN

Former Exxon Service Station
3055 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000271
Cambria Project No. 130-0105

January 12, 2007

Prepared For:

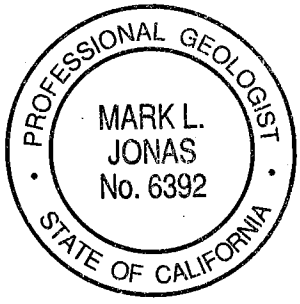
Golden Empire Properties, Inc.
5942 MacArthur Boulevard, Suite B
Oakland, California 94605

Prepared By:

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Mark Jonas, P.G.
Senior Project Manager



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OFFSITE AND SOIL GAS WORK PLAN
Former Exxon Service Station
3055 35th Avenue, Oakland, California

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CAMBRIA

OFFSITE AND SOIL GAS WORK PLAN

Former Exxon Service Station
3055 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000271
Cambria Project No. 130-0105

January 12, 2007

1.0 INTRODUCTION

On behalf of Golden Empire Properties, Inc. (GEP), Cambria Environmental Technology, Inc. (Cambria) is pleased to submit this *Offsite and Soil Gas Work Plan (Work Plan)* for the above referenced site. This report is in response to the Alameda County Health Care Services Agency, Environmental Health Services (ACEH) letter from Mr. Steven Plunkett dated December 6, 2006 (Appendix A). ACEH is the lead agency for this site. Presented in this *Work Plan* are site background, site characterization, remediation, proposed scope of work, and a quality assurance project plan.

2.0 SITE BACKGROUND

2.1. Site Description

The site is a former Exxon Service Station located at the northeast corner of 35th Avenue and School Street in Oakland, California (Figure 1). The address of the site is 3055 35th Avenue, with APN No. 027-0890-006-02. The site was reportedly built as a gas station in 1970. The underground storage tanks (USTs) were removed in 1991. Currently, the site is an unpaved vacant lot situated within a mixed commercial and residential setting. Figure 2 presents an aerial photograph showing relatively current conditions at the site and locale. The topography in the area slopes generally westward towards the Oakland Inner Harbor and San Francisco Bay.

2.2. Previous Investigations and Activities

Environmental investigations have been performed at the site since 1990. Previous reports are identified in the reference section. The following provides a synopsis of environmental investigations and activities:

October 1990 Geotechnical Investigation: In October 1990, Geotechnical Engineering Inc. of Fremont, California, drilled two soil borings at the site for a pre-construction engineering analysis. No samples were collected for hydrocarbon analysis.

January 1991 Tank Removal: In January 1991, apparently Pacific Excavators removed two 4,000-gallon USTs, two 6,000-gallon gasoline USTs, and one 500-gallon waste oil UST from the site. Figure 3 identifies excavation locations. According to a September 24, 1992 report prepared by Consolidated Technologies (CT) of San Jose, California, soil samples were collected during the removal of the USTs, but were apparently not analyzed or reported by Pacific Excavators (Consolidated Technologies 1992).

November 1991 Subsurface Investigation: In November 1991, CT drilled twelve soil borings (B-1 to B-12) and sampled from depths of 15 to 35 ft below ground surface (bgs). Total petroleum hydrocarbons as gasoline (TPHg) concentrations were detected in soil samples collected from eleven of the twelve soil borings, up to 2,100 milligrams per kilogram (mg/kg). Elevated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected. Most of elevated concentrations of TPHg and BTEX were detected from samples collected at 15 and 20 feet bgs. No total petroleum hydrocarbons as diesel (TPHd), oil and grease (O&G), volatile organic compounds except for BTEX (Method 8010 VOCs), and semivolatile volatile organics (Method 8270 SVOCs) concentrations were detected in samples collected from 15 feet bgs from Boring B7, located down gradient of the former waste oil tank. Table 1 presents soil sampling results. Figure 3 identifies sampling locations.

May 1994 Subsurface Investigation: Between May 5 and 9, 1994, Cambria drilled seven soil borings (SB-A through SB-G) and installed three onsite monitoring wells (MW-1 through MW-3). TPHg concentrations were detected in six of the seven soil borings at concentrations up to 2,900 mg/kg. TPHg, TPHd, and benzene concentrations were detected in May 1994 groundwater samples at maximum concentrations of 120,000, 25,000, and 22,000 micrograms per liter (ug/l), respectively, from monitoring well MW-1.

Feasibility Testing: In July 1996, Cambria conducted a series of feasibility tests involving soil vapor extraction (SVE), SVE combined with air sparging (AS), and SVE combined with aquifer pumping. TPHg soil vapor concentrations collected from each well at the end of the test ranged from less than 250 parts per million by volume (ppmv) in test wells MW-1 and MW-2, and greater than 10,000 ppmv in test well MW-3. No significant increases in air flow or soil vapor concentrations were observed when SVE was combined with AS. No vacuum radius of influence or groundwater drawdown influence was observed in any well. The generally low air and groundwater flow rates were indicative of low permeability soils. Results of the remedial testing also indicated that SVE and/or AS would apparently not be effective in removing hydrocarbons from the subsurface soils. However, dewatering combined with SVE could enhance remedial efforts.

February 1997 Site Assessment: On February 26, 1997, Cambria installed one additional onsite monitoring well (MW-4) at the site. From the boring, TPHg was detected in soil at a maximum concentration of 530 mg/kg at 15 ft bgs. TPHg, TPHd, and benzene concentrations were detected in groundwater from samples collected in March 1997 at concentrations of 47,000, 3,100, and 11,000 ug/l, respectively.

August 1998 Remediation Well Installation: In August 1998, Cambria installed ten dual-phase extraction (DPE) remediation wells onsite, identified as RW-5 through RW-14. Additionally, two soil geoprobe borings (B-1 and B-2) were advanced up-gradient of the site along School Street. Due to low soil permeability, no groundwater entered the borehole preventing the collection of a groundwater sample. No hydrocarbon odors were noticed. No soil samples were collected from the remediation well and geoprobe borings.

August 1999 Hydrogen Peroxide Injections: On August 5, 1999, Cambria injected between 7 to 12 gallons of 7.5% hydrogen peroxide (H_2O_2) solution into each of the fourteen monitoring and remediation wells. Dissolved oxygen (DO) concentrations in groundwater beneath the site did not significantly vary as a result of H_2O_2 injection. No apparent reduction in dissolved phase hydrocarbon concentrations was observed.

September 2000 Dual-Phase Vacuum Extraction: In September 2000, Cambria installed a dual-phase extraction (DPE) remediation system which incorporated fourteen monitoring and remediation wells. The DPE system utilized a positive displacement blower to simultaneously extract liquid/dissolved-phase and vapor phase hydrocarbons from the subsurface. Vapor phase hydrocarbons were destroyed by catalytic oxidizer and discharged to the atmosphere under a Bay Area Air Quality Management District (BAAQMD) air discharge permit. Dissolved phase hydrocarbons were treated by filtration with granulated activated carbon vessels. Treated water was discharged to the sanitary sewer, under an East Bay Municipal Utility District (EBMUD) discharge permit.

August 2002 DPE System Upgrade: In August 2002, the DPE system was upgraded with a liquid ring vacuum pump capable of generating a higher vacuum to maximize hydrocarbon removal.

September 2004 DPE System Shutdown and Removal: In September 2004, Cambria requested and received approval from the ACEH to shutdown the DPE system operations due to low hydrocarbon removal rates. The DPE system was removed from the site on September 30, 2004. During DPE operations between September 2000 and September 2004, a total of approximately 6,545 pounds of vapor-phase hydrocarbons and 11 pounds of dissolved-phase hydrocarbons were removed.

July 2006 Site Conceptual Model and Assessment of Risk: On July 13, 2006 a *Site Conceptual Model and Offsite Work Plan* was submitted to ACEH. The report also includes a well and sensitive

receptor survey and an assessment of risk. This document recommended soil gas sampling and analysis.

Groundwater Monitoring: Quarterly groundwater monitoring and sampling has been performed at the site since May 1994. Historical and recent groundwater analytical data are presented in Table 2.

3.0 SITE CHARACTERIZATION

3.1. Geology and Hydrogeology

3.1.1. Regional and Local Geology

The site is located in the Coast Range Physiographic Province, characterized by northwest-southeast trending valleys and ridges. This region lies between the Pacific Ocean to the west and the Great Valley to the east. The oldest known bedrock in the Coast Range Province is marine sedimentary and volcanic rocks that form the Franciscan Assemblage. Geologic formations in the San Francisco Bay Region range in age from Jurassic to Recent Holocene.

The site is located to the west of the Oakland-Berkeley Hills on the East Bay Plain, which slopes gently to the west towards San Francisco Bay. The San Francisco Bay is located in a broad depression in the Franciscan bedrock resulting from an east-west expansion between the San Andreas and Hayward fault systems. Unconsolidated sediments in the East Bay Plain varying in thickness, with some areas up 1,000 feet thick. From oldest to youngest, the unconsolidated sediments are 1/ Santa Clara Formation, 2/ Alameda Formation, 3/ Temescal Formation, and 4/ artificial fill. The Early Pleistocene Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits, ranging from 300 to 600 feet thick. The Late Pleistocene Alameda Formation was deposited primarily in an estuarine environment and consists of alluvial fan deposits bound by mud deposits on the top and bottom of the formation. The Alameda Formation ranges from 26 to 245 feet thick and is subdivided into the Yerba Buena Mud, San Antinio, Merritt, and Young Bay Mud Members. The Early Holocene Temescal Formation is an alluvial fan deposit consisting primarily of silts and clays with some gravel layers. The Temescal Formation ranges from 1 to 50 feet thick, thinning toward the bay. Below any sub-base and fill, shallow sand, silt, and clay at the site most likely are Temescal Formation.

The site lithology is heterogeneous consisting of interbedded lenses of silty gravel, sands, silty sands, and sandy silts and clays to the maximum explored depth of 35 feet. The clayey soils are generally stiff and very plastic. Base-rock backfill is apparently present in excavations associated with USTs

and pump islands. Soil boring and monitoring well logs are provided in Appendix B in the July 2006 *Site Conceptual Model and Offsite Work Plan.*

3.1.2. Regional and Local Hydrogeology

The site is located in the East Bay Plain Subbasin, Groundwater Basin No. 2-9.04 (DWR 2003). The East Bay Plain Subbasin is a northwest trending alluvial basin, bounded on the north by San Pablo Bay, on the east by the contact with Franciscan basement rock, and on the south by the Nile Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath the San Francisco Bay to the west. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age. These include the Santa Clara Formation, Alameda Formation, Temescal Formation, and artificial fill. In the project area most rainfall occurs between November and March. The average annual rainfall is approximately 23 inches.

Throughout most of the East Bay Plain in the region of the site, water level contours show that the direction of groundwater flow is east to west, towards San Francisco Bay. Groundwater flow direction typically correlates to topography.

From 1860 to 1930 groundwater from the East Bay Plain was the major water supply of the East Bay, before Sierra water was imported into the area. By the late 1920's the groundwater supply was too small to meet the growing population and the wells often became contaminated by seepage or saltwater intrusion. By 1929, East Bay Municipal Utility District (EBMUD) provided imported water to East Bay communities via the Mokelumne Aqueduct. This high-quality, reliable supply soon eliminated the need for local groundwater wells. In 1996, the Regional Board reviewed General Plans for Oakland and other communities. They found that Oakland and most other cities did not have any plans to develop local groundwater resources for drinking water, due to existing or potential saltwater intrusion, contamination, or poor or limited quality (Regional Board 1999).

First water in various borings was encountered from approximately 12 to 28 feet bgs. Groundwater levels in monitoring wells (excluding MW-1 and MW-2) have historically ranged from approximately 6 to 19 ft bgs. Water depths for MW-1 and MW-2 are not reflective of groundwater levels down from the surface due to their elevated casing height within monument well boxes. Groundwater elevations are accurate. Groundwater beneath the site flows primarily towards the west. Figure 6 presents the groundwater gradient and a frequency rose diagram for gradients from 1996 through 2006. Any vertical hydraulic gradients are currently undefined.

3.2. Hydrocarbon Distribution

3.2.1. Hydrocarbons in Soil

Gasoline-range hydrocarbons were detected in a majority of the onsite borings drilled during previous investigations. The highest known hydrocarbon concentrations in soil are present in the vicinity southwest of the former underground gasoline storage tanks and the southern pump island. Based on soil boring observations and analytical data, hydrocarbon-impacted soil may be present within a zone extending from 8 to 25 feet bgs, with the highest hydrocarbon concentrations at approximately 15 to 20 feet bgs. Analytical soil data have only been collected from soil depths of 10 to 35 feet bgs. Hydrocarbons concentrations in soil are presented on Figure 4. Table 1 provides soil analytical data. Please note that the latest soil data is from 1997, with most samples collected in 1991 and 1994. Our recommendation is to collect and analyze more recent soil samples to characterize current conditions.

3.2.2. Hydrocarbons in Groundwater

Gasoline-range hydrocarbons have been previously detected in the four onsite monitoring wells and all of the remediation wells. The highest known hydrocarbon concentrations in groundwater are present, primarily in the vicinity west to southwest of the former underground gasoline storage tanks and the southern pump island. The extent of downgradient groundwater concentrations has not been defined. This *Work Plan* proposes to address this issue with offsite characterization of groundwater.

Figure 5 presents recent groundwater elevations and hydrocarbons concentrations with isoconcentrations. Table 2 presents time series groundwater depths from top of casing and analytical data.

4.0 REMEDIATION

In July 1996, a series of feasibility tests were performed involving soil vapor extraction combined with air sparging. The conclusion was that this approach would not be effective due to shallow groundwater and low permeability of the soil. In August 1999, a 7.5% hydrogen peroxide solution was added to the fourteen monitoring and remediation wells. No reduction in dissolved phase hydrocarbon concentrations was observed as a result of hydrogen peroxide injection. In September 2000, a dual-phase extraction remediation system incorporating all fourteen wells was installed and implemented. The DPE system simultaneous extracts liquid/dissolved-phase and vapor phase hydrocarbons from the subsurface. In August 2002 the DPE system was upgraded. In September 2004 the DPE system was shut down due to low hydrocarbon removal rates. Between September 2000 and 2004 approximately 6,545 pounds of vapor-phase hydrocarbons and eleven pounds of dissolved-phase hydrocarbons were removed. On January 22, 2005 Cambria submitted a *Remediation*

Work Plan recommending in-situ chemical oxidation (ISCO) using ozone as an interim remedial effort. This was followed by the January 30, 2006 *Revised Remediation Work Plan* and a June 6, 2006 letter submitted to ACEH. The ISCO system using ozone has yet to be installed. As stated in our cover letter we recommend placing a hold on this remediation effort, pending additional and more recent on-site characterization of soil.

5.0 OFFSITE SAMPLING AND ANALYSIS

This section presents the scope of work for the offsite groundwater investigation. In summary, offsite characterization will be performed in a phased approach, initially with five (5) grab groundwater samples collected downgradient from the site and, if necessary, five (5) additional grab groundwater samples collected further downgradient. Soil samples may be collected based on field observations and measurements. Pre-sampling preparations along with general sampling procedures and documentation are presented in Section 7 *Sampling Preparations and General Procedures.*

5.1. Sampling Rationale

During previous investigations no soil or groundwater samples were collected offsite and downgradient of the property. The rationale for offsite groundwater characterization is to attempt to determine if a downgradient plume is present and the extent. This will be performed in a phased approach.

5.2. Proposed Sampling Locations

Proposed boring locations for offsite groundwater characterization are presented in Figure 6 *Proposed Offsite Sampling Locations*. The locations are only approximate and may be modified based on access, subsurface and overhead utilities, unforeseen subsurface conditions, and limitations on selected properties. This is the rationale for presenting a general area for sampling, as presented by hatch patterns on Figure 6. As stated previously, the sampling effort will be performed in a phased approach. The first phase (Phase I) will be to collect five (5) grab groundwater samples just downgradient from the site. If Phase I grab groundwater results are significant, five (5) additional grab groundwater samples will be collected further downgradient during Phase II. During each phase we will attempt to have boreholes, used to collect groundwater samples, within 100 feet from each other. In addition, we are assuming that access agreements can be acquired from the selected property owners in a timely and reasonable fashion. If we have difficulty in acquiring any access agreement we may ask ACEH for support in this effort.

5.3. Offsite Sampling Procedures

The section presents proposed offsite boring and sampling procedures.

5.3.1. Boring Procedures

After pre-sampling preparations are complete, a field program using a C-57 drilling contractor will be implemented. A hand auger then a geoprobe will be used to collect lithologic, PID, and soil analytical samples, if necessary, and then a groundwater sample. It is currently anticipated that during Phase I, five (5) boreholes will be drilled to four (4) feet below first encountered groundwater or thirty (30) feet bgs, whichever is less. A grab groundwater sample will be collected from the borehole between first groundwater and the four (4) additional feet in borehole depth.

Standard field procedures for hand auger soil borings and geoprobes are presented in Appendix B *Standard Field Procedures*. These procedures provide general field guidance. After sampling activities are complete the boring will be properly closed with grout and capped with like material as the existing surface.

5.3.2. Groundwater Sampling Procedures

Grab groundwater samples will be collected from each borehole, if possible. The protocols presented in Appendix E *Standard Field Procedures* provide general guidance for collecting grab groundwater samples.

5.3.3. Soil Sampling Procedures

At each boring, soils will be examined for staining and odor and screened using a photoionization detector (PID). Soil samples will be collected from any interval where staining, odor, or elevated PID readings are observed. If no staining, odor, or elevated PID readings are observed, soil samples will not be collected (per. comm. Steven Plunkett). Soil samples will be collected using the general protocol presented in Appendix B *Standard Field Procedures*. Soil samples will be collected in polyethene or brass tubes, or glass sampling containers with no head-space remaining. Samples will be labeled, placed in a cold iced insulated container for transport to the laboratory under a chain-of-custody record.

5.4. Offsite Sampling Analysis

Groundwater and selected soil samples will be analyzed by a California-certified laboratory for the analytes presented below.

5.4.1. Groundwater Analysis

Groundwater samples will be analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg); Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX); Total Petroleum Hydrocarbons as diesel (TPHd); and fuel oxygenates (MTBE, TAME, DIPE, TBA, EtOH). Evaluation of the fuel oxygenates

is a general requirement by the Regional Water Quality Control Board for all UST sites. The following Table 5-1 presents groundwater analysis, sampling containers, preservation, detection limit, and holding time:

Table 5-1
Groundwater Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (EPA Method 8015M)	3 VOAs	HCl	50 ug/L	14 days
BTEX (EPA Method 8021)		HCl	0.5 ug/L	14 days
TPHd (EPA Method 8015M)	2 1-liter Amber	none	50 ug/L	14 days
Fuel Oxygenates - MTBE, TAME, DIPE, TBA, EtOH (EPA Method 8260B)	2 VOAs	HCl	0.5 ug/L TBE 5 ug/L EtOH 50 ug/L	14 days

5.4.2. Soil Analysis

Soil samples will be analyzed for TPHg, BTEX, TPHd, and fuel oxygenates (MTBE, TAME, DIPE, TBA, EtOH). As stated previously, evaluation of fuel oxygenates is a general requirement by the Regional Water Quality Control Board for all UST sites. The following Table 5-2 presents soil analysis, sampling containers, preservation, detection limit, and holding time:

Table 5-2
Soil Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (EPA Method 8015M)	Glass or Tube	Cold	1.0 mg/kg	14 days
BTEX (EPA Method 8021)	Glass or Tube	Cold	0.005 mg/kg	14 days
TPHd (EPA Method 8015M)	Glass or Tube	Cold	1.0 mg/kg	14 days
Fuel Oxygenates - MTBE, TAME, DIPE, TBA, EtOH (EPA Method 8260B)	Glass or Tube	Cold	0.005 mg/kg TBE 0.05 mg/kg EtOH 0.25 mg/kg	14 days

6.0 SOIL GAS SAMPLING AND ANALYSIS

This section presents the scope of work for the soil gas investigation. The proposed soil gas sampling approach is to collect samples from six (6) locations along the fenceline with the adjacent properties. Soil gas samples will be collected from 5 and 10 foot depths, unless high groundwater levels are present. Figure 7 presents the proposed soil gas sampling locations.

6.1. Sampling Rationale

The rationale for soil gas sampling and analysis is to determine if a potential exists for risk from vapor intrusion.

6.2. Proposed Sampling Locations

Proposed sampling locations for soil gas samples are presented in Figure 7 *Proposed Soil Gas Sample Locations*. All the proposed soil gas samples are located on-site. The proposed locations are only approximate and may be modified based on subsurface utilities or unforeseen subsurface conditions. As stated previously, six (6) soil gas sampling location are along the fenceline with neighboring properties.

6.3. Soil Gas Sampling Procedures

After pre-sampling preparations are complete, the field program will be initiated. It is currently anticipated that six (6) boreholes will be used to collect soil vapor samples from approximately 5 and 10 feet bgs. The 10 foot bgs sample will be collected unless relatively shallow groundwater is present. A geoprobe (or similar device) will be used to collect each soil vapor sample with a summa canister or for an on-site laboratory. After sampling activities are complete the boring will be properly closed with grout and capped with like material as the existing surface. Standard field procedures for hand auger soil borings, geoprobes, and collection of soil vapor samples are presented in Appendix B *Standard Field Procedures*. These procedures provide general field guidance. The actual approach may be modified. No soil samples will be collected, due to the potential for "short circuiting" the collection of a soil gas sample, resulting in a non-representative sampling results.

6.4. Soil Gas Sampling Analysis

Soil vapor samples will be analyzed for TPHg, Benzene, and MTBE. The following Table 6-1 presents soil vapor analysis, sampling containers, preservation, detection limit, and holding time. Table 6-2 presents an alternative method for soil gas analysis.

Table 6-1
Soil Vapor Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers or On-Site Lab	Preservatives	Detection Limit	Holding Times
TPHg (Method 8026)	On-Site Laboratory	None	5 ppbv	2 days
Benzene (Method 8260)	On-Site Laboratory	None	0.1 ppbv	2 days
MTBE (Method 8260)	On-Site Laboratory	None	0.1 ppbv	2 days

If an on-site laboratory is not available, an alternative is to collect the sample in a Summa canister and have it analyzed in an offsite laboratory. The following Table 5-4 presents parameters for this alternative method.

Table 6-2
Alternative Method Soil Vapor Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (Method TO-15 or TO-3)	Summa Canister	None	10 ppbv (TO-15) 25 ppbv (TO-3)	14 days
Benzene (Method TO-15 or TO-3)	Summa Canister	None	0.5 ppbv (TO-15) 1 ppbv (TO-3)	14 days
MTBE (Method TO-15 or TO-3)	Summa Canister	None	0.5 ppbv (TO-15) 1 ppbv (TO-3)	14 days

7.0 SAMPLING PREPARATIONS AND GENERAL PROCEDURES

7.1. Pre-Sampling Preparations

Prior to performing on-site sampling activities, regulatory approval will be received for the proposed sampling approach; a site-specific Health and Safety Plan will be prepared; utility clearance will be performed; we will attempt to acquire access agreements from selected property owners; boring permit(s) will be acquired; and encroachment permits will be submitted (if necessary) and approved.

7.1.1. Regulatory Approval of Sampling Approach

This scope of work presents the proposed scope of work for the sampling approach. The scope of work shall be approved by the ACEH prior to initiating field activities.

7.1.2. Health and Safety Plan

A site-specific Health and Safety Plan (HSP) will be prepared for the proposed field activities. The HSP will be maintained on-site during field work.

7.1.3. Utility Clearance

Prior to boring, the proposed boring locations will be marked with white paint and Underground Service Alert (USA) will be notified to perform a utility survey of USA members. Because of the limits of the USA survey, a utility locating service will be subcontracted to also perform additional utility survey of those areas proposed for borehole sampling. This will help to identify subsurface utilities at boring locations. In addition, during borings for grab groundwater samples, a hand auger may be used to clear to a reasonable depth and to collect shallow soil samples.

7.1.4. Access Agreement

For locations proposed for off-site boring on private property, Cambria uses an in-house access agreement. We will present the agreement to selected property owners. We cannot guarantee that property owner will agree to access their property, in a timely and reasonable fashion. As identified on Figure 6, we propose to collect offsite borings in a generally locations defined by hatch patterns on the graphic. This provides some flexibility in acquiring access agreements.

7.1.5. Permits

Based on regulatory requirements of the local agency, a soil boring permit will be obtained from Alameda County Public Works Agency. An encroachment permit will also probably be required for the offsite borings on public property.

7.2. Decontamination, Documentation, and Waste Management Procedures

The section presents equipment decontamination, documentation, and management of investigation derived waste.

7.2.1. Equipment Decontamination

Prior to use and between sampling events, all downhole and sampling equipment will be cleaned with Alconox, or an appropriate alternative, and deionized or distilled water.

7.2.2. Sample Documentation

Sampling containers will be labeled in the field with the job number, sampling location, date and time of sample, and requested analysis. A chain-of-custody record will be initiated and updated throughout handling of the samples and will accompany the samples to the laboratory.

7.2.3. Investigation Derived Waste

All investigation derived waste (IDW) will be temporarily stored on-site in sealed DOT-approved drums or other appropriate container(s). The drums will be labeled with the appropriate boring(s) identification number(s), date of collection, and nature of contents. All drummed IDW will be properly disposed of by the client.

7.2.4. Borehole Locations

Following borehole sampling, sampling locations will be defined based on field measurements from existing structures. Borehole sampling locations will be identified on a scaled figure.

8.0 REPORT

After receiving analytical results from the laboratory, a *Characterization Report* or other appropriate report will be provided with sampling methods, results, and conclusions.

9.0 QUALITY ASSURANCE PROJECT PLAN

This Quality Assurance Project Plan (QAPP) is intended to define procedures to facilitate the acquisition of accurate and reliable data.

9.1. Project Organization

Golden Empire Properties, Inc. is currently responsible for the site. Cambria works for this client to provide consulting and sampling services. Subcontractors would be used for drilling, soil and groundwater analysis, soil gas sampling and analysis, and independent utility clearance. It is currently anticipated that California-certified McCampbell Analytical Inc. (DHS License #1644) will provide analytical services for groundwater and soil samples. The laboratory for soil gas analysis will be selected prior to initiating field work. Alameda County Health Agency is the lead agency and will provide oversight for sampling activities. Documents will be sent to the client and the lead agency for their consideration. Underground Service Alert (USA) will be contacted prior to performing any subsurface activities.

Following are principal contacts for organization currently associated with the project:

Client
Golden Empire Properties, Inc.
5942 MacArthur Blvd., Suite B
Oakland, CA 94605
caferealty@aol.com
510/562-8600 x-12; 510/562-4012 fax

Cambria Environmental Technology, Inc.
Mark Jonas, R.G
510/420-3307; 510/420-9170 fax
510/385-0022 mobile
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5900 Hollis Street, Suite A
Emeryville, CA 94608

Alameda County Health Agency
Mr. Steven Plunkett
510/383-1767; 510/337-9335
Steven.Plunkett@acgov.org
1131 Harbor Bay Parkway, 2nd Floor
Oakland, California 94502-6577

Alameda County Public Works Agency
James Yoo (for Drilling Permit)
510/670-6633; 510/782-1939 fax
Jamesy@acpwa.org
399 Elmhurst Street, Hayward, CA 94544

9.2. Quality Assurance Objectives

The overall quality assurance objective is to develop and implement procedures for field sampling, chain-of-custody, laboratory analysis, and reporting that will provide results that are defensible and reliable. Quality assurance objectives for accuracy, precision, and method detection limits are discuss as follows:

Accuracy

The criterion for accuracy is a measurement of bias that exists in a measurement system. It refers to the degree of agreement of a measurement, X, with an accepted reference or true value, T, usually expressed as the difference between the two values, X-T. Accuracy can also be assessed by using percent bias and percent recovery information. Accuracy is difficult to measure for the entire data collection activity and specifically the sampling component. The criteria for accuracy is best addressed using laboratory matrix spikes.

Precision

The criterion for precision is a measure of the reproducibility of replicate analyses made under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements as compared to their average value. The overall precision of each data collection activity should take into account both field sampling precision and analytical precision. The specific criterion for precision for each parameter is detailed within the individual analytical test method. If groundwater is sampled, a blind duplicate ground water sample will be collected and assessed as a means of assessing both sampling and analytical reproducibility and as a measure of the data collection activity's precision. The duplicate sample will be analyzed for the same suite of analyses as the original sample. All results will be included in a report.

Method Detection Limits

Anticipated method detection limits are based on a relatively standard sample with a manageable amount of interference. The specific character of a sample with respect to high concentrations of multiple contaminants can increase the actual detection limit above the anticipated method detection limit.

9.3. Sampling Procedures

Sampling procedures are presented in Sections 5, 6, and 7.

9.4. Sample Custody Procedures and Documentation

Chain-of-custody procedures and documentation are covered in Section 7.

9.5. Field and Laboratory Calibration Procedures

Field Calibration Procedures

If a photoionization detector (PID) is used, it will be calibrated in the office or at an equipment supplier, prior to use in the field.

Laboratory Calibration Procedures

The analytical laboratory has calibration procedures as required by the current EPA Standard Methods and their own laboratory Quality Assurance/Quality Control (QA/QC) plan. The details associated with all the specific laboratory calibration procedures are available from the laboratory upon request.

9.6. Analytical Procedures

Analytical methods to be used are presented in Section 5 and 6. Specific laboratory procedures associated with each method are available upon request.

9.7. Certified Analytical Laboratory

Pursuant to Health and Safety Code Section 25198, a state-certified laboratory will perform analytical services. For this project it is anticipated that McCampbell Analytical Inc., a California-certified laboratory with DHS License #1644, will perform analytical services for groundwater and soil analysis. Selection of the laboratory for soil gas samples will be made prior to performing field work.

9.8. Data Assessment and Corrective Actions

Data Assessment

Data assessment within the analytical laboratory is defined by the specific requirements of the standard analytical method and the laboratory's QA/QC program. Procedures for analytical accuracy, precision,

and completeness are in laboratory documents, available upon request. Accuracy and precision are also discussed in Section 9.2 "Quality Assurance Objectives." Completeness of analytical data is a measure of the amount of valid data obtained from the measurement system compared with the amount that was expected under normal conditions.

The analytical laboratory McCampbell Analytical will submit QC documentation with the analytical results. QC documentation includes a case narrative describing conformance; surrogate recoveries; spike amount(s), control limits, accuracy, and precision; calibration summaries; and a GC/MS internal standard summary. The soil gas analytical laboratory will also provide QC documentation with their analytical results.

Field data and analytical results will be evaluated by a Professional Geologist.

Corrective Actions

Unacceptable conditions or data, nonconformance with the QA procedures, or other deficiency may require corrective actions. A corrective action may be necessary if the nonconformance is of program significance. If required, the action to correct the nonconformance will be developed, initiated, and implemented.

Corrective action(s) may include:

- Reanalyzing the samples, if holding time permits.
- Resampling and reanalyzing.
- Evaluating and amending the sampling and analytical procedures.
- Accepting the data and acknowledging its level of uncertainty.

Necessary corrective actions will be documented.

9.9. Reporting Procedures

Reporting procedures for measurement of system performance and data quality are part of the laboratory's operating procedures and documentation is available upon request. Quality control documentation will be presented with analytical results from the laboratory.

9.10. Data Management

Laboratory data management, data reduction, and reporting requirements are in the laboratory's QA/QC program and operating procedures. Documentation from the laboratory is available upon request. Independent third-party (outside of McCampbell Analytical) validation will not be

performed. McCampbell Analytical and the selected soil gas laboratory will perform an internal review of analytical and QC results prior to release of a data package signed by a laboratory representative.

Laboratory results and associated quality control documentation will be presented in a report following field activities and sample analysis.

9.11. Internal Quality Control

Quality control is defined as the routine application of procedures for obtaining prescribed standards of performance. The procedures used for field work are discussed throughout this report, under Sections 5, 6, and 7. Standards of performance are discussed in this section of the *Work Plan.* Laboratory documentation on standard analytical methods and the laboratory's QA/QC program is available upon request.

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FIGURES

07/11/06

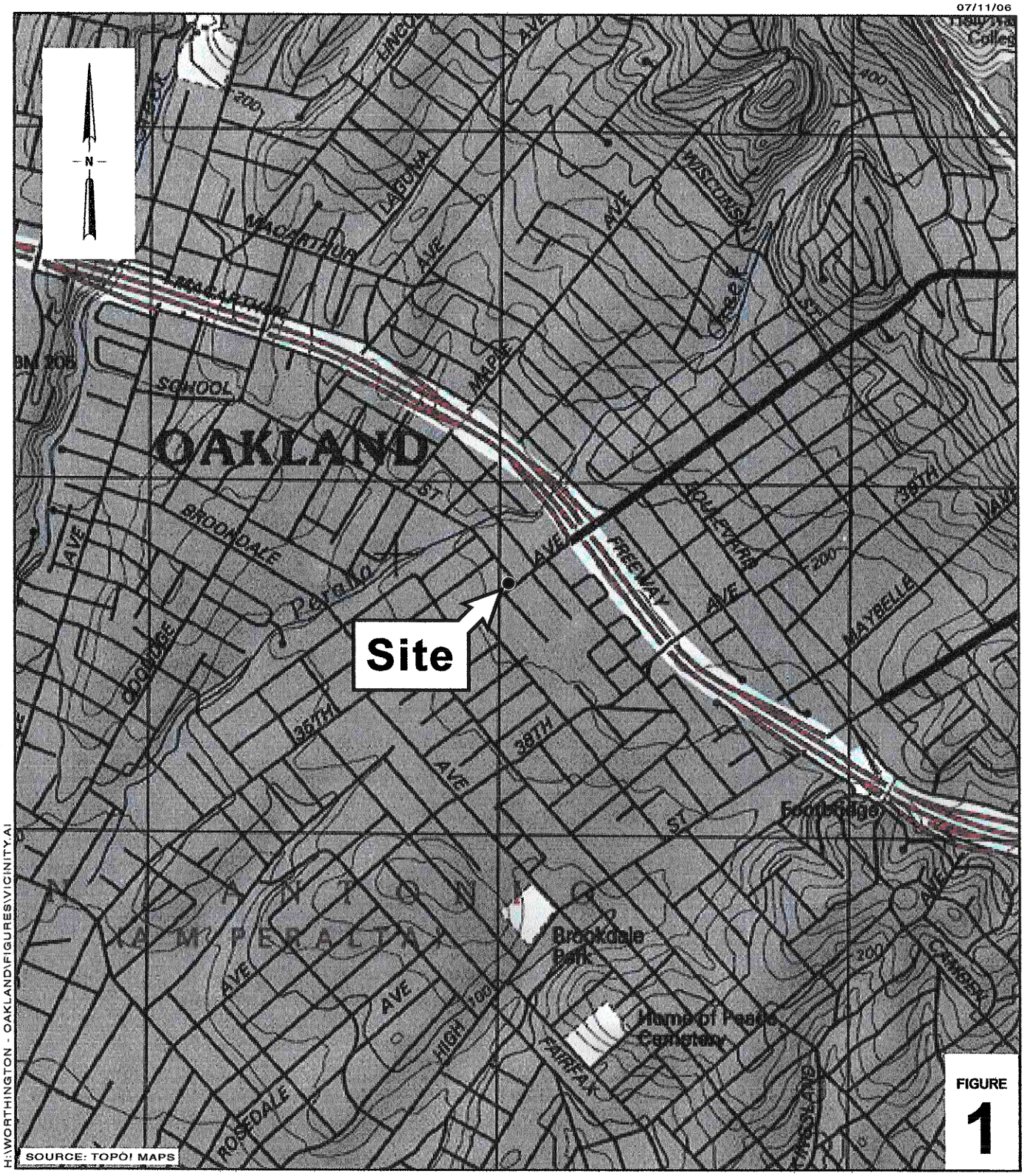

FIGURE 1

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SCALE : 1" = 1/4 MILE

Former Exxon Station

3035 35th Avenue

Oakland, California

CAMBRIA

Vicinity Map

01/09/07

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SOURCE: GOOGLE EARTH PRO

FIGURE
2

0 125 250 500

Approximate Scale : 1" = 125'

Former Exxon Station

3035 35th Avenue

Oakland, California

CAMBRIA

Aerial Photograph

08/29/06

Site Plan

EXPLANATION

- MW-1 — Monitoring well location
- RW-6 — Remediation well location
- B1 — Soil Boring Location
- B-1 — Soil Boring Location (1998)

Former Texaco Station

B-1

SCHOOL STREET

B-2

sidewalk

driveway

driveway

SB-A

B3

B5

B2

Former Pump Island

SB-E

RW-13

RW-14

driveway

Residence

B1

RW-10

B10

Former Gasoline UST Cavity

Former Pump Island

B6

building

B4

MW-2 (SB-F)

Former Waste-Oil UST Cavity

fenceline

RW-9

MW-1 (SB-G)

B7

B11

B9

RW-8

RW-12

RW-11

SB-B

driveway

MW-4

RW-7

SB-D

MW-3 (SB-C)

RW-6

RW-5

B8

B12

building

Residence

35th AVENUE

0 15 30 60

Scale (ft)

Source: Virgil Chavez Land Surveying

H:\WORTHINGTON\FIGURES\WORTHINGTON_SITEPLAN.DWG

CAMBRIA

Former Exxon Station

3055 35th Avenue

Oakland, California

FIGURE

3

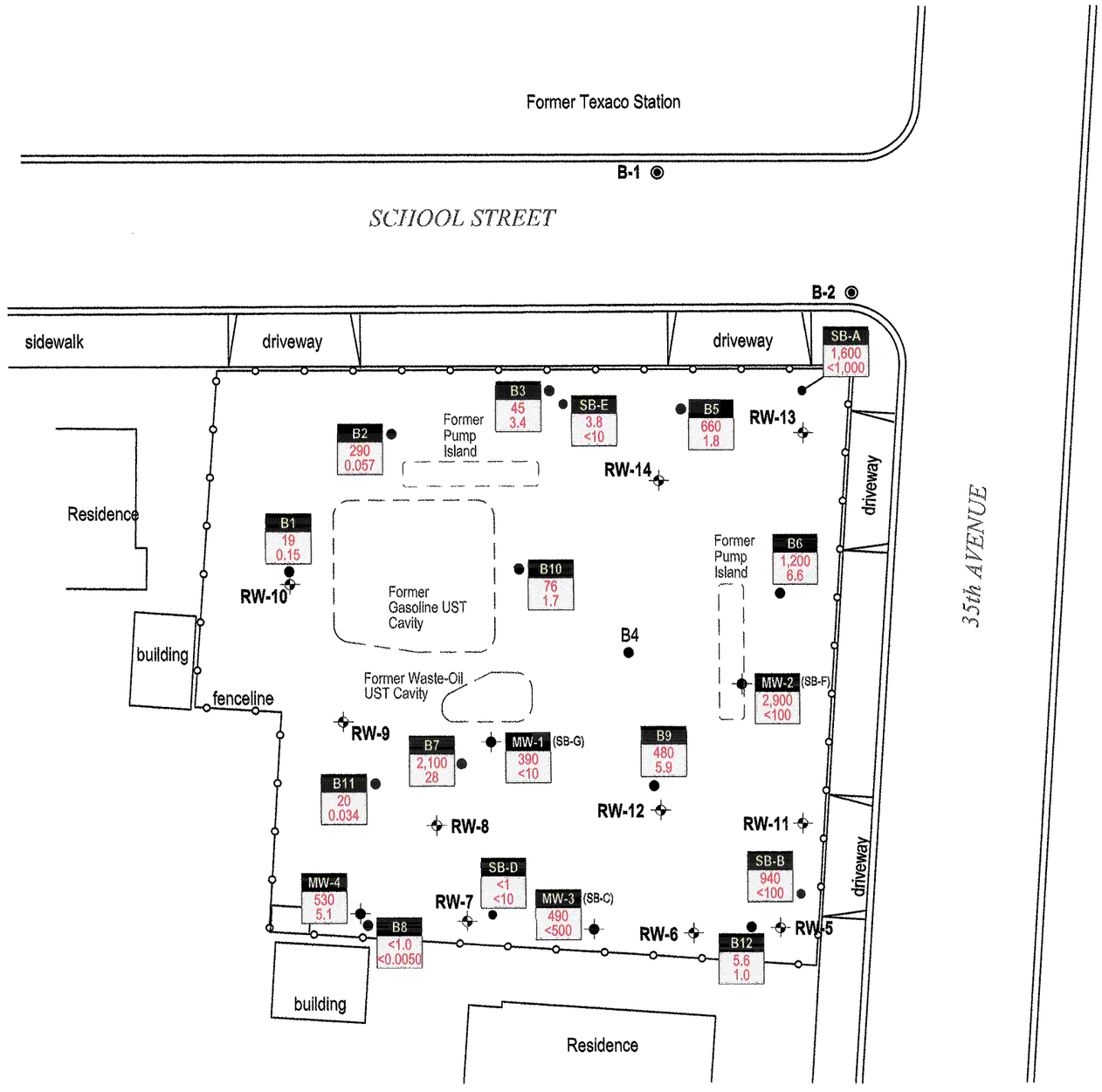
06/29/08

Hydrocarbon Concentrations in Soil

15 and 16 Feet Below Ground Surface

EXPLANATION

- MW-1 — Monitoring well location
- RW-6 — Remediation well location
- B1 — Soil Boring Location
- B-1 — Soil Boring Location (1998)
- Boring / TPHg / BENZ — Well/Boring designation; TPHg concentration, in mg/kg; Benzene concentration, in mg/kg



0 15 30 60

Scale (ft)

Source: Virgil Chavez Land Surveying

FIGURE

4

Former Exxon Station

3055 35th Avenue

Oakland, California

CAMBRIA

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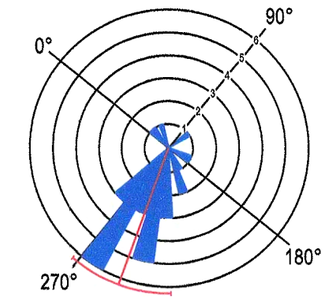
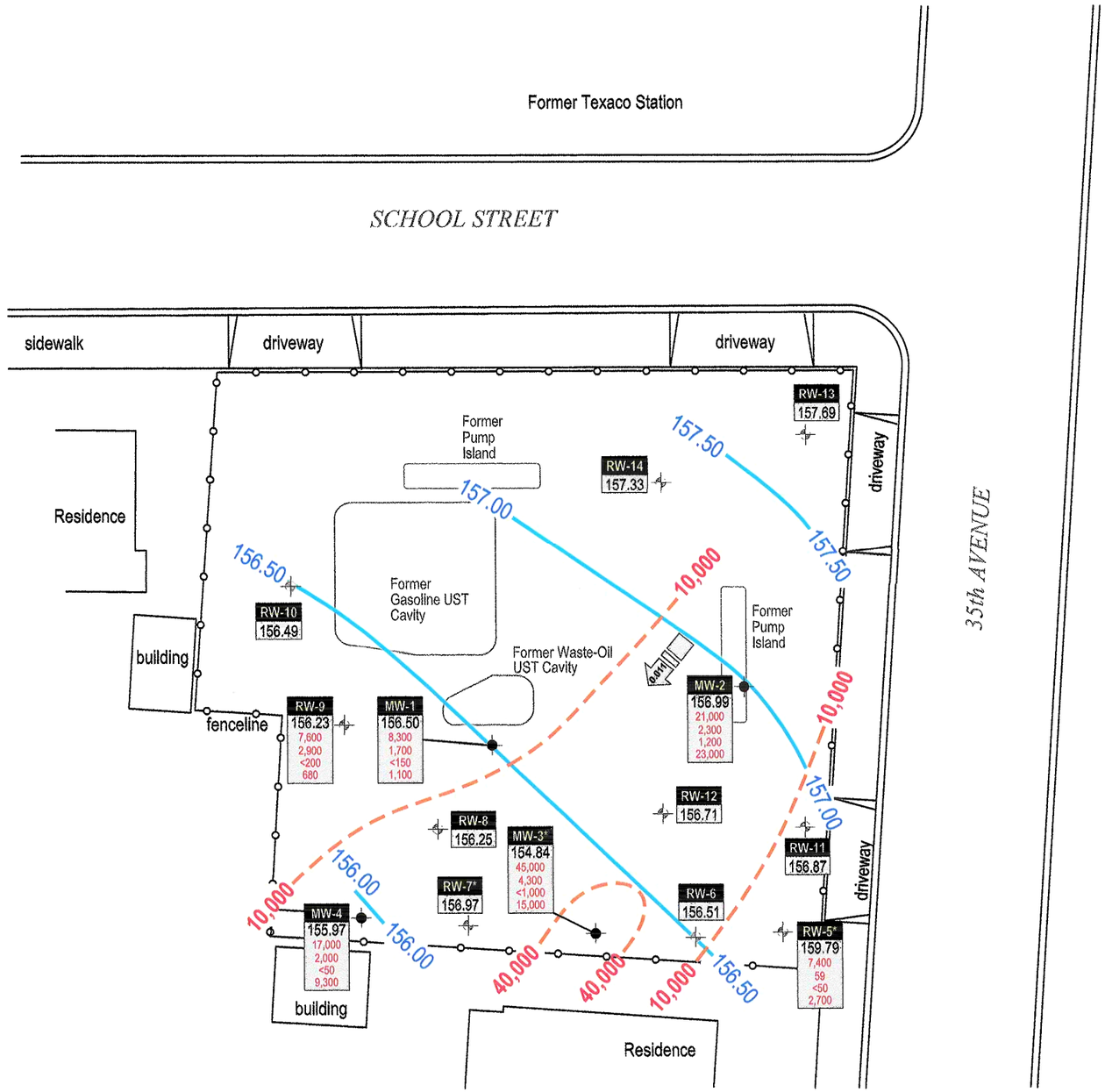
08/21/06



Historical Groundwater Gradient Directions
1996 to 2006



EXPLANATION

- MW-1 — Monitoring well location
- RW-6 — Remediation well location
- 157.00 — Groundwater elevation contour, in feet above mean sea level (msl), dashed where inferred
- Groundwater flow direction and gradient
- 10,000 — TPHg isoconcentration contour, in micrograms per liter (µg/L), dashed where inferred
- Well ID / ELEV / TPHg / Benzene / MTBE / TPHd — Well designation; Groundwater elevation (msl); Hydrocarbon concentrations in groundwater, in micrograms per liter (µg/L)
- * Groundwater elevation anomalous, not used in contouring

0 15 30 60
Scale (ft)

Source: Virgil Chavez Land Surveying

Groundwater Elevation and Hydrocarbon Concentration Map

March 22, 2006

CAMBRIA

FIGURE
5

Former Exxon Station
3055 35th Avenue
Oakland, California

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07/12/08

Proposed Offsite Sampling Locations

EXPLANATION

- OS1 — Proposed Offsite Soil Boring Location
- MW-1 — Monitoring well location
- RW-6 — Remediation well location
- B1 — Soil Boring Location
- B-1 — Soil Boring Location (1998)

BARTLETT STREET

PENNIMAN STREET

SCHOOL STREET

Phase II Offsite Borings

Phase I Offsite Borings

Soil Boring Location (1998)

RW-10 B1
RW-9
MW-4
B8
B11
RW-8
B7
RW-7
SB-D
MW-1 (SB-G)
(SB-C) MW-3
RW-12
B9
RW-6
B12
RW-5
SB-B
RW-11
B4
RW-14
B5
(SB-F) MW-2
RW-13
SB-A
B6
B10
B3
SB-E
B2
Former Gasoline UST Cavity
Former Pump Island
UST Cavity Former Waste-Oil
Former Pump Island
B-2
B-1
Former Texaco Station

35th AVENUE

PENNIMAN STREET

HAGEMAN AVENUE

0 30 60 120

Scale (ft)

FIGURE

6

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CAMBRIA

Former Exxon Station
3055 35th Avenue
Oakland, California

01/09/07

Proposed Soil Gas Sample Locations

EXPLANATION

- Proposed soil gas location
- MW-1 — Monitoring well location
- RW-6 — Remediation well location
- B1 — Soil Boring Location
- B-1 — Soil Boring Location (1998)

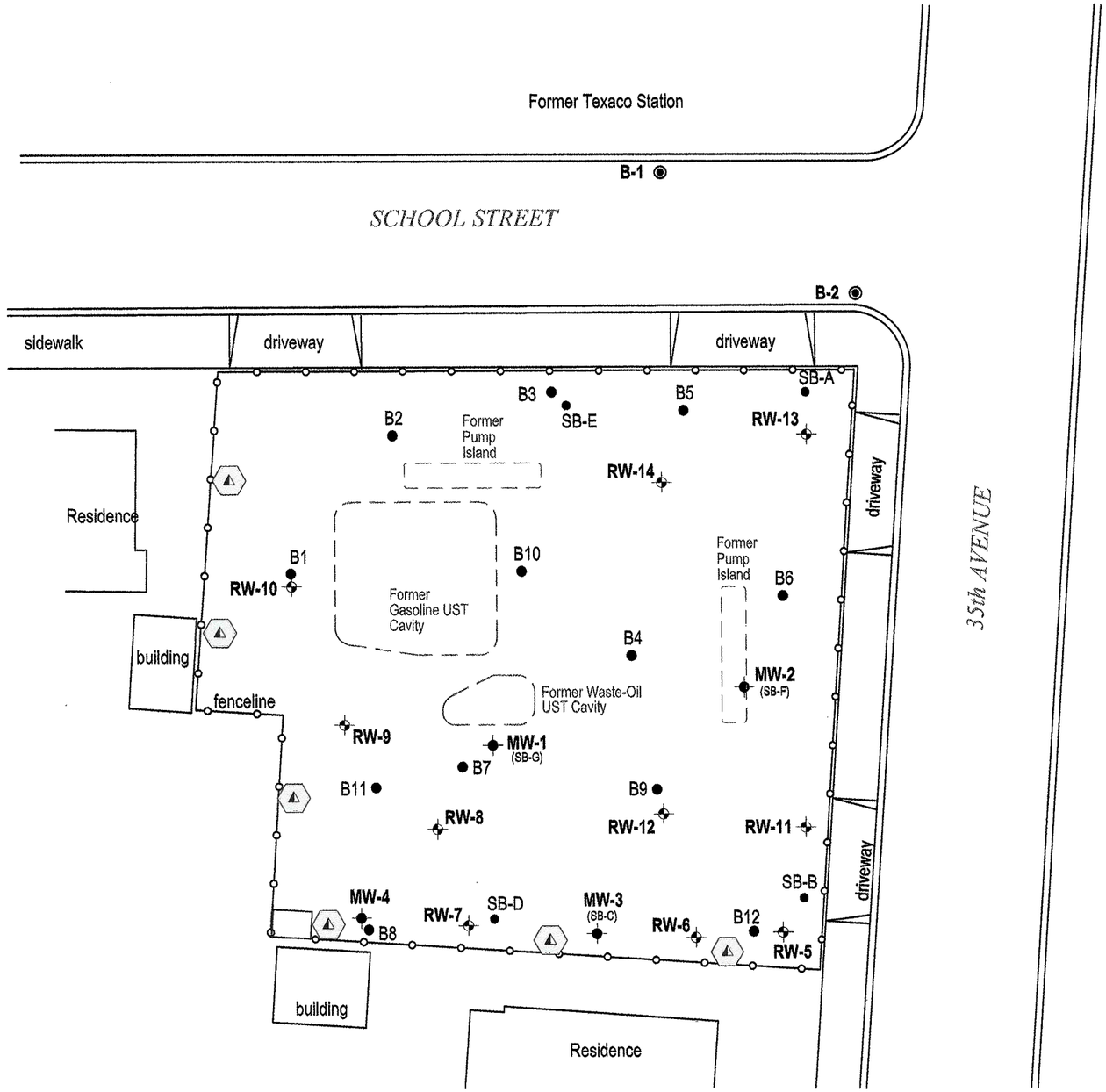

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FIGURE

7

Former Exxon Station
3055 35th Avenue
Oakland, California

CAMBRIA

TABLES

Table 1. Soil Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				<---------- Concentrations in mg/kg ---------->							
B1	11/5/1991	15	---	19	---	0.15	0.34	0.14	1.6	---	
B1	11/5/1991	20	---	1500	---	56	44	24	140	---	
B1	11/5/1991	30	---	<1.0	---	0.013	0.013	0.013	0.015	---	
B1	11/5/1991	35	---	<1.0	---	0.015	<0.0050	<0.0050	0.026	---	
B2	11/5/1991	15	---	290	---	0.057	1.3	3.8	17	---	
B2	11/5/1991	25	---	4.7	---	<0.0050	<0.0050	<0.0050	0.12	---	
B2	11/5/1991	35	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B3	11/6/1991	15	---	45	---	3.4	3.6	1.2	7.5	---	
B3	11/6/1991	20	---	130	---	1.9	4.7	2.4	19	---	
B3	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B4	11/6/1991	25	---	1.0	---	0.27	0.18	0.018	0.17	---	
B4	11/6/1991	30	---	<1.0	---	<0.0050	0.0083	<0.0050	0.038	---	
B4	11/6/1991	35	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B5	11/6/1991	15	---	660	---	1.8	4.1	8.9	29	---	
B5	11/6/1991	20	---	97	---	3.2	1.2	1.7	4.6	---	
B5	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B6	11/6/1991	15	---	1200	---	6.6	21	18	98	---	
B6	11/6/1991	20	---	7.3	---	1.5	1.5	0.36	1.8	---	
B6	11/6/1991	25	---	1.7	---	0.13	0.22	0.066	0.43	---	
B7	11/6/1991	15	---	2100	<1.0	28	100	38	290	---	ND VOCs/SVOCs
B7	11/6/1991	25	---	1.0	---	0.03	0.018	0.0058	0.06	---	
B7	11/6/1991	30	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B8	11/6/1991	15	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B8	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B9	11/6/1991	15	---	480	---	5.9	23	8.9	72	---	
B10	11/6/1991	15	---	76	---	1.7	5.1	1.3	13	---	
B10	11/6/1991	20	---	260	---	7.3	21	6.6	54	---	
B10	11/6/1991	25	---	1.0	---	0.037	0.059	0.0089	0.064	---	
B10	11/6/1991	30	---	1.0	---	0.022	0.017	<0.0050	0.011	---	
B11	11/6/1991	15	---	20	---	0.034	0.033	0.55	1.0	---	
B11	11/6/1991	20	---	11	---	1.4	0.15	0.68	1.8	---	
B11	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B12	11/6/1991	15	---	5.6	---	1.0	0.75	0.11	0.91	---	
B12	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B12	11/6/1991	30	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	

Table 1. Soil Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				<---------- Concentrations in mg/kg ---------->							
SB-A	5/5/94	11	14.5	3.4	4.2	<10	0.0072	0.0015	0.015	0.031	a
SB-A	5/5/94	16	---	1,600	620	<1,000	1.8	3.4	17	54	a
SB-B	5/6/94	11	15.0	170	52	<100	0.45	2.5	1.7	11	a
SB-B	5/6/94	16	---	940	120	<100	6.3	28	12	70	a
SB-C	5/6/94	11	13.9	25	6.7	<10	0.22	0.62	0.49	2.1	a
(MW-3)	5/6/94	16	---	490	280	<500	1.9	14	7.4	42	a
SB-D	5/6/94	11	19.5	<1	5.2	<10	<0.0025	<0.0025	<0.0025	<0.0025	
SB-D	5/6/94	16	---	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	
SB-E	5/9/94	11	dry boring	220	56	<10	0.55	2.1	1.7	2.8	a
SB-E	5/9/94	16		3.8	1.4	<10	0.19	0.20	0.059	0.20	a
SB-F	5/9/94	11	13.3	370	57	<10	<0.25	<0.25	3.9	6.2	a
(MW-2)	5/9/94	15	---	2,900	450	<100	24	41	48	196	a
SB-G	5/9/94	11	14.5	20	18	<10	0.061	0.014	0.093	0.34	a
(MW-1)	5/9/94	15	---	390	52	<10	1.4	6.1	3.9	16	b
MW-4-10	2/26/97	10	---	64	62	0.24	1.1	0.7	2.6	<0.2	c,d
MW-4-15	2/26/97	15	---	530	150	5.1	18	8.4	39	5.4	c,d

Abbreviations:

ft = feet

GW = Groundwater

mg/kg = milligrams per kilogram

< or ND: Not detected above detection limit.

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

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020

MTBE = Methyl Tertiary Butyl Ether by EPA Method 8020

Notes:

(a) The positive TPHd response appears to be a lighter hydrocarbon than diesel

(b) The positive TPHd result has an atypical chromatographic pattern

(c) Unmodified or weakly modified gasoline is significant (TPHg)

(d) Gasoline range compounds are significant (TPHd)

B7-15 Metals: Cadmium 3.51 mg/kg, Chromium 25.1 mg/kg, Lead 3.19 mg/kg, Zinc 47.7 mg/kg, Nickel 34.3 mg/kg

B7-15 Oil & Grease: ND (10 mg/kg)

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-1	5/25/1994	16.79	Sheen	84.06	120,000	25,000	<50,000	22,000	17,000	2,800	16,000	---	---	
100.85	7/19/1994	20.77	---	80.08	---	---	---	---	---	---	---	---	---	
	8/18/1994	21.04	Sheen	79.81	925,000	---	---	16,500	6,200	1,000	9,400	---	---	
	11/11/1994	15.80	---	85.05	57,000	---	---	14,000	4,400	1,400	6,400	---	---	
	2/27/1995	15.53	---	85.32	45,000	---	---	2,900	2,500	760	4,100	---	---	
	5/23/1995	15.29	---	85.56	22,000	---	---	9,900	990	790	2,000	---	---	
	8/22/1995	20.90	---	79.95	23,000	---	---	6,900	340	1,200	1,900	---	---	
	11/29/1995	22.19	---	78.66	37,000	---	---	9,900	530	1,600	2,900	---	---	
	2/21/1996	11.69	---	89.16	33,000	4,300	---	10,000	480	1,000	1,800	3,300	---	
	5/21/1996	14.62	---	86.23	36,000	8,500	---	8,500	1,400	1,300	2,800	1,900	---	
	8/22/1996	22.30	---	78.55	41,000	6,200	---	8,600	1,300	1,500	2,900	<200	8.0	
	11/27/1996	17.24	Sheen	83.61	38,000	6,100	---	9,600	950	1,600	3,100	<400	5.6	
	3/20/1997	16.65	---	84.20	33,000	10,000	---	6,100	560	970	2,200	<400	8.5	
	6/25/1997	19.77	---	81.08	31,000	7,400[a]	---	7,400	440	890	1,800	<400	3.7	
	9/17/1997	20.12	---	80.73	32,000[d]	3,500[e]	---	9,100	550	1,000	2,000	<1,000	2.1	
	12/22/1997	12.95	---	87.90	26,000[d]	5,800[e]	---	7,900	370	920	1,500	<790	0.7	
	3/18/1998	12.34	Sheen	88.51	30,000[d]	4,200[e,f]	---	7,800	820	840	2,000	<1,100	1.3	
	7/14/1998	17.34	---	83.51	41,000[d]	8,900[e,f]	---	8,200	1,100	1,200	3,000	<200	1.8	
	9/30/1998	19.90	---	80.95	37,000	3,300	---	11,000	950	1,200	2,800	<20	2.0	
	12/8/1998	15.62	---	85.23	22,000	3,700	---	3,000	1,200	730	3,100	<900	---	
	3/29/1999	11.98	---	88.87	36,000[d]	6,800[e]	---	12,000	750	1,300	2,400	950	0.50	
	6/29/1999	20.77	---	80.08	28,000[d]	3,500[e]	---	7,300	420	810	1,700	<1,300	0.10	
	9/28/1999	19.68	---	81.17	13,000[d]	3,600[e,f]	---	3,200	130	320	1,100	<210	0.55	
	12/10/1999	17.02	---	83.83	25,000[d]	2,900[e,f]	---	5,400	130	620	1,400	<1,000	1.03	
	3/23/2000	12.76	---	88.09	21,000[d]	3,300[f]	---	4,700	140	470	1,100	<350	---	
	9/7/2000	19.45	---	81.40	40,000[d,g]	12,000[e,g]	---	3,700	1,400	910	4,900	<50	0.17	
	12/5/2000	18.60	---	82.25	26,000[a]	3,400[e]	---	7,900	150	580	810	<300	0.35	Not operating
	3/7/2001	16.19	---	84.66	13,000	2,400	---	2,700	43	69	300	<100	0.49	Not operating
	6/6/2001	18.47	---	82.38	19,000	4,000	---	4,500	130	270	430	<400	0.39	Not operating
	8/30/2001	21.70	---	79.15	8,800[a]	1,400[d]	---	2,100	45	91	240	<130	0.27	Operating
	12/7/2001	26.55	---	74.30	8,700[d]	1,900[e,f]	---	1,300	160	38	730	<20	0.59	Operating
	3/11/2002	17.13	---	83.72	9,400[d]	1,400[e]	---	2,100	200	74	470	<20	0.39	Operating
	6/10/2002	24.10	---	76.75	4,200[d]	900[e,k]	---	830	170	110	460	<100	---	Operating

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID *TOC*	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	TPE System Status
					<---------- Concentrations in micrograms per liter (µg/L) ---------->									
MW-1	9/26/2002	20.30	---	80.55	7,000[d]	1,300[e,f,k]	---	1,300	190	200	760	<100	0.70	Operating
Continued	11/21/2002	21.55	---	79.30	83,000[d,g]	200,000[e,g]	---	7,100	1,700	3,000	13,000	<1,000	0.49	Operating
	1/13/2003	14.80	---	86.05	20,000[d]	5,300[e,f]	---	2,300	480	300	2,100	<500	0.33	Not operating
	4/25/2003	20.90	---	79.95	4,200[d]	320[e]	---	580	81	59	470	<50	---	Operating
	5/30/2003	16.65	---	84.20	---	---	---	---	---	---	---	---	---	Not operating
	9/3/2003	24.16	---	76.69	14,000[d]	36,000[e,f]	---	300	50	33	480	<50	---	Operating
	12/2/2003	24.12	---	76.73	7,100[d,g]	9,300[e,f,g]	---	1,400	230	160	820	<100	---	Operating
167.02	3/18/2004	17.70	---	83.15	3,600[d]	1,100[e,f]	---	650	59	38	370	<90	---	Operating
(Monument	6/16/2004	19.20	---	147.82	8,100[d]	2,300[e,f]	---	1,500	69	22	1,000	<100	---	Not operating
Well box)	9/27/2004	23.07	---	143.95	7,800[d]	1,700[e]	---	1,800	110	120	670	<180	0.28	Not operating
	12/27/2004	17.04	---	149.98	10,000[d]	1,400[e]	---	2,400	170	170	1,500	<120	0.41	Not operating
	3/7/2005	10.73	---	156.29	8,700[d]	1,300[e,f,k]	---	1,200	99	140	770	<500	0.91	Not operating
	6/21/2005	14.60	---	152.42	6,500[d]	930[e,k]	---	820	26	57	110	<250	---	Not operating
	9/21/2005	19.64	---	147.38	2,900[d]	860[e,k,f]	---	430	19	46	150	<50	1.14	Not operating
	12/14/2005	17.63	---	149.39	6,200[d]	4,000[e,f,k]	---	570	32	72	420	<110	1.08	Not operating
	3/22/2006	10.52	---	156.50	8,300[d]	1,100[e,f,k]	---	1,700	100	190	660	<150	0.84	Not operating
	6/30/2006	16.33	Sheen	150.69	2,100[d,l]	1,500[m,k,l]	---	320	6.1	<1.0	77	<90	0.66	Not operating
	9/5/2006	19.96	---	147.06	5,500[d,g]	1,500[e,f,k,g]	---	1,000	45	81	310	<120	0.38	Not operating
	12/6/2006	**19.92**	**---**	**147.10**	**4,500 [d,g]**	**760 [e,g]**	**---**	**440**	**13**	**42**	**190**	**<60**	**0.55**	**Not operating**
MW-2	5/25/1994	15.65	---	84.35	61,000	6,900	<5,000	9,900	7,400	960	4,600	---	---	
100.00	7/19/1994	19.81	---	80.19	---	---	---	---	---	---	---	---	---	
	8/18/1994	20.37	---	79.63	88,000	---	---	10,750	10,500	1,850	9,600	---	---	
	11/11/94	15.52	---	84.48	54,000	---	---	5,900	6,700	1,300	7,500	---	---	
	2/27/1995	14.46	Sheen	85.54	44,000	---	---	5,100	5,300	930	6,400	---	---	
	5/23/1995	14.17	---	85.83	33,000	---	---	8,200	5,600	900	6,600	---	---	
	8/22/1995	19.80	---	80.20	38,000	---	---	6,400	5,000	1,100	5,600	---	---	
	11/29/95	21.05	---	78.95	46,000	---	---	7,100	5,300	1,300	6,000	---	---	
	2/21/1996	10.53	---	89.47	59,000	---	---	8,000	6,000	1,800	8,900	4,500	---	
	5/21/1996	13.47	---	86.53	51,000	3,400	---	8,200	5,200	1,300	6,600	2,400	---	
	8/22/1996	19.12	---	80.88	37,000	5,700	---	5,100	3,500	960	4,500	<200	3.0	

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-2	11/27/1996	16.61	Sheen	83.39	54,000	10,000	---	9,800	7,000	1,800	7,900	<2,000	3.1	
Continued	3/20/1997	15.39	---	84.61	27,000	6,100	---	3,700	2,300	580	2,800	<400	8.1	
	6/25/1997	18.62	---	81.38	42,000	7,800[b]	---	7,400	3,800	1,200	5,700	<200	0.9	
	9/17/1997	19.05	Sheen	80.95	41,000[d]	8,900[e]	---	5,200	3,400	1,300	5,900	<700	1.2	
	12/22/1997	14.09	---	85.91	47,000[d]	6,100[e]	---	8,500	4,600	1,800	8,400	<1,200	1.2	
	3/18/1998	10.83	Sheen	89.17	58,000[d]	7,000[e,f]	---	9,300	6,100	1,800	8,200	<1,100	1.1	
	7/14/1998	16.07	---	83.93	42,000[d]	5,300[e,f]	---	6,000	3,000	1,000	4,800	<200	1.5	
	9/30/1998	18.71	---	81.29	22,000	2,400	---	3,600	1,300	720	3,200	<30	1.8	
	12/8/1998	14.80	---	85.20	32,000	3,100	---	9,200	680	1,100	2,300	<2,000	---	
	3/29/1999	11.81	---	88.19	28,000[d]	7,500[e,f]	---	4,400	1,600	950	4,100	410	1.86	
	6/29/1999	19.54	---	80.46	28,000[d]	3,300[e]	---	3,500	1,100	690	3,100	<1,000	0.41	
	9/28/1999	18.61	---	81.39	15,000[d]	3,400[e,f]	---	1,200	540	230	2,300	<36	1.18	
	12/10/1999	16.53	---	83.47	17,000[d]	2,500[e,f]	---	1,300	780	420	2,700	<40	0.17	
	3/23/2000	13.56	---	86.44	25,000[d]	3,100[i]	---	1,900	1,100	660	3,700	<500	---	
	9/7/2000	18.25	---	81.75	62,000[d,g]	32,000[e,g]	---	5,300	2,300	1,500	8,400	<100	0.39	
	12/5/2000	17.45	---	82.55	60,000[d,g]	87,000[e,f,g]	---	5,100	2,200	1,600	9,000	<200	0.31	Not operating
	3/7/2001	15.68	---	84.32	34,000	3,900	---	1,200	770	620	4,300	<200	0.44	Not operating
	6/6/2001	17.51	---	82.49	110,000	48,000	---	14,000	9,000	1,900	12,000	<950	0.24	Not operating
	8/30/2001	21.00	---	79.00	43,000[a,h]	15,000[d,h]	---	3,100	720	980	5,500	<200	---	Operating
	12/7/2001	24.45	---	75.55	4,100[d]	750[e,f]	---	510	88	8.2	580	<20	0.47	Operating
	3/11/2002	16.95	---	83.05	4,700[d]	590[e]	---	1,200	150	30	310	<50	0.24	Operating
	6/10/2002	18.59	---	81.41	14,000[d]	2,000[e]	---	2,600	710	150	2,000	<800	---	Operating
	9/26/2002	20.39	---	79.61	4,800[d]	660[e]	---	770	200	140	740	<50	0.29	Operating
	11/21/2002	18.75	---	81.25	210,000[d,g]	350,000[e,g]	---	14,000	23,000	4,400	28,000	<1,700	0.43	Operating
	1/13/2003	13.60	---	86.40	32,000[d,g]	14,000[e,f,g,k]	---	4,500	1,600	920	3,600	<1000	0.39	Not operating
	4/25/2003	19.05	---	80.95	3,800[d]	310[e]	---	460	78	72	410	310	---	Operating
	5/30/2003	15.23	---	84.77	---	---	---	---	---	---	---	---	---	Not operating
	9/3/2003	23.57	---	76.43	2,900[d]	2,300[e]	---	240	57	68	380	770	---	Operating
	12/2/2003	23.17	---	76.83	2,400[d,g]	3,300[e,f,g]	---	91	20	14	250	890	---	Operating
	3/18/2004	15.78	---	84.22	4,200[d]	870[e,f]	---	730	89	<5.0	480	2,300	---	Operating
166.14	6/16/2004	18.15	---	147.99	15,000[d]	9,800[e,f]	---	800	210	290	1,800	2,000	---	Not operating
(Monument	9/27/2004	27.55**	---	138.59	770[d]	1,000[e,f,k]	---	20	7.9	10	140	1,600	0.79	Operating
Well box)	12/27/2004	16.81	---	149.33	17,000[d]	3,800[e,f]	---	1,300	370	540	3,800	620	0.94	Not operating

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-2	3/7/2005	9.31	Sheen	156.83	20,000[d,g]	8,300[e,f,k,g]	---	1,400	330	430	2,600	1,100	0.88	Not operating
Continued	6/21/2005	13.42	---	152.72	36,000[d,g]	15,000[e,f,g]	---	1,700	310	460	3,100	1,200	---	Not operating
	9/21/2005	18.50	---	147.64	4,600[d]	1,100[e,f]	---	370	62	110	740	1,100	0.86	Not operating
	12/14/2005	16.40	---	149.74	29,000[d,g]	49,000[e,f,k,g]	---	1,700	260	600	3,700	1,000	0.99	Not operating
	3/22/2006	9.15	---	156.99	21,000[d,g]	23,000[e,f,k,g]	---	2,300	200	550	2,800	1,200	0.91	Not operating
	6/30/2006	16.78	Sheen	149.36	18,000[d,g]	55,000[e,f,k,g]	---	1,100	71	270	1,400	1,200	0.84	Not operating
	9/5/2006	18.96	---	147.18	15,000[d,g]	19,000[e,f,k,g]	---	680	70	260	1,400	<1,000	0.79	Not operating
	12/6/2006	**18.01**	**Sheen**	**148.13**	**27,000 [d,g]**	**31,000 [e,f,k,g]**	**---**	**1,100**	**51**	**420**	**1,600**	**<900**	**0.48**	**Not operating**
MW-3	5/25/1994	13.93	Sheen	82.94	56,000	14,000	<50,000	14,000	14,000	1,300	11,000	---	---	
96.87	7/19/1994	17.04	---	79.83	---	---	---	---	---	---	---	---	---	
	8/18/1994	17.75	---	79.12	116,000	---	---	28,300	26,000	2,400	15,000	---	---	
	11/11/94	17.80	---	79.07	89,000	---	---	1,600	1,900	1,900	14,000	---	---	
	2/27/1995	11.86	Sheen	85.01	250,000	---	---	22,000	26,000	7,800	21,000	---	---	
	5/23/1995	11.60	Sheen	85.27	310,000	---	---	18,000	17,000	4,500	2,800	---	---	
	8/22/1995	17.10	---	79.77	74,000	---	---	14,000	13,000	1,900	11,000	---	---	
	11/29/1995	16.34	---	80.53	220,000	---	---	25,000	25,000	3,500	19,000	---	---	
	2/21/1996	7.92	---	88.95	60,000	---	---	10,000	7,800	1,500	8,800	3,400	---	
	5/21/1996	10.86	Sheen	86.01	69,000	13,000	---	17,000	9,400	1,700	9,400	2,600	---	
	8/22/1996	16.50	---	80.37	94,000	16,000	---	17,000	15,000	2,100	12,000	330	2.0	
	11/27/1996	13.47	Sheen	83.40	82,000	24,000	---	14,000	13,000	2,400	13,000	<1,000	2.4	
	3/20/1997	12.86	---	84.01	56,000	11,000	---	9,900	6,900	1,300	8,000	3,500	9.0	
	6/25/1997	15.98	---	80.89	49,000	7,700[b]	---	9,700	7,100	1,300	7,000	220	5.8	
	9/17/1997	16.34	Sheen	80.53	78,000[d]	15,000[e]	---	11,000	9,900	1,800	10,000	<1,200	0.7	
	12/22/1997	10.71	Sheen	86.16	49,000[d]	14,000[e]	---	7,300	5,300	1,400	7,500	<1,100	3.1	
	3/18/1998	8.41	Sheen	88.46	120,000[d]	20,000[e,f]	---	21,000	19,000	2,600	15,000	<1,600	1.6	
	7/14/1998	13.51	---	83.36	94,000[d,g]	65,000[e,f,g]	---	18,000	14,000	1,900	11,000	<1,400	1.8	
	9/30/1998	16.14	---	80.73	91,000	9,800	---	17,000	13,000	2,100	12,000	<1300	2.0	
	12/8/1998	11.20	---	85.67	51,000	4,200	---	8,000	6,800	1,400	7,500	<1,100	---	
	3/29/1999	7.95	---	88.92	39,000[d]	4,600[e]	---	8,900	4,400	940	4,500	810	0.56	
	6/29/1999	16.98	---	79.89	71,000[d]	6,900[e]	---	12,000	7,300	1,400	8,400	<1,700	0.19	
	9/28/1999	15.99	---	80.88	60,000[d]	7,800[e]	---	9,400	9,200	1,000	9,900	200	0.53	
	12/10/1999	13.31	---	83.56	53,000[d]	5,300[e,f]	---	8,000	6,400	1,100	8,100	<200	0.48	

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-3	3/23/2000	8.98	---	87.89	77,000[d,g]	11,000[g,j]	---	10,000	9,400	1,600	11,000	<430	---	
Continued	9/7/2000	15.61	---	81.26	100,000[d,g]	19,000[e,f,g]	---	17,000	12,000	1,600	11,000	<500	---	
	12/5/2000	14.80	---	82.07	110,000[d,g]	17,000[e,g]	---	17,000	11,000	1,900	12,000	<750	0.37	Not operating
	3/7/2001	14.27	---	82.60	60,000	13,000	---	7,000	4,600	900	7,100	<350	0.49	Not operating
	6/6/2001	14.88	---	81.99	43,000	12,000	---	3,000	1,000	770	5,200	<400	1.71	Not operating
	8/30/2001	12.43	---	84.44	95,000[a,h]	190,000[d,h]	---	6,900	10,000	2,700	15,000	<250	0.24	Operating
	12/7/2001	24.65	---	72.22	25,000[d]	3,900[e,f]	---	2,500	1,700	64	2,200	<200	0.19	Operating
	3/11/2002	14.69	---	82.18	30,000[d]	2,800[f,e,k]	---	5,000	2,400	190	1,800	<1,300	0.30	Operating
	6/10/2002	22.94	---	73.93	9,000[d]	990[e,k]	---	1,800	1,300	96	1,000	<300	---	Operating
	9/26/2002	18.85	---	78.02	50,000[d,g]	130,000[e,g]	---	3,900	5,400	820	6,600	<500	0.19	Operating
	11/21/2002	17.85	0.05	79.06	37,000[d,g]	120,000[e,g]	---	4,000	660	1,200	5,100	<1,700	0.28	Operating
	1/13/2003	11.43	---	85.44	21,000[d,g]	6,300[e,f,g,k]	---	2,400	2,300	390	3,000	<500	0.31	Not operating
	4/25/2003	18.30	---	78.57	12,000[d]	1,200[e]	---	1,800	850	150	1,200	<500	---	Operating
	5/30/2003	13.30	---	83.57	---	---	---	---	---	---	---	---	---	Not operating
	9/3/2003	21.65	---	75.22	8,100[d]	3,300[e]	---	220	170	66	560	<50	---	Operating
	12/2/2003	17.70	---	79.17	30,000[d,g]	8,400[e,f,g]	---	2,900	2,100	530	3,600	<500	---	Operating
	3/18/2004	16.49	---	80.38	15,000[d]	2,300[e,f]	---	2,600	990	260	1,700	<300	---	Operating
162.94	6/16/2004	15.40	---	147.54	23,000[d]	8,800[e,f]	---	2,100	1,300	360	2,800	<1,000	---	Operating
	9/27/2004	23.65	---	139.29	5,200[d]	1,700[e,f]	---	430	220	100	680	250	0.55	Operating
	12/27/2004	14.58	---	148.36	32,000[d,g]	24,000[e,f,g,k]	---	4,400	2,800	650	4,800	<250	0.71	Not operating
	3/7/2005	6.91	Sheen	156.03	50,000[d,g]	14,000[e,f,g]	---	6,100	2,100	1,300	7,400	<500	0.62	Not operating
	6/21/2005	10.79	---	152.15	44,000[d,g]	12,000[e,g]	---	4,900	870	1,100	6,500	<1,200	---	Not operating
	9/21/2005	15.73	---	147.21	41,000[d,g]	16,000[e,f,k,g]	---	3,700	480	930	5,700	<500	0.90	Not operating
	12/14/2005	13.65	---	149.29	53,000[d,g]	19,000[e,f,k,g]	---	4,700	350	1,100	7,400	<1,000	0.95	Not operating
	3/22/2006	8.10	---	154.84	45,000[d,g]	15,000[e,f,k,g]	---	4,300	390	1,100	5,300	<1,000	0.88	Not operating
	6/30/2006	14.10	Sheen	148.84	44,000[d,g]	15,000[e,f,k,g]	---	4,000	160	550	4,000	<450	0.81	Not operating
	9/5/2006	16.25	Sheen	146.69	56,000[d,g]	16,000[e,f,k,g]	---	5,400	300	1,200	6,200	<500	0.55	Not operating
	12/6/2006	**15.25**	**Sheen**	**147.69**	**44,000 [d,g]**	**19,000 [e,f,k,g]**	**---**	**4,500**	**110**	**930**	**3,600**	**<500**	**0.70**	**Not operating**
MW-4	3/20/1997	13.75	---	83.59	47,000	3,100	---	11,000	4,500	1,100	5,200	3,400	8.4	
97.34	6/25/1997	16.15	---	81.19	61,000	5,800[b]	---	16,000	6,100	1,500	5,900	780[e]	1.4	
	9/17/1997	17.10	---	80.24	60,000[d]	4,400[e]	---	17,000	4,900	1,500	5,700	<1,500	1.5	
	12/22/1997	9.21	---	88.13	43,000[d]	3,100[e]	---	13,000	3,900	1,100	4,200	<960	3.7	

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-4	3/18/1998	9.54	---	87.80	58,000[d]	5,500[e,f]	---	14,000	4,700	1,400	5,700	<1,200	0.8	
Continued	7/14/1998	14.15	---	83.19	73,000[d]	2,900[e,f]	---	22,000	7,000	1,800	7,300	<200	1.0	
	9/30/1998	16.84	---	80.50	39,000	2,100	---	12,000	2,700	1,000	3,400	510	1.1	
	12/8/1998	13.45	---	83.89	27,000	1,600	---	8,900	1,600	730	2,300	<1,500	---	
	3/29/1999	9.10	---	88.24	48,000[d]	2,400[e,f,h]	---	15,000	3,000	1,300	5,000	1,300	1.32	
	06/29/99*	---	---	---	---	---	---	---	---	---	---	---	---	
	9/28/1999	16.58	---	80.76	24,000[d]	3,200[e,f]	---	7,500	1,200	190	2,200	210	14.29[#]	
	12/10/1999	13.99	---	83.35	47,000[d]	3,100[e,f]	---	12,000	1,800	1,000	4,400	<100	0.62	
	3/23/2000	10.22	---	87.12	40,000[d]	3,100[e,f]	---	11,000	1,600	910	3,100	690	---	
	9/7/2000	16.40	---	80.94	43,000[d]	5,900[e]	---	10,000	1,100	1,100	3,400	<450	1.04	
	12/5/2000	15.55	---	81.79	69,000[d,g]	2,600[e,g]	---	16,000	1,300	1,300	3,400	<200	0.35	Not operating
	3/20/2001	14.03	---	83.31	46,000	---	---	13,000	1,000	900	2,800	<350	0.39	Not operating
	6/6/2001	15.49	---	81.85	75,000	5,400	---	22,000	1,800	1,900	6,400	<1,200	2.22	Not operating
	8/30/2001	18.00	---	79.34	43,000[a]	3,200[d]	---	6,400	630	510	2,600	<200	0.32	Operating
	12/7/2001	23.45	---	73.89	32,000[d,g]	11,000[e,f,g]	---	4,500	740	310	2,300	<200	0.21	Operating
	3/11/2002	14.95	---	82.39	15,000[d]	1,600[e,f,k]	---	3,700	500	92	790	<500	0.30	Operating
	6/10/2002	22.30	---	75.04	9,400[d]	3,400[e]	---	1,400	50	<5.0	690	<200	---	Operating
	9/26/2002	17.93	---	79.41	21,000[d]	800[e]	---	3,300	1,300	450	2,900	<500	0.24	Operating
	11/21/2002	17.55	---	79.79	5,700[d]	2,400[e,k]	---	1,400	290	63	640	550	---	Operating
	1/13/2003	11.75	---	85.59	35,000[d,g]	15,000[e,f,g,k]	---	5,100	1,500	510	4,500	<800	0.28	Not operating
	4/25/2003	19.37	---	77.97	6,600[d]	2,200[e,f]	---	960	130	100	560	<170	---	Operating
	5/30/2003	13.56	---	83.78	---	---	---	---	---	---	---	---	---	Not operating
	9/3/2003	21.65	---	75.69	29,000[d]	27,000[e,f]	---	2,200	380	280	2,300	65	---	Operating
	12/2/2003	19.17	---	78.17	13,000[d]	5,800[e,f]	---	1,300	180	120	1,900	<250	---	Operating
	3/18/2004	14.92	---	82.42	5,300[d]	1,500[e]	---	1,300	55	37	440	<180	---	Operating
163.49	6/16/2004	16.02	---	147.47	9,100[d]	3,400[e,f]	---	940	96	120	800	<50	---	Not operating
	9/27/2004	19.93	---	143.56	1,300[d]	980[e,f,k]	---	140	10	11	81	<50	0.68	Not operating
	12/27/2004	14.79	---	148.70	10,000[d,g]	5,300[e,f,g,k]	---	1,000	99	34	1,600	<50	0.74	Not operating
	3/7/2005	7.81	Sheen	155.68	15,000[d,g]	9,300[e,f,g]	---	1,100	140	88	1,900	<100	0.65	Not operating
	6/21/2005	11.82	---	151.67	30,000[d,g]	12,000[e,g]	---	3,300	270	250	2,800	<500	---	Not operating
	9/21/2005	16.55	---	146.94	12,000[d,g]	15,000[e,f,k,g]	---	540	100	54	1,800	<50	0.89	Not operating
	12/14/2005	14.43	---	149.06	5,200[d,g]	9,800[e,f,k,g]	---	710	41	91	540	<50	0.91	Not operating
	3/22/2006	7.52	---	155.97	17,000[d,g]	9,300[e,f,k,g]	---	2,000	230	150	1,900	<50	0.80	Not operating

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
MW-4	6/30/2006	15.00	Sheen	148.49	18,000[d,g]	19,000[e,f,g]	---	1,400	50	60	1,300	<100	0.85	Not operating
Continued	9/5/2006	16.96	Sheen	146.53	30,000[d,g]	9,400[e,f,k,g]	---	1,400	180	110	4,300	<500	0.75	Not operating
	12/6/2006	**15.95**	**Sheen**	**147.54**	**21,000 [d,g]**	**22,000 [e,f,g]**	---	**920**	**56**	**73**	**1,500**	**<100**	**0.71**	**Not operating**
RW-5	1/13/2003	10.20	---	---	14,000	3,000	---	2,100	750	300	1,800	950	0.17	
162.34	3/18/2003	14.48	---	---	12,000	--	---	2,000	380	190	1,500	830	---	
	6/16/2004	14.73	---	147.61	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	25.55	---	136.79	---	---	---	---	---	---	---	---	---	Operating
	12/27/2004	10.45	---	151.89	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	4.42	Sheen	157.92	7,000[d]	6,100[e,f,k]	---	720	63	97	670	<400	0.93	Not operating
	6/21/2005	10.02	---	152.32	11,000[d]	490[e]	---	1,200	67	68	690	<500	---	Not operating
	9/21/2005	15.07	---	147.27	2,000[d,g]	2,500[e,f,k,g]	---	390	16	24	170	1,300	0.99	Not operating
	12/14/2005	12.95	---	149.39	8,900[d,g]	6,200[e,f,k,g]	---	1,500	92	180	750	2,300	1.03	Not operating
	3/22/2006	2.55	---	159.79	7,400[d]	2,700[e,f,k]	---	59	76	20	120	<50	1.10	Not operating
	6/30/2006	13.32	Sheen	149.02	3,100[d]	3,100[e,f,k]	---	590	15	27	88	410	0.89	Not operating
	9/5/2006	15.55	Sheen	146.79	5,300[d,g]	3,200[e,f,k,g]	---	1,000	31	61	230	370	0.81	Not operating
	12/6/2006	**14.53**	**Sheen**	**147.81**	**8,500 [d,g]**	**5,500 [e,f,g]**	**---**	**1,200**	**24**	**91**	**250**	**<900**	**0.79**	**Not operating**
RW-6	3/11/2002	--	---	---	14,000	3,100	---	970	520	170	2,200	<130	---	
162.36	1/13/2003	10.35	---	---	15,000	2,900	---	2,200	1,200	130	2,200	440	0.24	
	3/18/2004	11.47	---	---	8,500	---	---	1,300	260	71	990	1,300	--	
	6/16/2004	14.80	---	147.56	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	18.46	---	143.90	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	9.82	---	152.54	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	6.05	---	156.31	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	10.13	---	152.23	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.13	---	147.23	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	13.02	---	149.34	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	5.85	---	156.51	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	13.44	---	148.92	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	15.63	---	146.73	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**14.63**	**---**	**147.73**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
RW-7	3/11/2002	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
162.72	1/13/2003	10.95	---	---	<50	67	---	<0.5	<0.5	<0.5	<0.5	<5.0	0.22	
	3/18/2004	15.33	---	---	250	---	---	66	4.8	3.2	10	<15	--	
	6/16/2004	15.22	---	147.50	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	18.98	---	143.74	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	9.85	---	152.87	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	5.82	---	156.90	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	10.85	---	151.87	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.70	---	147.02	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	13.58	---	149.14	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	5.75	---	156.97	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	14.05	---	148.67	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	16.12	---	146.60	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**15.13**	**---**	**147.59**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-8	3/11/2002	---	---	---	1,300	80	---	620	11	15	14	<60	---	
164.13	1/13/2003	12.80	---	---	390	56	---	150	11	4.1	4.1	13	0.31	
	3/18/2004	15.34	---	---	760	---	---	310	9.9	11	16	<25	---	
	6/16/2004	16.41	---	147.72	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	19.74	---	144.39	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	12.32	---	151.81	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	8.10	---	156.03	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	12.15	---	151.98	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	16.90	---	147.23	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	14.80	---	149.33	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	7.88	---	156.25	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	15.31	---	148.82	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	17.38	---	146.75	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**16.37**	**---**	**147.76**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-9	3/11/2002	---	---	---	12,000	880	---	3,400	230	78	1,300	<240	---	
163.86	1/13/2003	11.85	---	---	23,000	2,000	---	7,700	610	310	310	<500	0.39	
	3/18/2004	13.69	---	---	2,300	---	---	770	32	15	200	<50	---	

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID *TOC*	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	TPE System Status
					<---------- Concentrations in micrograms per liter (µg/L) ---------->									
RW-9	6/16/2004	16.03	---	147.83	---	---	---	---	---	---	---	---	---	Not operating
Continued	9/27/2004	19.83	---	144.03	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	24.88	---	138.98	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	7.87	---	155.99	9,000[d]	510[e]	---	2,600	69	200	550	<500	0.91	Not operating
	6/21/2005	11.90	---	151.96	9,400[d]	630[e]	---	2,400	69	210	470	<350	---	Not operating
	9/21/2005	16.62	---	147.24	8,300[d,g]	820[e,f,g]	---	2,500	36	190	310	<170	1.04	Not operating
	12/14/2005	14.52	---	149.34	6,300[d]	1,100[e,f]	---	1,900	29	150	260	<50	0.98	Not operating
	3/22/2006	7.63	---	156.23	7,600[d]	680[e]	---	2,900	59	190	310	<200	0.95	Not operating
	6/30/2006	15.04	---	148.82	14,000[d]	1,400[e]	---	3,100	53	130	260	<300	0.73	Not operating
	9/5/2006	17.02	---	146.84	14,000[d]	1,100[e]	---	3,900	39	200	230	<330	0.69	Not operating
	12/6/2006	**16.04**	**---**	**147.82**	**13,000 [d,g]**	**660 [e,g]**	**---**	**3,000**	**29**	**180**	**260**	**<250**	**0.74**	**Not operating**
RW-10	3/11/2002	---	---	---	12,000	740	---	3,900	150	110	1,100	<270	---	
163.02	1/13/2003	10.75	---	---	4,300	330	---	1,500	43	98	98	<100	0.41	
	3/18/2004	13.13	---	---	5,800	---	---	2,400	11	<10	110	<300	---	
	6/16/2004	15.03	---	147.99	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	18.35	---	144.67	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	19.39	---	143.63	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	6.40	---	156.62	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	10.95	---	152.07	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.51	---	147.51	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	13.37	---	149.65	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	6.53	---	156.49	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	14.13	---	148.89	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	15.98	---	147.04	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**15.02**	**---**	**148.00**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-11	3/11/2002	---	---	---	260	<50	---	34	5.3	8.1	48	<5.0	---	
162.57	1/13/2003	9.80	---	---	5,300	2,700	---	490	110	120	120	180	0.24	
	3/18/2004	12.45	---	---	9,300	---	---	980	120	180	770	2,000	---	
	6/16/2004	14.75	---	147.82	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	18.44	---	144.13	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	10.07	---	152.50	---	---	---	---	---	---	---	---	---	Not operating

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
RW-11	3/7/2005	5.95	---	156.62	---	---	---	---	---	---	---	---	---	Not operating
Continued	6/21/2005	9.96	---	152.61	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.09	---	147.48	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	12.96	---	149.61	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	5.70	---	156.87	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	13.36	---	149.21	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	15.56	---	147.01	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**14.55**	**---**	**148.02**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-12	3/11/2002	---	---	---	13,000	900	---	4,500	130	130	270	<5.0	---	
163.06	1/13/2003	10.90	---	---	4,100	1,800	---	1,000	130	99	99	<100	0.21	
	3/18/2004	13.63	---	---	17,000	---	---	2,700	960	230	1,500	1,400	---	
	6/16/2004	15.30	---	147.76	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	19.09	---	143.97	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	10.85	---	152.21	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	6.59	---	156.47	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	10.58	---	152.48	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.63	---	147.43	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	13.43	---	149.63	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	6.35	---	156.71	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	13.95	---	149.11	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	16.11	---	146.95	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**15.11**	**---**	**147.95**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-13	3/11/2002	---	---	---	830	79	---	190	13	13	34	<5.0	---	
164.34	1/13/2003	11.20	---	---	210	92	---	54	2.0	2.7	2.7	<5.0	0.35	
	3/18/2004	13.45	---	---	150	---	---	47	1.0	2.1	1.5	<5.0	---	
	6/16/2004	15.83	---	148.51	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	19.55	---	144.79	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	18.12	---	146.22	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	6.90	---	157.44	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	11.05	---	153.29	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	16.20	---	148.14	---	---	---	---	---	---	---	---	---	Not operating

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
RW-13	12/14/2005	14.11	---	150.23	---	---	---	---	---	---	---	---	---	Not operating
Continued	3/22/2006	6.65	---	157.69	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	14.44	---	149.90	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	16.62	---	147.72	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**15.70**	**---**	**148.64**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
RW-14	3/11/2002	---	---	---	270	82	---	44	0.99	<0.5	4.2	<5.0	---	
163.76	1/13/2003	11.00	---	---	3700	6800	---	230	77	91	91	<50	0.38	
	3/18/2004	12.81	---	---	220	---	---	42	1.4	0.99	5.2	<5.0	---	
	6/16/2004	15.41	---	148.35	---	---	---	---	---	---	---	---	---	Not operating
	9/27/2004	19.20	---	144.56	---	---	---	---	---	---	---	---	---	Not operating
	12/27/2004	12.62	---	151.14	---	---	---	---	---	---	---	---	---	Not operating
	3/7/2005	6.61	---	157.15	---	---	---	---	---	---	---	---	---	Not operating
	6/21/2005	10.80	---	152.96	---	---	---	---	---	---	---	---	---	Not operating
	9/21/2005	15.82	---	147.94	---	---	---	---	---	---	---	---	---	Not operating
	12/14/2005	13.73	---	150.03	---	---	---	---	---	---	---	---	---	Not operating
	3/22/2006	6.43	---	157.33	---	---	---	---	---	---	---	---	---	Not operating
	6/30/2006	14.10	---	149.66	---	---	---	---	---	---	---	---	---	Not operating
	9/5/2006	16.21	---	147.55	---	---	---	---	---	---	---	---	---	Not operating
	12/6/2006	**15.31**	**---**	**148.45**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**Not operating**
Trip Blank	7/14/1998	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	9/30/1998	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	12/8/1998	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	3/29/1999	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	6/29/1999	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	3/23/2000	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---	
	9/7/2000	---	---	---	<50	---	---	<0.5	1.1	<0.5	1.1	<5.0	---	

Table 2. Groundwater Elevations and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	TPE System
TOC		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status

Methods and Abbreviations:

TOC = Top of casing elevation measured in feet relative to surveyor's datum.

All site wells were re-surveyed by Virgil Chavez Land Surveying on June 2, 2004 to the CA State Coordinate System, Zone III (NAD83). Benchmark elevation = 177.397 feet (NGVD 29)

GW Depth = Groundwater depth measured in feet below TOC.

GW Elev. = Groundwater elevation measured in feet above mean sea level.

ft = Measured in feet

SPH = Separate-phase hydrocarbons depth measured from TOC.

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method SW8015C

TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method SW8015C

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method SW8021B

MTBE = Methyl tertiary-butyl ether by EPA Method SW8021B

DO = Dissolved oxygen

µg/L = Micrograms per liter, equivalent to parts per billion in water

mg/L = Milligrams per liter, equivalent to parts per million in water

TPE = Two-phase extraction

Sheen = A sheen was observed on the water's surface.

* = Well inaccessible during site visit

** = No water in well due to system operating in well, value reflects total well depth.

= abnormally high reading due to added hydrogen peroxide

--- = Not observed/not analyzed

Notes:

a = Result has an atypical pattern for diesel analysis

b = Result appears to be a lighter hydrocarbon than diesel

c = There is a >40% difference between primary and confirmation analysis

d = Unmodified or weakly modified gasoline is significant

e = Gasoline range compounds are significant

f = Diesel range compounds are significant; no recognizable pattern

g = Lighter than water immiscible sheen/product is present

h = One to a few isolated peaks present

i = Medium boiling point pattern does not match diesel (stoddard solvent)

j = Aged diesel is significant

k = Oil range compounds are significant

l = Liquid sample that contains greater than ~1 vol. % sediment

m = Stoddard solvent/mineral spirit

APPENDIX A

Agency Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 6, 2006

Mr. Lynn Worthington
Golden Empire Properties, Inc.
5942 MacArthur Blvd. Suite B
Oakland, CA 94605

Subject: Fuel Leak Case No. RO0000271, Exxon Service Station, 3055 35th Avenue, Oakland, California.

Dear Mr. Worthington:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above referenced site and the letter entitled "Request for Reconsideration of Recommendations," dated October 17, 2006 and submitted on your behalf by Cambria Environmental Technology Inc. The "Request for Reconsideration of Recommendations," states that the proposed soil boring locations should define if the plume is contained. Based on our review of the case file and above referenced letter, we find that the proposed soil boring locations will not provide information to adequately characterize petroleum hydrocarbon contamination **immediately downgradient** of the subject site. Consequently, the Work Plan and proposed soil boring locations are rejected in their current form and require revision.

We request the following revisions to the work plan, which are described in the technical comments below. Therefore, we request that you address the technical comments below and submit a revised work plan to ACEH.

TECHNICAL COMMENTS

1. **Soil Boring Locations.** To accurately characterize the downgradient extent of the dissolved petroleum hydrocarbon plume, ACEH requires soil borings to be installed between residences at 3039 to 3001 35th Ave. and 3044 to 3000 Bartlett Street. **We request that you immediately pursue any off-site access agreements that you may need to complete proposed investigation activities.** Following submittal of your work plan, with revised soil boring locations, we will mail a letter (see Attachment 1) to owners of the neighboring properties where you propose to perform investigation activities. In order to expedite the off-site access notification process, please provide ACEH with a list of owners/occupants for the following residences; 3001, 3007, 3017 (Apartments 3015, 3017, 3019, 3021) 3027, 3029, 3033, and 3039 35th Avenue and 3000, 3006, 3014, 3020, 3026, 3032, 3038 and 3044 Bartlett Street.

   As mentioned in previous correspondence dated October 4, 2006, the linear separation between the proposed soil borings is 100 feet or more, which is inadequate to constrain the lateral distribution of the contamination plume. Of particular concern is MTBE, which is highly

soluble, very mobile in groundwater and not readily biodegradable. The proposed soil boring locations are located too far apart to properly locate and define the extent of the MTBE plume. MTBE plumes can be long, narrow, and erratic (meandering). Moreover, ACEH consider the proposed soil borings, which are more than 250 feet from the source area, too distant from the source area to define the extent of soil and groundwater contamination or plume geometry down-gradient of the site. The intention of the investigation is to define the lateral extent of contamination immediately down-gradient of the site, and thus determine where subsurface contamination is a concern. While the proposed soil borings may define whether the plume has traveled more than 250 feet from the site, the borings will not provide useful information to define the down-gradient plume extent with any accuracy. Conventional investigation methods would evaluate the source area, and then step out from the source area in a systematic manner until the distal end of the contamination plume is determined. ACEH request that the soil and groundwater investigation be performed directly downgradient of the site to evaluate the extent of contamination beneath the residences and the potential risks posed to residents.

2. **Soil Gas Investigation and Vapor Intrusion Pathway.** Soil and groundwater contamination are well documented on site, but the extent of contamination and the risk to occupants immediately downgradient of the site is unknown. The proposed soil gas investigation will evaluate the potential risk associated from the vapor intrusion pathway at southwest property limit of the site. ACEH agrees that a soil gas investigation is needed to resolve the data gap identified in the SCM.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Steve Plunkett), according to the following schedule:

- **December 21, 2006** – Revised Work Plan for Offsite Soil and Groundwater Investigation and Onsite Soil Gas Investigation

Per Comm S. Plunkett extension to January 15, 2007 mg 12/13/06

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) now request submission of reports in electronic form. The electronic copy is intended to replace the need for a paper copy and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage

tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all reports is required in Geotracker (in PDF format). Please visit the State Water Resources Control Board for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1767.

Sincerely,

Steven Plunkett

Hazardous Materials Specialist

w/Attachment 1

cc: Mark Jonas
Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94605

Donna Drogos, ACEH
Steven Plunkett, ACEH
File

ATTACHMENT 1

Adjacent Property Owner - Access Cooperation Request
<DATE)

<DATE>

DISTRIBUTION LIST

Subject: Property Access by the Parties Responsible for the Investigation and Cleanup of Petroleum Hydrocarbon and Fuel Oxygenate Pollution at Fuel Leak Case No. <xx-xxx>, <Site Name and Address>

Dear Property Owner:

Alameda County Environmental Health (ACEH) is overseeing the investigation and cleanup of gasoline and the gasoline additives Methyl tert-Butyl Ether (MTBE) and benzene, released from fuel underground storage tanks at the subject site. We are uncertain as to how far the contamination from those tanks has moved.

The ACEH is requiring <RP COMPANY> to investigate and clean up contaminated soil and groundwater at the site to prevent the gasoline, MTBE, and benzene contamination from spreading to other properties or to drinking water sources and reduce the potential threat to human health and the environment. To properly determine the extent of that contamination in groundwater, <RP COMPANY> must perform additional off-site investigation. Therefore, we need your help in allowing access to your property by <RP COMPANY> to properly define the extent of contamination.

If you have any questions, please contact <RP CONTACT> at <RP COMPANY> at <RP PHONE NUMBER>. Thank you for your cooperation.

Sincerely,

<CASEWORKER>
<CASEWORKER TITLE>
LOP Program

cc: <LIA>, with Distribution List

<RP CONTACT>, with Distribution List
<RP COMPANY>
<ADDRESS>
<CITY, STATE ZIP>

D. Drogos, <CASEWORKER>

APPENDIX B

Standard Field Procedures

CAMBRIA

STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed 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 Storage, Handling and Transport

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.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic 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.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

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STANDARD FIELD PROCEDURES FOR SOIL AND SOIL VAPOR SAMPLING

This document describes Cambria Environmental Technology's standard field methods for soil and soil vapor sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil and soil vapor samples are collected and analyzed to characterize subsurface contaminant distribution and to assess whether vapor-phase subsurface contaminants pose a threat to human health or the environment.

Soil Sampling

Soil samples are collected using lined samplers driven into undisturbed sediments beyond the bottom of the borehole. The vertical location of each soil sample is determined by measuring the distance from the middle of the soil sample tube to the end of the drive rod used to advance the sampler. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Sampling equipment is washed prior to and between samples to prevent cross-contamination. Trisodium phosphate or an equivalent EPA-approved detergent is used to wash equipment.

Sample Storage, Handling and Transport

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.

Soil Vapor Sampling

Hand push soil vapor sampling method assures sample collection to shallow depths in most hydrogeologic environments. A hollow vapor probe is pushed into the ground, rather than augured, and the stratigraphy forms a vapor seal between the surface and subsurface environments ensuring that the surface and subsurface gases do not mix. Once the desired soil vapor sampling depth has been reached, the field technician installs disposable polyethylene tubing with a threaded adapter that screws into the bottom of the rods. The screw adapter ensures that the vapor sample comes directly from the bottom of the drill rods and does not mix with other vapor from inside the rod or from the ground surface. The operator then pulls up on the rods and exposes the desired stratigraphy by leaving an expendable drive point at the maximum depth. The required volume of soil vapor is then purged through the polyethylene tubing using a standard vacuum pump. The soil vapor can be sampled for direct injection into a field gas chromatograph, pumped into inert tedlar bags using a "bell jar" sampling device, or allowed to enter a Summa vacuum canister. Once collected, the vapor sample is transported under chain-of-custody to a state-certified laboratory. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure. Drilling and sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

STANDARD FIELD PROCEDURES FOR SOIL AND SOIL VAPOR SAMPLING
CONT'D

Sample Storage, Handling and Transport

Samples are stored out of direct sunlight in coolers and transported under chain-of-custody to a state-certified analytic laboratory.

Field Screening

After collecting a vapor sample for laboratory analysis, Cambria often collects an additional vapor sample for field screening using a portable photo-ionization detector (PID), flame-ionization detector (FID), or GasTech• combustible gas detector to measure volatile hydrocarbon vapor concentrations. These measurements are used along with the field observations, odors, stratigraphy and ground water depth to help select the best location for additional borings to be advanced during the field mobilization.

Grouting

The borings are filled to the ground surface with neat cement.

CAMBRIA

STANDARD FIELD PROCEDURES FOR HAND-AUGER SOIL BORINGS

This document describes Cambria Environmental Technology's standard field methods for drilling and sampling soil borings using a hand-auger. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Hand-auger borings are typically drilled using a hand-held bucket auger to remove soil to the desired sampling depth. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the augered hole. Samples may be collected in sampling containers fill so no head-space remains. The vertical location of each soil sample is determined using a tape measure. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Augering 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 Storage, Handling and Transport

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.

Water Sampling

Water samples, if they are collected from the boring, are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic 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.

Grouting

The borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

4/25/06

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