CONESTOGA-ROVERS
& ASSOCIATES

5900 Hollis Street, Suite A, Emeryville, Calfornia 94608
Telephone: 510-420-0700 Facsimile: 510-420-9170
www.CRAworld.com

April 11, 2008

Ms. Barbara Jakub
Alameda County Health Care Services Agency, Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502
510/639-1287

Re: **Work Plan Additional Characterization and Soil Vapor Sampling**
Former Exxon Service Station
3055 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000271
CRA Project No. 130105

Dear Ms. Jakub,

On behalf of Golden Empire Properties, Inc. (GEP), Conestoga-Rovers & Associates, Inc. (CRA) is pleased to present this *Work Plan Additional Characterization and Soil Vapor Sampling* for the above referenced site.

The scope of work includes additional downgradient/offsite borings to aid in defining the extent of the plume, offsite soil gas samples, an onsite boring to attempt to define the vertical extent of the groundwater plume, and upgradient/offsite borings to determine groundwater concentrations entering the site. The recommended downgradient/offsite borings are based on the relatively limited areas for drilling rig access. The offsite boring locations were selected after performing a field reconnaissance. We can meet you in the field so you can see access limitations and discuss other potential boring locations, if necessary. After we finally agree on sampling locations, we will attempt to get approved access agreements from the property owners.

We have also presented the results of recent onsite soil gas and offsite Phase I characterization in this Work Plan.

Please call me at (510) 420-3307 to discuss any issue associated with this project.

Sincerely,

Conestoga-Rovers & Associates, Inc.

Mark Jonas, P.G.
Senior Project Manager

Attachment: *Work Plan Additional Characterization and Soil Vapor Sampling*

cc: Golden Empire Properties, Inc. 5942 MacArthur Blvd., Suite B, Oakland, CA 94605
Mr. Jeffrey Lawson, SVLG, 25 Metro Drive, Suite 600, San Jose, CA 95110
Ms. Dawn Zemo, Z&A, 986 Wander Way, Incline Village, NV 89451

CONESTOGA-ROVERS
& ASSOCIATES

WORK PLAN ADDITIONAL CHARACTERIZATION AND SOIL VAPOR SAMPLING

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

April 11, 2008

Prepared For:

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

Prepared By:

Conestoga-Rovers & Associates, 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.

PROFESSIONAL GEOLOGIST
MARK L. JONAS No. 6392
STATE OF CALIFORNIA

Mark Jonas, P.G.
Senior Project Manager

Christina McClelland
Staff Geologist

CONESTOGA-ROVERS & ASSOCIATES

WORK PLAN ADDITIONAL CHARACTERIZATION AND SOIL VAPOR SAMPLING

Former Exxon Service Station
3055 35th Avenue, Oakland, California

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WORK PLAN ADDITIONAL CHARACTERIZATION AND SOIL VAPOR SAMPLING

Former Exxon Service Station
3055 35th Avenue, Oakland, California
Fuel Leak Case No. RO0000271
CRA Project No. 130105

April 11, 2008

1.0 INTRODUCTION

On behalf of Golden Empire Properties, Inc. (GEP), Conestoga-Rovers & Associates, Inc. (CRA) presents this *Work Plan Additional Characterization and Soil Vapor Sampling (Work Plan)* for the above referenced site. This Work Plan is in response to the Alameda County Health Care Services Agency, Environmental Health Services (ACEH) letter from Ms. Barbara Jakub, dated April 7, 2008, and correspondence e-mails dated February 15th and 19th, 2008 (Appendix A). ACEH is the lead agency on this site.

Presented in this *Work Plan* are an introduction, site description, geology and hydrogeology, previous investigations and activities, previous and proposed remediation, recent (Phase I) sampling methods and results, the proposed scope of work, and a quality assurance project plan. In summary, the scope of work includes additional downgradient/offsite borings to aid in defining the extent of the plume, offsite soil gas samples, an onsite boring to attempt to define the vertical extent of the groundwater plume, and upgradient/offsite borings to determine groundwater concentrations entering the site.

2.0 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.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1. 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 vary 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.*

3.2. 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 Water Quality Control Board, San Francisco Bay Region – Groundwater Committee, 1999. *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report.* June).

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 based on survey results and should be accurate. Groundwater beneath the site flows primarily towards the west.

4.0 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 previous 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.

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 4 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 after removing a significant amount of hydrocarbons. 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.

May and July 2007 Onsite Soil Gas and Phase I Offsite Characterization: Onsite soil gas and offsite groundwater and soil samples were collected and analyzed. Offsite groundwater concentrations were detected downgradient from the site. This lead to the proposed investigation presented in this Work Plan. Section 6 presents methods and results for the onsite soil gas and Phase I offsite characterization.

Groundwater Monitoring: Quarterly groundwater monitoring and sampling has been performed at the site since May 1994. Well construction details are presented in Table 1. Historical and recent groundwater analytical data and groundwater elevations are presented in Table 2.

5.0 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 (DPE) 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 after removed a significant amount of hydrocarbons. 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. Installation of the ISCO system is currently on hold pending additional characterization.

6.0 ONSITE SOIL GAS AND PHASE I OFFSITE CHARACTERIZATION

Following is a brief summary of recent 2007 characterization, preformed on- and offsite. After completion of the scope of work presented in this Work Plan, a more complete *Site Characterization Report* shall be submitted incorporating both sampling events.

6.1. Sampling Methods and Procedures

The objectives of the 2007 investigation were measure to onsite soil vapor concentrations and to attempt to define the offsite extent of hydrocarbon contamination in soil and groundwater

downgradient of the site. Field activities occurred in May and July 2007. Results were previously submitted to ACEH and uploaded onto Geotracker.

To achieve this objective, CRA completed the following tasks:

- Drilled six vertical soil borings (SV-1 through SV-6) to a depth of 10 ft bgs and collected soil gas samples at 5 fbg and 10 fbg.
- Collected and analyzed 33 offsite soil samples for TPHg, BTEX, MTBE, TAME, TBA, EDB, 1,2-DCA, DIPE and ETBE from soil borings B-13 through B-17.
- Collected and analyzed 4 grab groundwater samples for TPHg, BTEX, MTBE, TAME, TBA, EDB, 1,2-DCA, DIPE, ETBE and Ethanol from soil borings B-13, B-14, B-16 and B-17.

The locations of soil borings SV-1 through SV-6 and B-13 through B-17 are presented on Figure 3. The site assessment was conducted in general accordance with Cambria's *Offsite and Soil Gas Work Plan* dated January 12, 2007 and CRA's Standard Operating Procedures. Presented below is a summary of methods and procedures.

Personnel Present: CRA's Staff Geologist Christina McClelland performed onsite soil gas borings, and CRA's Senior Staff Geologist Glenn Reiss performed offsite soil borings. All work was overseen by CRA's Senior Project Geologist Mark Jonas, a California Professional Geologist No. 6392.

Permits: Alameda County Department of Public Works issued the subsurface drilling permit for the soil borings.

Drilling Company: RSI Drilling (C57 #802335) of Woodland, California performed soil borings and soil/soil gas sampling using a limited access Geoprobe® rig.

Drilling Dates: RSI drilling advanced soil gas borings SV-1 through SV-6 on May 24, 2007 and offsite soil borings on July 12-13, 2007 and July 20, 2007.

Subsurface Utility Survey: CRA marked out boring locations with white paint and notified underground service alert (USA) to have the utilities marked out. In addition, CRA contracted OHJ Subsurface Utility Locator of Oakland, CA to locate utilities that may have been missed by USA and to verify proposed soil boring locations.

Drilling Method: Prior to drilling, each offsite boring was cleared to 8 fbg using hand auger to ensure that no subsurface utilities would be damaged. Onsite borings were not cleared to 8 fbg prior to advancement with the GeoProbe® rig so that a seal would remain intact and soil gas samples would not be biased. Onsite soil gas borings and offsite soil borings were advanced to the desired total depth

using a limited access GeoProbe® rig. Upon completion of each boring, the hole was tremie grouted from the bottom of the hole to the top using Portland cement and a tremie pipe.

Soil Gas Sampling Method: Soil gas samples were collected in May 2007 from borings SV-1 through SV-6 at approximate depths of 5 fbg, and10 fbg. Soil gas samples were collected through the GeoProbe® rod using a retractable soil gas tip and ¼" poly tubing. Hydrated bentonite was placed around the GeoProbe® rod to create a seal. Samples were collected in 1 liter Summa canisters. Soil gas samples were submitted to Air Toxics of Folsom, CA for analysis, with appropriate documentation and signatures on the COC. Air Toxics is a California-certified laboratory (NELAP # 02110CA).

Soil and Groundwater Sampling Method: Soil samples were collected from borings B-13 through B-17 at various depths (Tables 4 and 5). Soil samples were screened using a photoionization detector (PID). PID results are presented on the boring logs. Soil samples were labeled, placed in an ice chest cooled with bagged ice, and documented on a Chain of Custody record (COC). Groundwater samples were collected through temporary 1-inch PVC casing using new disposable PVC bailers. Groundwater was decanted into 1 ml VOAs, labeled, placed in an ice chest cooled with bagged ice, and documented on a COC. Soil and groundwater samples were submitted to McCampbell Analytical, Inc. (McCampbell) of Pittsburg, CA for analysis, with appropriate documentation and signatures on the COC. McCampbell is a California-certified laboratory (DHS License #1644).

Sample Analysis: Each soil and groundwater sample was analyzed for TPHg by modified United States Environmental Protection Agency (EPA) Method 8015C; BTEX and MTBE by modified United States EPA Method 8021B; MTBE, TAME, TBA, EDB, 1,2-DCA, DIPE, and ETBE by modified United States EPA Method 8260B. Groundwater was also analyzed for Ethanol by EPA Method 8260B.

Geotracker: All required data has been uploaded to the California State Water Resources Control Board's Geotracker Database as required by Title 23, Division 3, Chapter 30, Articles 1 and 2, Sections 3890-3895 of the California Code of Regulations.

Investigation Derived Waste: Soil cuttings and decon water generated during drilling activities were drummed and disposed of by Safety Kleen. All drums were labeled as appropriate.

6.2. Investigation Results

6.2.1. Petroleum Hydrocarbon Distribution in Soil

Soil sampling and analysis, consisting of 33 soil samples, was performed in July 2007. Figure 3 presents a site plan showing the soil boring locations. Tabulated soil analytical results are presented

on Table 4 and 5, and in Figure 5 and 5 AF. Petroleum hydrocarbons were detected in borings B-13 through B-16. The highest concentrations of TPHg, TPHd, and BTEX were detected in boring B-16 at a depth of 12 feet below grade (fbg) at concentrations of 4,300 milligrams per kilogram (mg/kg), 310 mg/kg, 41 mg/kg, 23 mg/kg, 59 mg/kg, and 320 mg/kg, respectively. MTBE was only detected in boring B-14, at depths of 24 fbg and 26 fbg, at concentrations of 0.021 mg/kg and 0.15 mg/kg, respectively. No petroleum hydrocarbons were detected in boring B-17.

6.2.2. Petroleum Hydrocarbon Distribution in Groundwater

Grab groundwater samples were collected from boring B-13, B-14, B-16 and B-17 during the July 2007 investigation. Analytical results are summarized in Table 3. No sample was collected from boring B-15 due to insufficient groundwater in the borehole. TPHg, TPHd and BTEX were detected in three of the four grab groundwater samples. MTBE was detected in all four groundwater samples. The maximum TPHg and BTEX concentrations were detected in grab groundwater from boring B-16, at concentrations of 69,000 micrograms per liter (µg/L), 7,700 µg/L, 1,500 µg/L, 1,600 µg/L, and 8,200 µg/L, respectively. The maximum MTBE concentration was detected in grab groundwater from boring B-14 at a concentration of 3,500 µg/L. The maximum TPHd concentration was detected in grab groundwater from boring B-13 at 1,700 µg/L.

6.2.3. Petroleum Hydrocarbon Distribution in Soil Gas

Soil gas samples were collected from boring SV-1 through SV-6 at depths of 5 fbg and 10 fbg during the May 2007 investigation. Analytical results are summarized in Table 6. TPHg and benzene were detected in all twelve soil gas samples. MTBE was detected in six of the twelve soil gas samples. The maximum TPHg concentration was detected boring SV-4 at 10 fbg at a concentration of 620,000 $\mu g/m^3$. The maximum benzene concentration was detected in boring SV-6 at 10 fbg at a concentration of 4,600 $\mu g/m^3$. The maximum MTBE concentration was detected in boring SV-1 at 10 fbg at a concentration of 300 $\mu g/m^3$.

7.0 PROPOSED SOIL AND GROUNDWATER CHARACTERIZATION

This section presents the scope of work for additional downgradient/offsite borings to aid in defining the extent of the plume, an onsite boring to attempt to define the vertical extent of the groundwater plume, and upgradient/offsite borings to determine groundwater concentrations entering the site. Pre-sampling preparations along with general sampling procedures and documentation are presented in Section 7 *Sampling Preparations and General Procedures.*

7.1. Sampling Rationale

During the recent Phase I investigation, hydrocarbon concentrations were detected in soil and groundwater offsite and downgradient of the property. The rationale for further offsite/downgradient soil and groundwater characterization is to attempt to determine the extent of the downgradient plume. The rationale for the onsite boring is to attempt to define the vertical extent of groundwater contamination. Two upgradient and offsite locations are proposed to see if contamination is entering onto the site.

7.2. Proposed Sampling Locations

Proposed boring locations for onsite and upgradient characterization are presented in Figure 4. Offsite and downgradient proposed boring locations are present in Figures 5, 5AF (with aerial photograph), 6, and 6 AF. The recommended downgradient/offsite borings are based on the relatively limited areas for drilling rig access. The offsite boring locations were selected after performing a field reconnaissance. These proposed locations are only approximate and may be moved due to access, subsurface and overhead utilities, unforeseen subsurface conditions, and limitations with selected properties.

7.3. Sampling Procedures

This section presents proposed boring and sampling procedures.

7.3.1. Boring Procedures

After pre-sampling preparations are complete, a field program using a C-57 drilling contractor will be implemented. After hand clearing for utilities, for the onsite and offsite/upgradient boring locations we proposed a CPT rig, to characterize lithology, followed by a dual tube geoprobe. These borings will be used to collect groundwater, hopefully from transmissive zone defined by the CPT rig. Generally, for the onsite boring we propose a groundwater sample around 45 ft bgs. For the upgradient borings we propose groundwater samples around 20 ft, 30 ft, and 45 ft bgs.

For the offsite and downgradient locations, after hand clearing for utilities, we proposed using a geoprobe or auger to bore down to around 30 ft bgs. If significantly elevated photoionization detector (PID) levels are encountered, soil samples will be collected for analysis. After the boring is finished, a groundwater sample will be collected.

Standard field procedures for hand auger soil borings and GeoProbe® borings 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.

7.3.2. Groundwater Sampling Procedures

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

7.3.3. Soil Sampling Procedures

At each offsite and downgradient 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.

7.4. Sampling Analysis

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

7.4.1. 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 7-1 presents groundwater analysis, sampling containers, preservation, detection limit, and holding time:

Table 7-1
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

7.4.2. 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 7-2 presents soil analysis, sampling containers, preservation, detection limit, and holding time:

Table 7-2
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

8.0 SOIL GAS SAMPLING AND ANALYSIS

A soil gas investigation is proposed at various offsite and downgradient locations, as presented in Figures 5, 5 AF, 6, and 6 AF. Either soil vapor probes or a geoprobe will be used to collect soil gas samples. Soil gas samples will be collected from 5 foot depths, unless high groundwater levels are present.

8.1. Sampling Rationale

The rationale for soil gas sampling and analysis is to measure selected analytes in soil gas. This can be used to evaluate potential vapor intrusion.

8.2. Proposed Sampling Locations

Proposed sampling locations for soil gas samples are presented in Figure 5, 5 AF, 6, and 6 AF. The proposed locations are only approximate and may be modified based on subsurface utilities, unforeseen subsurface conditions, and access.

8.3. Soil Gas Sampling Procedures

After pre-sampling preparations are complete, the field program will be initiated. It is currently anticipated that soil vapor samples will be collected from approximately 5 feet bgs. Either a temporary soil vapor probe will be installed and/or and geoprobe will be used to collect soil gas samples. After sampling activities are complete, the temporary probe will be removed and/or the boring will be properly closed with grout and capped with like material as the existing surface. A hand auger will be used to advance a borehole for a temporary vapor probe. 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.

8.4. Soil Gas Sampling Analysis

Soil vapor samples will be analyzed for TPHg by Method TO-3; Benzene, Ethylbenzene and Xylenes by Method TO-15; and Oxygen, Carbon Dioxide and Methane by Method ASTM 1946. The following Table 8-1 presents soil vapor analysis, sampling containers, preservation, detection limit, and holding time.

Table 8-1
Soil Vapor Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (Method TO-3)	Summa Canister	None	25 ppbv (TO-3)	14 days
Benzene, Ethylbenzene, Xylenes (Method TO-15)	Summa Canister	None	0.5 ppbv (TO-15)	14 days
Oxygen, Carbon Dioxide, Methane (Method ASTM 1946)	Summa Canister	None	N/A	14 days

9.0 SAMPLING PREPARATIONS AND GENERAL PROCEDURES

9.1. 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.

9.1.1. 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.

9.1.2. 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.

9.1.3. 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, prior to use of a drilling rig, a hand auger may be used to clear to a reasonable depth and to collect shallow soil samples.

9.1.4. Access Agreement

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

9.1.5. 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.

9.2. Decontamination, Documentation, and Waste Management Procedures

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

9.2.1. 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.

9.2.2. 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.

9.2.3. 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.

9.2.4. 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.

10.0 REPORT

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

11.0 QUALITY ASSURANCE PROJECT PLAN

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

11.1. Project Organization

Golden Empire Properties, Inc. is currently responsible for the site. CRA 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

Conestoga-Rovers & Associates, Inc.
Mark Jonas, R.G
510/420-3307; 510/420-9170 fax
510/385-0022 mobile
mjonas@craworld.com
5900 Hollis Street, Suite A
Emeryville, CA 94608

Alameda County Health Agency
Ms. Barbara Jakub
510/639-1287; 510/337-9335
Barbara.Jakub@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

11.2. 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.

11.3. Sampling Procedures

Sampling procedures are presented in Sections 7 and 8.

11.4. Sample Custody Procedures and Documentation

Chain-of-custody procedures will be followed.

11.5. 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.

11.6. 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.

11.7. 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.

11.8. 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.

11.9. 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.

11.10. 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.

11.11. 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 7 and 8. 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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04/14/07

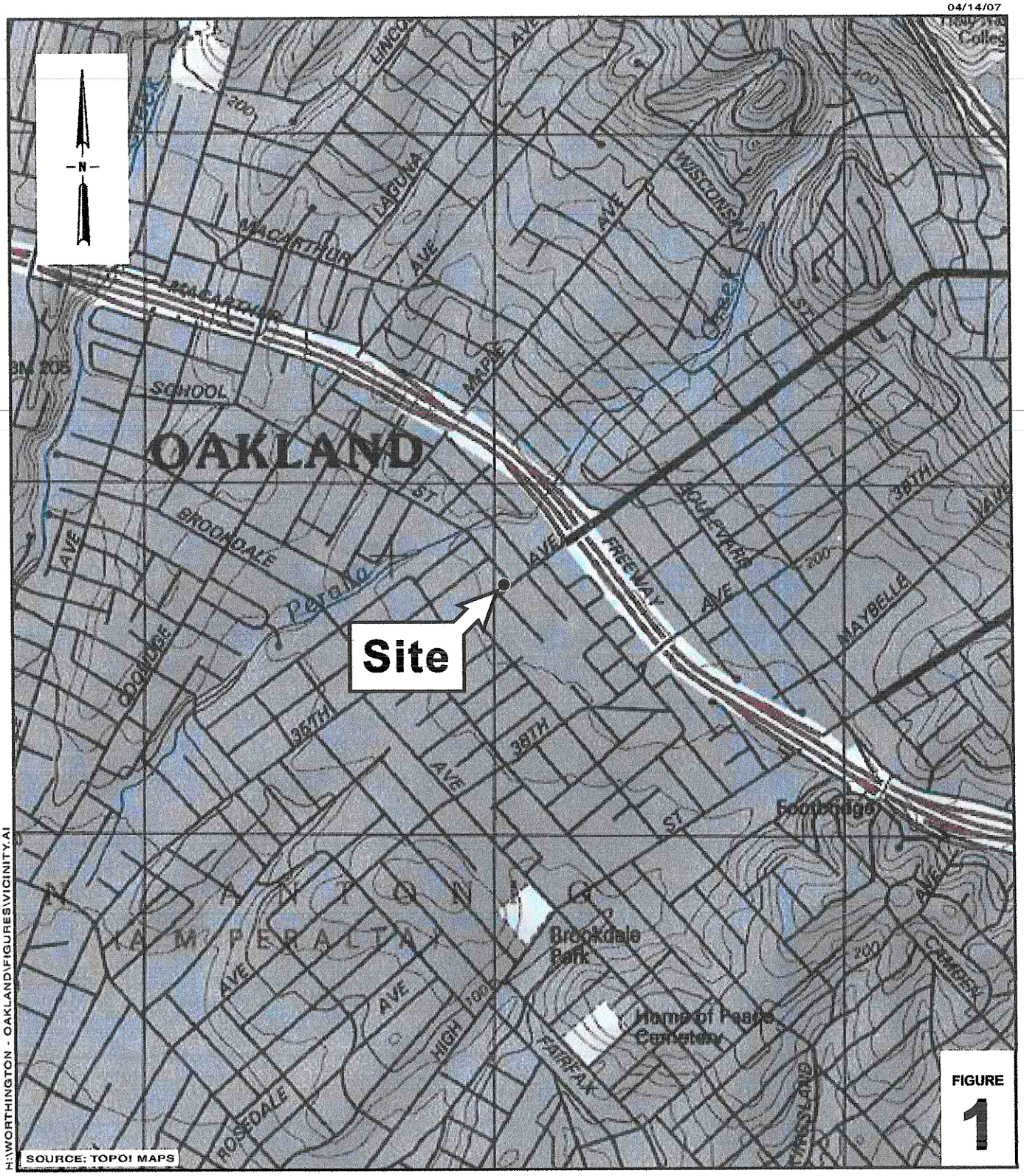

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FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Former Exxon Station

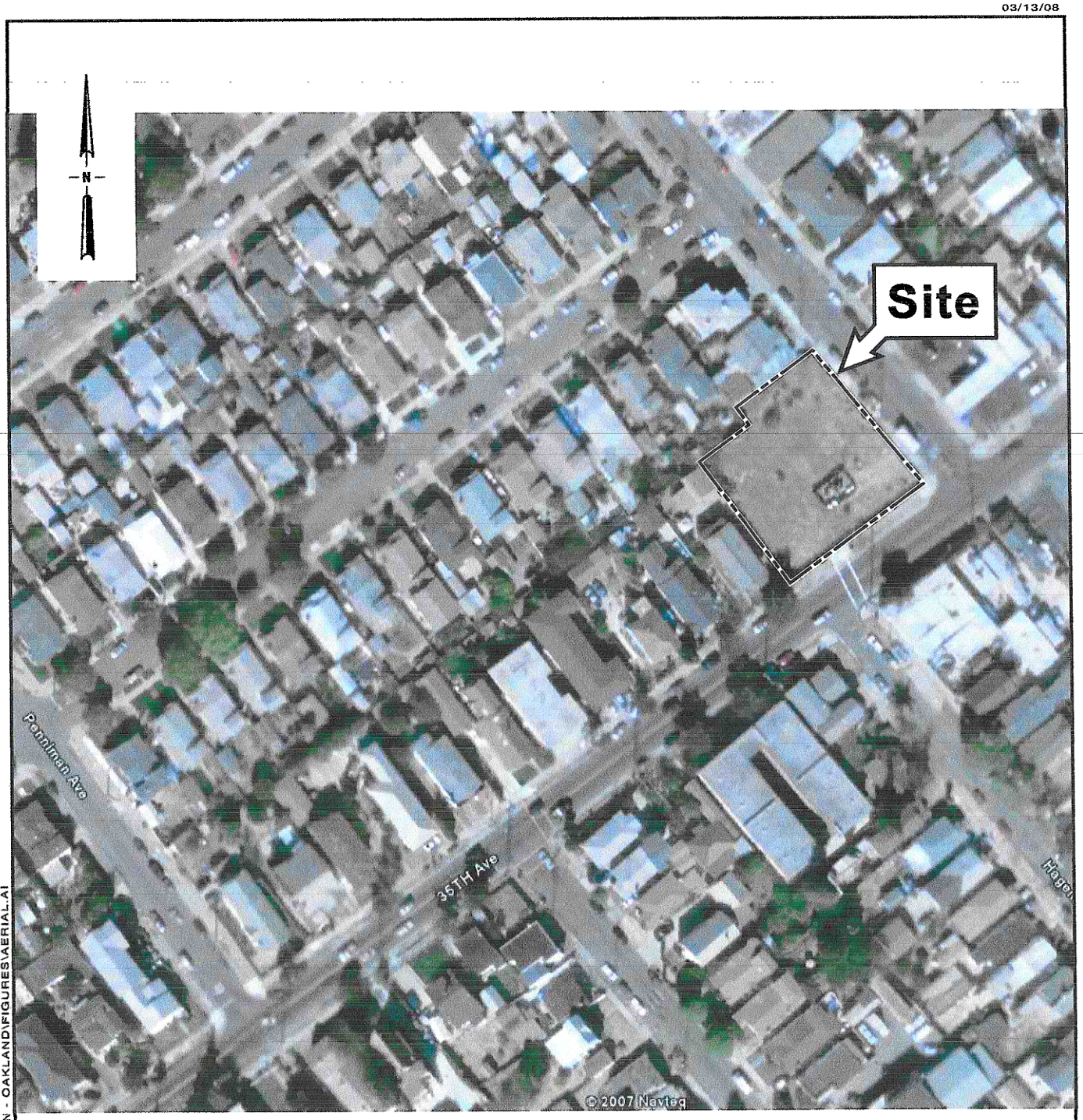
3035 35th Avenue

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

03/13/08



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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

CONESTOGA-ROVERS & ASSOCIATES

Aerial Photograph

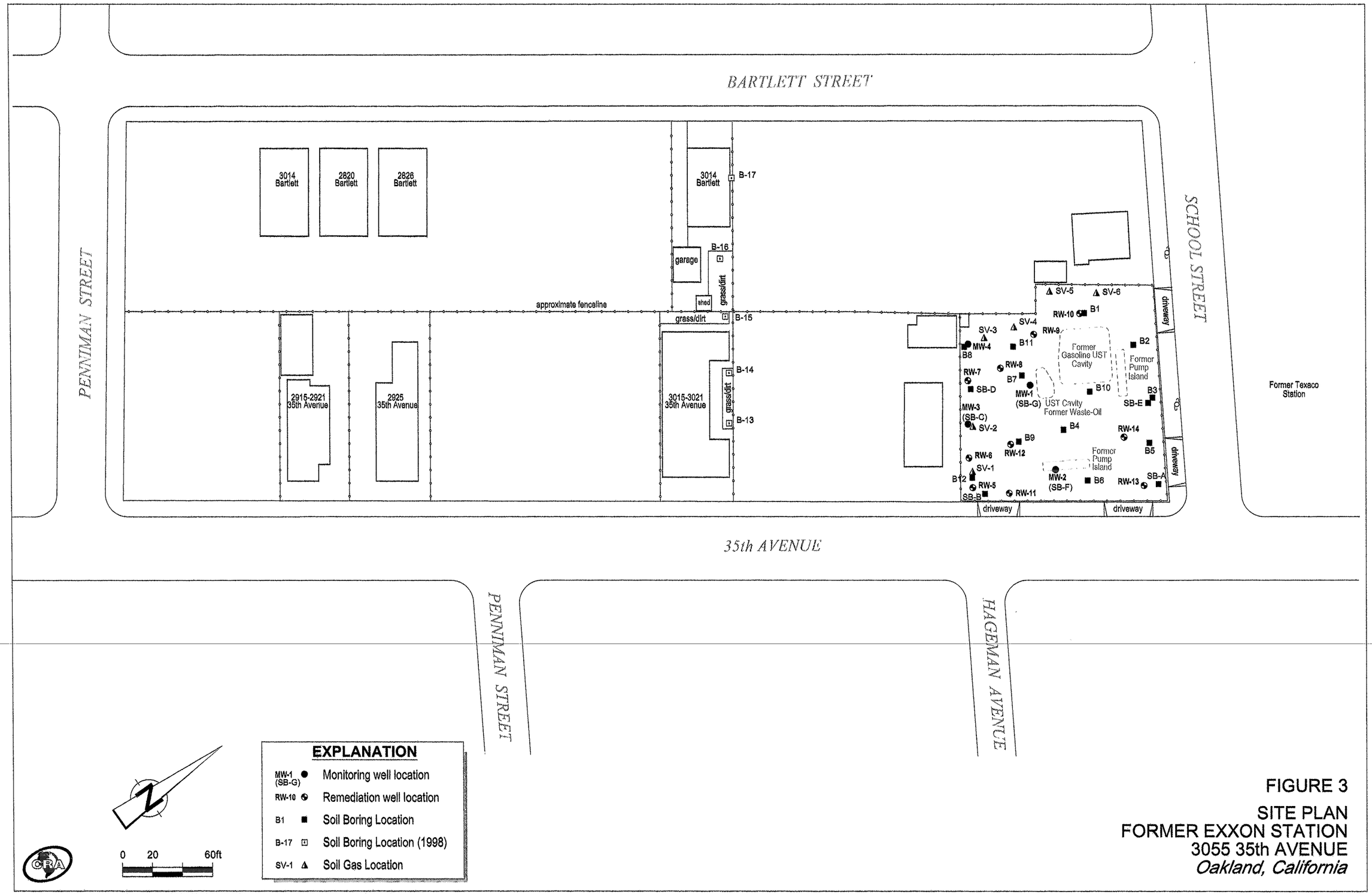

FIGURE 3

SITE PLAN
FORMER EXXON STATION
3055 35th AVENUE
Oakland, California

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04/11/08

Onsite Phase I Hydrocarbon Concentrations in Soil Gas and Proposed Boring Locations

SV-5			
Depth	TPHg	Benzene	MTBE
5.0'	53,000	99	16
10.0'	23,000	31	<4.2

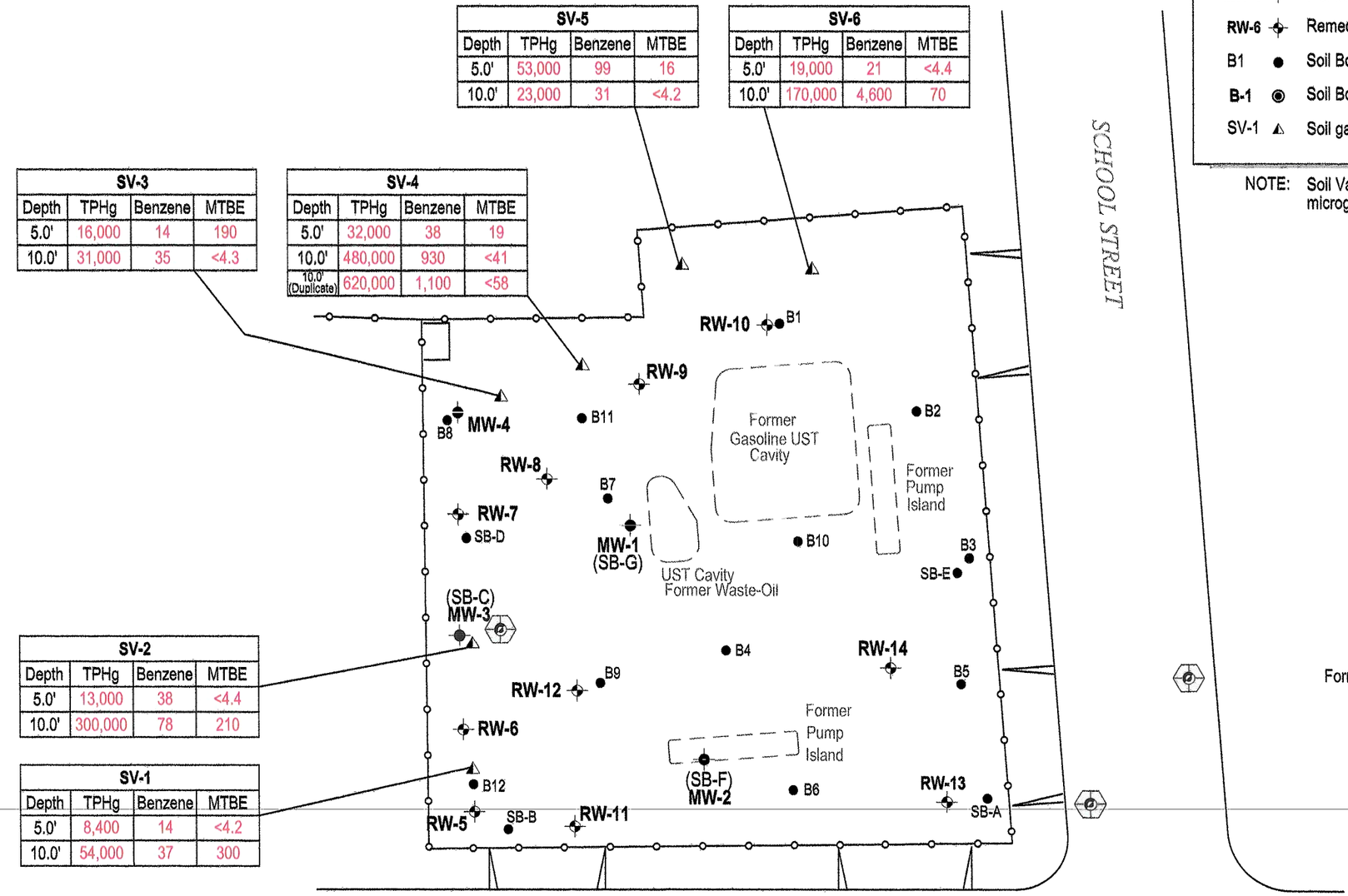
SV-6			
Depth	TPHg	Benzene	MTBE
5.0'	19,000	21	<4.4
10.0'	170,000	4,600	70

SV-3			
Depth	TPHg	Benzene	MTBE
5.0'	16,000	14	190
10.0'	31,000	35	<4.3

SV-4			
Depth	TPHg	Benzene	MTBE
5.0'	32,000	38	19
10.0'	480,000	930	<41
10.0' (Duplicate)	620,000	1,100	<58

SV-2			
Depth	TPHg	Benzene	MTBE
5.0'	13,000	38	<4.4
10.0'	300,000	78	210

SV-1			
Depth	TPHg	Benzene	MTBE
5.0'	8,400	14	<4.2
10.0'	54,000	37	300



EXPLANATION

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

NOTE: Soil Vapor concentrations are presented in micrograms per meter cubed ($\mu g/m^3$)

0 15 30 60

Scale (ft)

Source: Virgil Chavez Land Surveying

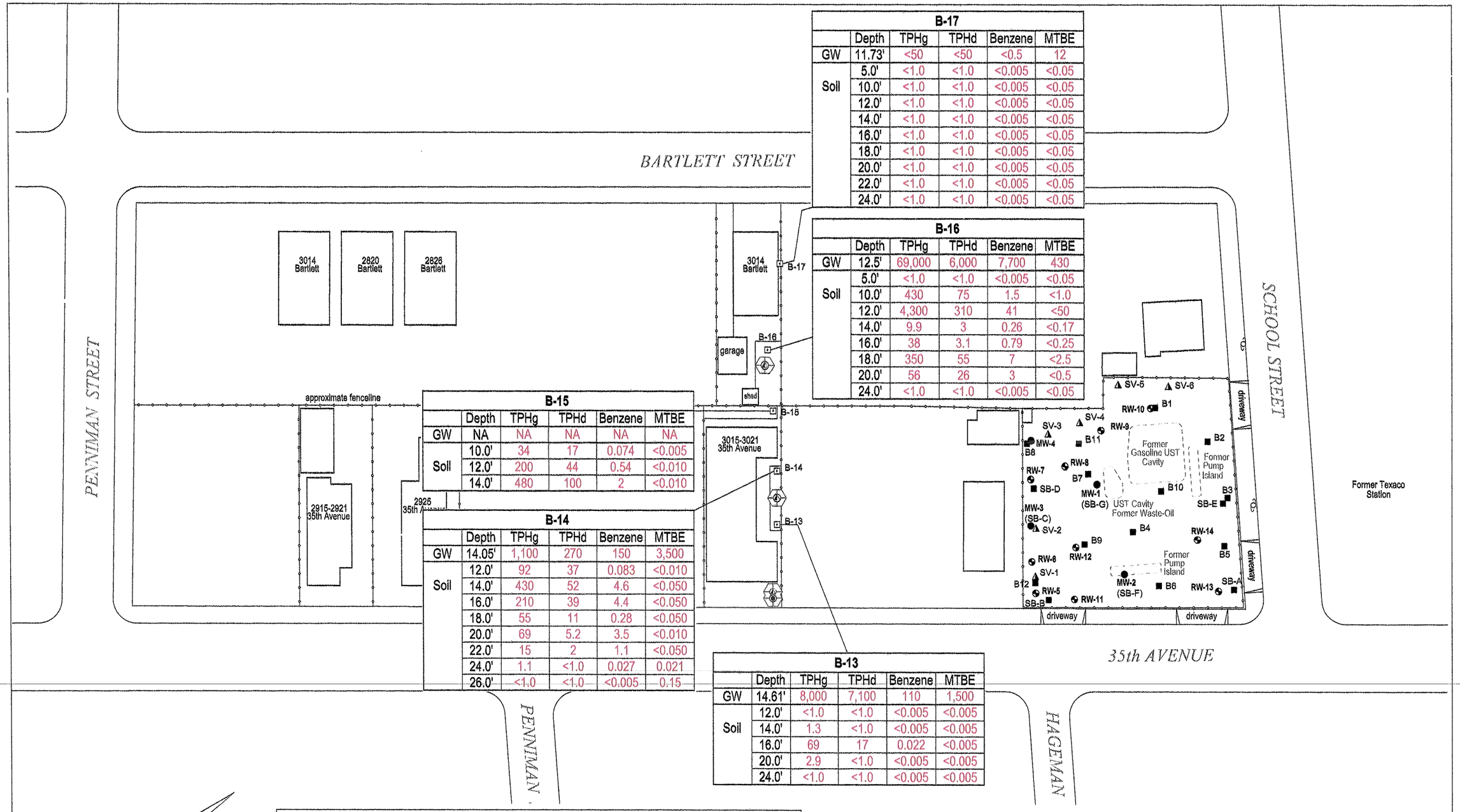
H:\WORTHINGTON\FIGURES\GOLDEN_PHASE-I-SG.DWG

FIGURE

4

Former Exxon Station
3055 35th Avenue
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES



B-17

	Depth	TPHg	TPHd	Benzene	MTBE
GW	11.73'	<50	<50	<0.5	12
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	<1.0	<1.0	<0.005	<0.05
	12.0'	<1.0	<1.0	<0.005	<0.05
	14.0'	<1.0	<1.0	<0.005	<0.05
	16.0'	<1.0	<1.0	<0.005	<0.05
	18.0'	<1.0	<1.0	<0.005	<0.05
	20.0'	<1.0	<1.0	<0.005	<0.05
	22.0'	<1.0	<1.0	<0.005	<0.05
	24.0'	<1.0	<1.0	<0.005	<0.05

B-16

	Depth	TPHg	TPHd	Benzene	MTBE
GW	12.5'	69,000	6,000	7,700	430
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	430	75	1.5	<1.0
	12.0'	4,300	310	41	<50
	14.0'	9.9	3	0.26	<0.17
	16.0'	38	3.1	0.79	<0.25
	18.0'	350	55	7	<2.5
	20.0'	56	26	3	<0.5
	24.0'	<1.0	<1.0	<0.005	<0.05

B-15

	Depth	TPHg	TPHd	Benzene	MTBE
GW	NA	NA	NA	NA	NA
Soil	10.0'	34	17	0.074	<0.005
	12.0'	200	44	0.54	<0.010
	14.0'	480	100	2	<0.010

B-14

	Depth	TPHg	TPHd	Benzene	MTBE
GW	14.05'	1,100	270	150	3,500
Soil	12.0'	92	37	0.083	<0.010
	14.0'	430	52	4.6	<0.050
	16.0'	210	39	4.4	<0.050
	18.0'	55	11	0.28	<0.050
	20.0'	69	5.2	3.5	<0.010
	22.0'	15	2	1.1	<0.050
	24.0'	1.1	<1.0	0.027	0.021
	26.0'	<1.0	<1.0	<0.005	0.15

B-13

	Depth	TPHg	TPHd	Benzene	MTBE
GW	14.61'	8,000	7,100	110	1,500
Soil	12.0'	<1.0	<1.0	<0.005	<0.005
	14.0'	1.3	<1.0	<0.005	<0.005
	16.0'	69	17	0.022	<0.005
	20.0'	2.9	<1.0	<0.005	<0.005
	24.0'	<1.0	<1.0	<0.005	<0.005

EXPLANATION

- Proposed soil vapor probe
- Proposed soil boring
- **NOTE:** All proposed locations are approximate
- MW-1 (SB-G) ● Monitoring well location
- RW-10 ⊕ Remediation well location
- B1 ■ Soil Boring Location
- B-17 ⊡ Soil Boring Location (1998)
- SV-1 ◭ Soil Gas Location

0 20 60ft

FIGURE 5
OFFSITE PHASE I HYDROCARBON CONCENTRATIONS in SOIL and GROUNDWATER with PROPOSED SOIL BORING LOCATIONS
FORMER EXXON STATION
3055 35th AVENUE
Oakland, California

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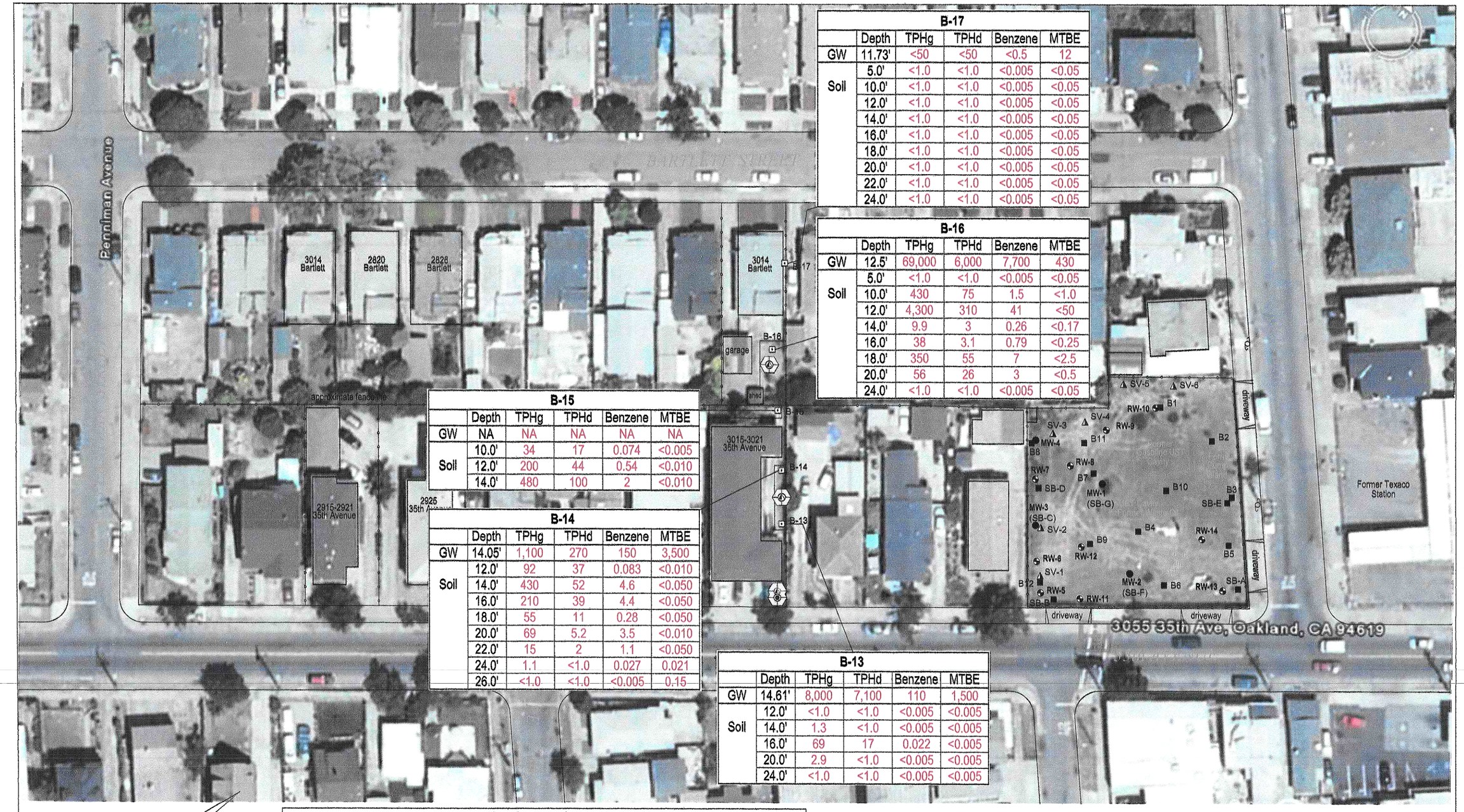

B-17

	Depth	TPHg	TPHd	Benzene	MTBE
GW	11.73'	<50	<50	<0.5	12
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	<1.0	<1.0	<0.005	<0.05
	12.0'	<1.0	<1.0	<0.005	<0.05
	14.0'	<1.0	<1.0	<0.005	<0.05
	16.0'	<1.0	<1.0	<0.005	<0.05
	18.0'	<1.0	<1.0	<0.005	<0.05
	20.0'	<1.0	<1.0	<0.005	<0.05
	22.0'	<1.0	<1.0	<0.005	<0.05
	24.0'	<1.0	<1.0	<0.005	<0.05

B-16

	Depth	TPHg	TPHd	Benzene	MTBE
GW	12.5'	69,000	6,000	7,700	430
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	430	75	1.5	<1.0
	12.0'	4,300	310	41	<50
	14.0'	9.9	3	0.26	<0.17
	16.0'	38	3.1	0.79	<0.25
	18.0'	350	55	7	<2.5
	20.0'	56	26	3	<0.5
	24.0'	<1.0	<1.0	<0.005	<0.05

B-15

	Depth	TPHg	TPHd	Benzene	MTBE
GW	NA	NA	NA	NA	NA
Soil	10.0'	34	17	0.074	<0.005
	12.0'	200	44	0.54	<0.010
	14.0'	480	100	2	<0.010

B-14

	Depth	TPHg	TPHd	Benzene	MTBE
GW	14.05'	1,100	270	150	3,500
Soil	12.0'	92	37	0.083	<0.010
	14.0'	430	52	4.6	<0.050
	16.0'	210	39	4.4	<0.050
	18.0'	55	11	0.28	<0.050
	20.0'	69	5.2	3.5	<0.010
	22.0'	15	2	1.1	<0.050
	24.0'	1.1	<1.0	0.027	0.021
	26.0'	<1.0	<1.0	<0.005	0.15

B-13

	Depth	TPHg	TPHd	Benzene	MTBE
GW	14.61'	8,000	7,100	110	1,500
Soil	12.0'	<1.0	<1.0	<0.005	<0.005
	14.0'	1.3	<1.0	<0.005	<0.005
	16.0'	69	17	0.022	<0.005
	20.0'	2.9	<1.0	<0.005	<0.005
	24.0'	<1.0	<1.0	<0.005	<0.005

EXPLANATION

- Proposed soil vapor probe
- Proposed soil boring
- **NOTE:** All proposed locations are approximate
- MW-1 (SB-G) — Monitoring well location
- RW-10 — Remediation well location
- B1 — Soil Boring Location
- B-17 — Soil Boring Location (1998)
- SV-1 — Soil Gas Location

0 20 60ft

CRA

FIGURE 5 AF

OFFSITE PHASE I HYDROCARBON CONCENTRATIONS in SOIL and GROUNDWATER with PROPOSED SOIL BORING LOCATIONS

FORMER EXXON STATION
3055 35th AVENUE
Oakland, California

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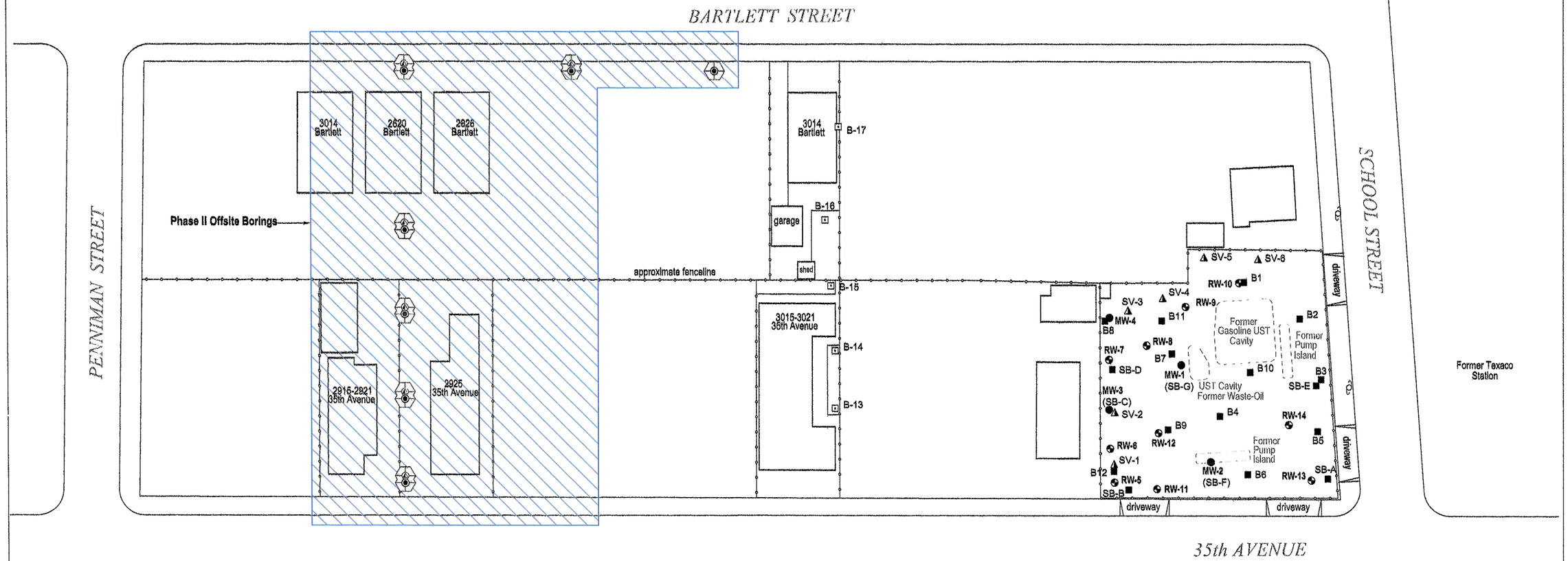

EXPLANATION

- Proposed soil vapor probe
- Proposed soil boring
- **NOTE:** All proposed locations are approximate
- MW-1 (SB-G) ● Monitoring well location
- RW-10 ⊕ Remediation well location
- B1 ■ Soil Boring Location
- B-17 ⊡ Soil Boring Location (1998)
- SV-1 ▲ Soil Gas Location

0 20 60ft

CRA

FIGURE 6

OFFSITE PHASE II SOIL BORING LOCATIONS
FORMER EXXON STATION
3055 35th AVENUE
Oakland, California

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EXPLANATION

- Proposed soil vapor probe
- Proposed soil boring
- **NOTE:** All proposed locations are approximate
- MW-1 (SB-G) ● Monitoring well location
- RW-10 ⊕ Remediation well location
- B1 ■ Soil Boring Location
- B-17 ⊡ Soil Boring Location (1998)
- SV-1 ◭ Soil Gas Location

0 20 60ft

FIGURE 6 AF

OFFSITE PHASE II SOIL BORING LOCATIONS
FORMER EXXON STATION
3055 35th AVENUE
Oakland, California

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Conestoga-Rovers & Associates

Table 1. Well Construction Details - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date Installed	Borehole Depth (ft)	Borehole Diameter (in)	Casing Diameter (in)	Screen Interval (ft bgs)	Screen Size (in)	Filter Pack (ft bgs)	Bentonite Seal (ft bgs)	Cement Seal (ft bgs)	TOC Elevation (ft msl)
MW-1	May 9, 1994	26.5	NA	4	10 - 25	0.010	9.5 - 25	7.5 - 9.5	0 - 7.5	167.02
MW-2	May 9, 1994	26.5	NA	4	10 - 25	0.010	9.5 - 25	7.5 - 8.5	0 - 7.5	166.14
MW-3	May 9, 1994	26.5	NA	2	10 - 25	0.010	9 - 25	7 - 9 25 - 26.5	0 - 7	162.94
MW-4	Feb. 26, 1997	30.0	NA	2	10 - 30	0.010	8 - 30	7 - 8	0 - 7	163.49
RW-5	Aug. 5, 1998	25.7	NA	4	5 - 25.5	0.010 (?)	4.5 - 25.7	2.5 - 4.5	0 - 2.5	162.34
RW-6	Aug. 5, 1998	25.5	NA	4	5 - 25.5	0.010 (?)	5 - 25.5	2.5 - 5	0 - 2.5	162.36
RW-7	Aug. 5, 1998	29.5	NA	4	5 - 29.5	0.010 (?)	5 - 29.5	3 - 5	0 - 3	162.72
RW-8	Aug. 5, 1998	29.5	NA	4	5 - 29.5	0.010 (?)	5 - 29.5	3 - 5	0 - 3	164.13
RW-9	Aug. 6, 1998	25.0	NA	4	5 - 25	0.010 (?)	5 - 25	3 - 5	0 - 3	163.86
RW-10	Aug. 6, 1998	25.0	NA	4	5 - 25	0.010 (?)	5 - 25	3 - 5	0 - 3	163.02
RW-11	Aug. 6, 1998	25.0	NA	4	5 - 25	0.010 (?)	5 - 25	3 - 5	0 - 3	162.57
RW-12	Aug. 6, 1998	27.0	NA	4	5 - 27	0.010 (?)	5 - 27	3 - 5	0 - 3	163.06
RW-13	Aug. 6, 1998	25.0	NA	4	5 - 25	0.010 (?)	5 - 25	3 - 5	0 - 3	164.34
RW-14	Aug. 6, 1998	25.0	NA	4	5 - 25	0.010 (?)	5 - 25	3 - 5	0 - 3	163.76

Abbreviations / Notes
ft = feet
in = inches
ft bgs = feet below grade surface
ft msl = feet above mean sea level
TOC = top of casing
NA = Not Available

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE 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
	9/26/2002	20.30	---	80.55		7,000[d]	1,300[e,f,k]	---	1,300	190	200	760	<100	0.70	Operating
	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

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
167.02	3/18/2004	17.70	---	83.15		3,600[d]	1,100[e,f]	---	650	59	38	370	<90	---	Operating
MW-1	6/16/2004	19.20	---	147.82		8,100[d]	2,300[e,f]	---	1,500	69	22	1,000	<100	---	Not operating
Continued	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
	3/16/2007	13.62	---	153.40		7,500 [d]	1,800 [e,f]	---	1,400	30	100	270	<150	0.58	Not Operating
	6/15/2007	18.07	---	148.95		5,600 [d]	1,500 [e,k,f]	---	1,200	29	84	190	56	0.74	Not Operating
	9/6/2007	20.84	---	146.18		2,800 [d]	690 [e,f]	---	590	17	35	100	<80	0.90	Not Operating
	12/8/2007	18.66	Sheen	148.36		4,500 [d]	520 [e,f]	--	570	13	57	200	<120	1.24	Not Operating
	3/9/2008	**12.98**	**Sheen**	**154.04**	**Z**	**4,600 [d]**	**470 [e]**	**<250**	**1,100**	**23**	**82**	**140**	**<50**	**1.17**	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	
	11/27/1996	16.61	Sheen	83.39		54,000	10,000	---	9,800	7,000	1,800	7,900	<2,000	3.1	
	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	

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

Well ID *TOC*	Date	TOC GW Depth (ft)	SPH (ft)	GW Elev. (ft)	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	DPE System Status
						<---------- Concentrations in micrograms per liter (µg/L) ---------->									
MW-2	9/28/1999	18.61	---	81.39		15,000[d]	3,400[e,f]	---	1,200	540	230	2,300	<36	1.18	
Continued	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
	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
	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
	3/16/2007	12.31	Sheen	153.83		44,000 [d,g]	49,000 [e,f,k,g]	---	1,800	71	670	2,200	<900	0.52	Not operating
	6/15/2007	17.31	---	148.83		18,000 [d,g]	21,000 [e,k,f,g]	---	700	22	290	740	<650	0.68	Not operating
	9/6/2007	19.28	Sheen	146.86		17,000 [a,h]	8,400 [e,f,g]	---	1,000	53	450	1,100	<700	0.72	Not operating
	12/8/2007	17.72	Sheen	148.42		14,000 [d,g]	3,600 [e,f,g]	---	640	13	220	520	<300	0.80	Not operating
	3/9/2008	**12.09**	**Sheen**	**154.05**	**Z**	**7,900 [d]**	**3,100 [e]**	**<250**	**840**	**24**	**280**	**380**	**<380**	**0.68**	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	---	---	

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

Well ID *TOC*	Date	TOC GW Depth (ft)	SPH (ft)	GW Elev. (ft)	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	DPE System Status
						<---------- Concentrations in micrograms per liter (µg/L) ----------								----->	
MW-3	2/27/1995	11.86	Sheen	85.01		250,000	---	---	22,000	26,000	7,800	21,000	---	---	
Continued	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	
	3/23/2000	8.98	---	87.89		77,000[d,g]	11,000[g,j]	---	10,000	9,400	1,600	11,000	<430	---	
	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[e,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

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

Well ID *TOC*	Date	TOC GW Depth (ft)	SPH (ft)	GW Elev. (ft)	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	DPE System Status
						<---------- Concentrations in micrograms per liter (µg/L) ----------								----->	
MW-3	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
Continued	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
	3/16/2007	10.25	Sheen	152.69		72,000 [d,g]	5,300 [e,f,k,g]	---	6,500	420	1,200	3,900	<1,000	0.61	Not operating
	6/15/2007	14.57	---	148.37		56,000 [d,g]	25,000 [e,k,f,g]	---	5,100	200	1,100	3,200	<1000	0.48	Not operating
	9/6/2007	16.55	Sheen	146.39		41,000 [d,g]	14,000 [e,f,g]	---	4,400	180	1,000	3,800	<700	0.70	Not operating
	12/8/2007	14.49	Sheen	148.45		33,000 [d,g]	4,000 [e,f,g]	---	4,300	120	370	2,200	<250	0.77	Not operating
	3/9/2008	**10.40**	**Sheen**	**152.54**	**Z**	**23,000 [d]**	**3,400 [e]**	**310**	**4,200**	**120**	**650**	**1,600**	**<250**	**0.71**	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[c]	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	
	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	
	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

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

Well ID *TOC*	Date	TOC GW Depth (ft)	SPH (ft)	GW Elev. (ft)	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	DPE System Status
						<---------- Concentrations in micrograms per liter (µg/L) ---------->									
MW-4	9/3/2003	21.65	---	75.69		29,000[d]	27,000[e,f]	---	2,200	380	280	2,300	65	---	Operating
Continued	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
	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
	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
	3/16/2007	10.71	Sheen	152.78		13,000 [d,g]	2,700 [e,f,k,g]	---	1,400	32	93	740	<100	0.65	Not operating
	6/15/2007	15.43	---	148.06		14,000 [d,g]	7,200 [e,g]	---	1,200	46	63	850	<110	0.61	Not operating
	9/6/2007	17.25	Sheen	146.24		27,000 [d,g]	8,400 [e,f,k,g]	---	1,500	150	120	4,500	<250	0.55	Not operating
	12/8/2007	15.15	Sheen	148.34		7,600 [d,g]	790 [e,f,g]	---	690	27	39	570	<80	0.72	Not operating
	3/9/2008	**10.77**	**Sheen**	**152.72**	**Z**	**8,100 [d]**	**3,000 [e]**	**<250**	**830**	**7.7**	**55**	**310**	**<50**	**0.79**	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
	3/16/2007	8.81	Sheen	153.53		2,400 [d,g]	2,500 [e,f,k,g]	---	180	3.3	7.3	10	<17	0.62	Not operating
	6/15/2007	13.84	---	148.50		3,700 [d,g]	2,000 [e,k,f,g]	---	730	14	36	80	<150	0.65	Not operating
	9/6/2007	15.85	Sheen	146.49		2,500 [d]	1,000 [e,f]	---	600	12	24	92	180	0.68	Not operating
	12/8/2007	13.99	Sheen	148.35		1,900 [d]	370 [e,f]	---	220	4.0	10	38	500	0.74	Not operating
	3/9/2008	**8.77**	**Sheen**	**153.57**	**Z**	**1,100 [d]**	**90 [e]**	**<250**	**220**	**5.3**	**4.9**	**10**	**<90**	**0.92**	Not operating
RW-6	3/11/2002	--	---	---		14,000	3,100	---	970	520	170	2,200	<130	---	

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
162.36	1/13/2003	10.35	---	---		15,000	2,900	---	2,200	1,200	130	2,200	440	0.24	
RW-6	3/18/2004	11.47	---	---		8,500	---	---	1,300	260	71	990	1,300	--	
Continued	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
	3/16/2007	8.89	---	153.47		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	13.90	---	148.46		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	15.92	---	146.44		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.21	---	148.15		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**8.93**	---	**153.43**		---	---	---	---	---	---	---	---	---	
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
	3/16/2007	9.69	---	153.03		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	14.54	---	148.18		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	16.42	---	146.30		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.46	---	148.26		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**9.69**	---	**153.03**		---	---	---	---	---	---	---	---	---	
RW-8	3/11/2002	---	---	---		1,300	80	---	620	11	15	14	<60	---	

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ----------								(mg/L)	Status
164.13	1/13/2003	12.80	---	---		390	56	---	150	11	4.1	4.1	13	0.31	
RW-8	3/18/2004	15.34	---	---		760	---	---	310	9.9	11	16	<25	---	
Continued	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
	3/16/2007	11.04	---	153.09		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	15.81	---	148.32		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	17.63	---	146.50		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	15.60	---	148.53		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**11.05**	---	**153.08**		---	---	---	---	---	---	---	---	---	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	---	
	6/16/2004	16.03	---	147.83		---	---	---	---	---	---	---	---	---	Not operating
	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
	3/16/2007	10.83	---	153.03		16,000[d,g]	1,200[e]	---	3,700	76	230	340	<350	0.71	Not operating
	6/15/2007	15.48	---	148.38		12,000[d]	670[e]	---	3,000	44	170	220	<250	0.68	Not operating
	9/6/2007	17.29	Sheen	146.57		13,000[d,g]	2,200[e,f,g]	---	2,700	61	240	350	<400	0.66	Not operating
	12/8/2007	15.22	Sheen	148.64		9,300[d]	1,000[e,f]	---	2,900	24	150	170	<250	0.89	Not operating
	3/9/2008	**10.86**	---	**153.00**	**Z**	**10,000[d]**	**570[e]**	**<250**	**4,200**	**71**	**180**	**380**	**<35**	**0.86**	Not operating
RW-10	3/11/2002	---	---	---		12,000	740	---	3,900	150	110	1,100	<270	---	

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
163.02	1/13/2003	10.75	---	---		4,300	330	---	1,500	43	98	98	<100	0.41	
RW-10	3/18/2004	13.13	---	---		5,800	---	---	2,400	11	<10	110	<300	---	
Continued	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
	3/16/2007	9.91	---	153.11		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	14.52	---	148.50		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	16.23	---	146.79		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.23	---	148.79		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**9.96**	---	**153.06**		---	---	---	---	---	---	---	---	---	
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
	3/7/2005	5.95	---	156.62		---	---	---	---	---	---	---	---	---	Not operating
	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
	3/16/2007	8.85	---	153.72		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	13.90	---	148.67		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	15.84	---	146.73		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	13.83	---	148.74		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**8.81**	---	**153.76**		---	---	---	---	---	---	---	---	---	
RW-12	3/11/2002	---	---	---		13,000	900	---	4,500	130	130	270	<5.0	---	

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
163.06	1/13/2003	10.90	---	---		4,100	1,800	---	1,000	130	99	99	<100	0.21	
RW-12	3/18/2004	13.63	---	---		17,000	---	---	2,700	960	230	1,500	1,400	---	
Continued	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
	3/16/2007	9.52	---	153.54		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	14.44	---	148.62		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	16.42	---	146.64		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.87	---	148.19		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**9.43**	---	**153.63**		---	---	---	---	---	---	---	---	---	
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
	12/14/2005	14.11	---	150.23		---	---	---	---	---	---	---	---	---	Not operating
	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
	3/16/2007	9.93	---	154.41		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	14.98	---	149.36		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	16.95	---	147.39		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.97	---	149.37		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**9.85**	---	**154.49**		---	---	---	---	---	---	---	---	---	
RW-14	3/11/2002	---	---	---		270	82	---	44	0.99	<0.5	4.2	<5.0	---	

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

Well ID	Date	TOC GW	SPH	GW	Note	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO	DPE System
TOC		Depth (ft)	(ft)	Elev. (ft)		<---------- Concentrations in micrograms per liter (µg/L) ---------->								(mg/L)	Status
163.76	1/13/2003	11.00	---	---		3700	6800	---	230	77	91	91	<50	0.38	
RW-14	3/18/2004	12.81	---	---		220	---	---	42	1.4	0.99	5.2	<5.0	---	
Continued	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
	3/16/2007	9.66	---	154.10		---	---	---	---	---	---	---	---	---	Not operating
	6/15/2007	14.61	---	149.15		---	---	---	---	---	---	---	---	---	Not operating
	9/6/2007	16.54	---	147.22		---	---	---	---	---	---	---	---	---	Not operating
	12/8/2007	14.57	---	149.19		---	---	---	---	---	---	---	---	---	Not operating
	3/9/2008	**9.60**	---	**154.16**		---	---	---	---	---	---	---	---	---	

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)

TOC 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.

Z = Laboratory used Gravity Separtation of Groundwater Samples to Isolate the Water Phase Protocol (Zemo)

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

DPE = Dual-phase extraction remediation

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

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

* = 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

Conestoga-Rovers & Associates

Table 3. Grab Groundwater Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Sample ID	Date	Boring Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TAME	TBA	EDB	1,2- DCA	DIPE	ETBE	Ethanol	Notes
				← Concentrations in micrograms per liter (µg/L) →														
Offsite Borings - 2007																		
B-13	7/16/2007	30	14.61	8,000	7,100	110	390	250	990	1,500	<50	<500	<50	<50	<50	<50	<5,000	a,b,d,g
B-14	7/13/2007	30	14.05	1,100	270	150	55	34	170	3,500	<50	<500	<50	<50	<50	<50	<5,000	a,d,f
B-16	7/23/2007	24	12.50	69,000	6,000	7,700	1,500	1,600	8,200	430	<25	<250	<25	<25	<25	<25	<2500	a,d
B-17	7/23/2007	24	11.73	<50	<50	<0.5	<0.5	<0.5	<0.5	12	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<50	

Methods and Abbreviations:

GW Depth = Groundwater depth measured in feet below ground surface

ft = Measured in feet

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

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

--- = Not observed/not analyzed

Notes:

a = unmodified or weakly modified gasoline is significant

b = diesel range compounds are significant; no recognizable pattern

d = gasoline range compounds are significant

f = one to a few isolated peaks present

g = oil range compounds are significant

Conestoga-Rovers & Associates

Table 4. Soil Analytical Data - Petroleum Hydrocarbons - 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	---	
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

Table 4. Soil Analytical Data - Petroleum Hydrocarbons - 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-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
Offsite Soil Borings - 2007											
B-13-12'	7/13/07	12	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-13-14'	7/13/07	14	---	1.3	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	g
B-13-16'	7/13/07	16	---	69	17	0.022	0.49	0.27	0.074	(<0.005)	c,d,e,h
B-13-20'	7/13/07	20	---	2.9	<1.0	<0.005	0.034	0.017	0.077	(<0.005)	c,e
B-13-24'	7/13/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-14-12'	7/13/07	12	---	92	37	0.083	0.55	1.0	0.69	(<0.010)	d,e,f,h
B-14-14'	7/13/07	14	---	430	52	4.6	1.8	6.4	28	(<0.050)	c,d
B-14-16'	7/13/07	16	---	210	39	4.4	5.4	3	18	(<0.050)	c,d,h
B-14-18'	7/13/07	18	---	55	11	0.28	0.34	0.46	3.4	(<0.005)	c,d
B-14-20'	7/13/07	20	---	69	5.2	3.5	1.8	1.1	6.7	(<0.010)	c,d,h
B-14-22'	7/13/07	22	---	15	2	1.1	0.19	0.25	0.65	(<0.005)	c,d,h
B-14-24'	7/13/07	24	---	1.1	<1.0	0.027	0.0071	0.0073	0.013	(0.021)	c
B-14-26'	7/13/07	26	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(0.15)	
B-15-10'	7/12/07	10	---	34	17	0.074	0.20	0.21	0.08	(<0.005)	c,d,e,h
B-15-12'	7/12/07	12	---	200	44	0.54	0.95	2.5	5.4	(<0.010)	c,d
B-15-14'	7/12/07	14	---	480	100	2	1.9	8	26	(<0.010)	d,e,f,h
B-16-5'	7/20/07	5	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-16-10'	7/20/07	10	---	430	75	1.5	2.1	4.4	21	(<1.0)	d,f,e
B-16-12'	7/20/07	12	---	4300	310	41	23	59	320	(<50)	c,d
B-16-14'	7/20/07	14	---	9.9	3	0.26	0.044	0.24	1.2	(<0.17)	c,d
B-16-16'	7/20/07	16	---	38	3.1	0.79	0.2	0.4	2.7	(<0.25)	c,d,e
B-16-18'	7/20/07	18	---	350	55	7	9.6	5.3	31	(<2.5)	c,d
B-16-20'	7/20/07	20	---	56	2.6	3	1.8	0.75	4.4	(<0.5)	c,d
B-16-24'	7/20/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-5'	7/20/07	5	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-10'	7/20/07	10	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-12'	7/20/07	12	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-14'	7/20/07	14	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-16'	7/20/07	16	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-18'	7/20/07	18	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-20'	7/20/07	20	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-22'	7/20/07	22	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-24'	7/20/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	

Table 4. Soil Analytical Data - Petroleum Hydrocarbons - 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 ---------->							

Abbreviations:

ft = feet

mg/kg = milligrams per kilogram

< x = 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 8020/8021B

MTBE = Methyl Tertiary Butyl Ether by EPA Method 8020, or by EPA Method 8260 in paratheses

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)

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)

(e) No recognizable pattern

(f) Heavier gasoline range compounds are significant (aged gasoline?)

(g) strongly aged gasoline or diesel range compounds are significant

(h) diesel range compounds are significant; no recognizable pattern

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Table 5. Soil Analytical Data - Oxygenates - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Sample ID	Date Sampled	Sample Depth (ft)	TAME	TBA	EDB	1,2- DCA	DIPE	ETBE	Ethanol	Notes
			<---------- Concentrations in mg/kg ---------->							
Offsite Soil Borings - 2007										
B-13-12'	7/13/07	12	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-13-14'	7/13/07	14	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-13-16'	7/13/07	16	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-13-20'	7/13/07	20	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-13-24'	7/13/07	24	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-14-12'	7/13/07	12	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.50	j
B-14-14'	7/13/07	14	<0.050	<0.50	<0.050	<0.050	<0.050	<0.050	<2.5	j
B-14-16'	7/13/07	16	<0.050	<0.50	<0.050	<0.050	<0.050	<0.050	<2.5	j
B-14-18'	7/13/07	18	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-14-20'	7/13/07	20	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.50	j
B-14-22'	7/13/07	22	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-14-24'	7/13/07	24	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-14-26'	7/13/07	26	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-15-10'	7/12/07	10	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-15-12'	7/12/07	12	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.50	j
B-15-14'	7/12/07	14	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.50	j
B-16-5'	7/20/07	5	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-16-10'	7/20/07	10	<0.10	<1.0	<0.10	<0.10	<0.10	<0.10	<5.0	
B-16-12'	7/20/07	12	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<25	
B-16-14'	7/20/07	14	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-16-16'	7/20/07	16	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	<0.50	
B-16-18'	7/20/07	18	<0.10	<1.0	<0.10	<0.10	<0.10	<0.10	<5.0	
B-16-20'	7/20/07	20	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	<1.0	
B-16-24'	7/20/07	24	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<.25	
B-17-5'	7/20/07	5	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-10'	7/20/07	10	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-12'	7/20/07	12	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-14'	7/20/07	14	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-16'	7/20/07	16	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-18'	7/20/07	18	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-20'	7/20/07	20	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-22'	7/20/07	22	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	
B-17-24'	7/20/07	24	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.25	

Abbreviations:
ft = feet
mg/kg = milligrams per kilogram
< x = Not detected above detection limit.

Conestoga-Rovers & Associates

Table 6. Soil Gas Analytical Data - 3055 35th Avenue, Oakland, CA

Sample ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	MTBE
			←	$\mu g/m^3$	→
Onsite Soil Gas					
SV-1-5A	05/24/07	5	8,400	14	<4.2
SV-1-10	05/24/07	10	54,000	37	300
SV-2-5	05/24/07	5	13,000	38	<4.4
SV-2-10	05/24/07	10	300,000	78	210
SV-3-5	05/24/07	5	16,000	14	190
SV-3-10	05/24/07	10	31,000	35	<4.3
SV-4-5A	05/24/07	5	32,000	38	19
SV-4-10	05/24/07	10	480,000	930	<41
SV-5-5	05/24/07	5	53,000	99	16
SV-5-10	05/24/07	10	23,000	31	<4.2
SV-6-5	05/24/07	5	19,000	21	<4.4
SV-6-10	05/24/07	10	170,000	4,600	70
SV-4-10 Duplicate	5/24/07	10	620,000	1,100	<58
Trip Blank	5/24/07	--	ND	ND	ND

Abbreviations:

ft = feet

$\mu g/m^3$ = micrograms per cubic meter

<X or ND: Not detected above laboratory detection limit.

See Analytical Laboratory report for notes

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method TO-3

Benzene by modified EPA Method TO-15

MTBE = Methyl Tertiary Butyl Ether by modified EPA Method TO-15

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

April 7, 2008

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

FILE COPY

Subject: Fuel Leak Case No. RO0000271 and Geotracker Global ID T0600100538, Exxon, 3055 35th Avenue, Oakland, CA

Dear Mr. Worthington:

Alameda County Environmental Health (ACEH) staff has reviewed the data generated during phase 1 of your soil vapor and off-site investigation and request that you complete the initial investigation of the extent of impact as per your *Offsite and Soil Gas Work Plan* dated January 12, 2007 approved by ACEH on March 1, 2007. Preliminary draft results of phase 1 of this work were provided to ACEH in an August 28, 2007 correspondence entitled *Sampling Data and Phase II Offsite Characterization* but were not uploaded to the ftp site until March 18, 2008. ACEH's February 15, 2008 correspondence requested that the original scope of work (phase 2 transect), be completed. We request that you complete the previously approved scope of work, address the technical comments and submit the responses requested below.

As stated above, the work was approved on February 15, 2005 ?(2008). It appears that no progress has been made to obtain access to the properties involved. **We request that you immediately obtain your off-site access agreements.** If needed ACEH can send out a version of the attached letter to owners of the neighboring properties where you propose to perform investigation activities

TECHNICAL COMMENTS

1. **Location of Proposed Soil Samples.** The proposed phase 1 and phase 2 sample locations in the approved work plan were located closer to the former service station. The five phase 2 soil borings proposed in your August 28, 2007 correspondence are located approximately 140 feet away from the approved transect 2 location. No explanation of your rationale for changing these locations was provided. It appears that you may be attempting to determine the downgradient extent of the soil and groundwater plumes. If you wish to proceed with these locations we concur. However, we require that you also advance the previously approved transect 2 locations. We request that you complete this work without delay and submit a Soil and Water Investigation (SWI) Report documenting your work by the due date specified below. This report is to include both phase 1 and phase 2 of your field investigation results.

2. **Soil Vapor Sampling.** Up to 69,000 micrograms per liter (µg/L) total petroleum hydrocarbons as gasoline (TPH-g) and 7,700 µg/L benzene were detected in groundwater in

transect 1 boring B-16, located adjacent to residences. Up to 41,000 µg/L TPHg and 4,400 µg/L benzene were detected in well MW-3 at the westerly property boundary of your site, also adjacent to residential properties. Based on the groundwater results, evaluation of the vapor pathway is required. We request that you submit a Soil Vapor Sampling Work Plan by the date specified below. We recommend that your sampling plan follow the January 23, 2003 Advisory – Active Soil Gas Investigations; Jointly issued by the Regional Water Quality Control Board, Los Angeles Region and the Department of Toxic Substances Control. In addition to the analytes in your work plan, please analyze for ethylbenzene, xylenes, oxygen, carbon dioxide, methane and your tracer gas. Report the results of your vapor investigation in the SWI requested below.

3. **Site Maps.** Dissolved plumes originating from your site appear to have contaminated residential properties in the vicinity of your site. Maps provided to date fail to depict all of the properties, homes, buildings, etc. and are generally insufficient to use to determine appropriate investigation locations. We request that you use an aerial photo as the basemap for future site maps submitted for the site. Please label and identify the use of all properties on your map. Please provide a copy of this map with all existing and proposed soil boring, monitoring well, etc locations by the date specified below.

LANDOWNER NOTIFICATION REQUIREMENTS

Pursuant to California Health & Safety Code Section 25297.15, the active or primary responsible party for a fuel leak case must inform all current property owners of the site of cleanup actions or requests for closure. Furthermore, ACEH may not consider any cleanup proposals or requests for case closure without assurance that this notification requirement has been met. Additionally, the active or primary responsible party is required to forward to ACEH a complete mailing list of all record fee title holders to the site.

At this time we require that you submit a complete mailing list of all record fee title owners of the site by **April 30, 2008**, which states, at a minimum, the following:

A. In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, (name of primary responsible party), certify that the following is a complete list of current record fee title owners and their mailing addresses for the above site:

- OR -

B. In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, (name of primary responsible party), certify that I am the sole landowner for the above site.

(Note: Complete item A if there are multiple site landowners. If you are the sole site landowner, skip item A and complete item B.)

In the future, for you to meet these requirements when submitting cleanup proposals or requests for case closure, ACEH requires that you:

1. Notify all current record owners of fee title to the site of any cleanup proposals or requests for case closure;

2. Submit a letter to ACEH which certifies that the notification requirement in 25297.15(a) of the Health and Safety Code has been met;
3. Forward to ACEH a copy of your complete mailing list of all record fee title holders to the site; and
4. Update your mailing list of all record fee titleholders, and repeat the process outlined above prior to submittal of any additional *Corrective Action Plan* or your *Request for Case Closure.*

Your written certification to ACEH (Item 2 above) must state, at a minimum, the following:

A. In accordance with Section 25297.15(a) of the Health & Safety Code, I, (name of primary responsible party), certify that I have notified all responsible landowners of the enclosed proposed action. (Check space for applicable proposed action(s)):
___ cleanup proposal (Corrective Action Plan)
___ request for case closure
___ local agency intention to make a determination that no further action is required
___ local agency intention to issue a closure letter

- OR -

B. In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, (name of primary responsible party), certify that I am the sole landowner for the above site.

(Note: Complete item A if there are multiple site landowners. If you are the sole site landowner, skip item A and complete item B.)

TECHNICAL REPORT REQUEST

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

1. **April 11, 2008** – Extended Site Map showing boring locations on aerial photo base map and Soil Vapor Sampling Work Plan.

2. **May 12, 2008** – Landowner Notification Document.

3. **July 11, 2008** – Complete field work.

4. **August 15, 2008** – Soil and Water Investigation Report, including soil vapor results.

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

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will 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 (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

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. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. 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 monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website 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) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J. Jakub, PG
Hazardous Materials Specialist

Enclosures: ACEH Electronic Report Upload (ftp) Instructions
Request for Access Letter

cc: Mark Jonas
Conestoga-Rover & Associates
5900 Hollis Street, Suite A
Emeryville, California 94608

Donna Drogos, ACEH
Barbara Jakub, ACEH
File

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**ISSUE DATE:** July 5, 2005
	REVISION DATE: December 16, 2005
	PREVIOUS REVISIONS: October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

Submission Instructions

1) Obtain User Name and Password:
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to dehloptoxic@acgov.org
      or
      ii) Send a fax on company letterhead to (510) 337-9335, to the attention of Alicia Lam-Finneke.
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape and Firefox browsers will not open the FTP site.
   b) Click on File, then on Login As.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name at acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload)

ATTACHMENT 1

Adjacent Property Owner - Access Cooperation Request
January 8, 2003

<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>

Jonas, Mark

From: Jonas, Mark
Sent: Tuesday, February 19, 2008 11:43 AM
To: 'Plunkett, Steven, Env. Health'
Cc: Jeffrey Lawson (jsl@svlg.com)
Subject: Phase II Approval to Proceed - Golden Empire Properties RO0000271

Dear Steven:
Last year you put us on hold for Phase II offsite work pending your further review. It sounds like you are ready to have us move forward on the Phase II offsite investigation. So that we have agreement, we would like to present a brief work plan describing the proposed PII scope of work. We will also include soil vapor assessment. As long as we have agreement on the upcoming scope of work, we probably don't need a meeting at this time. We can meet after we have completed this work.

I was out of the office Friday and Monday. I'm in training today.

Sincerely,
Mark Jonas
Mark Jonas, P.G.
Conestoga-Rovers & Associates, Inc.
510/420-3307 direct

www.CRAworld.com

From: Plunkett, Steven, Env. Health [mailto:steven.plunkett@acgov.org]
Sent: Friday, February 15, 2008 8:22 AM
To: Lawson, Jeff
Cc: Jonas, Mark
Subject: RE: Meeting Request - Golden Empire Properties RO0000271

Hello Jeff,

I do not believe we have ever been introduced, and I am unsure of your connection with this site. As you are already aware, I am the case worker responsible for regulatory oversight of this case.

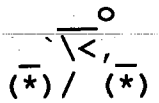
What, exactly, is the reason you would like to meet with ACEH?

As stated in the directive letter from March 2007, phase II soil boring must be installed and soil and groundwater sampling completed to determine if the hydrocarbon plume is present at this location. Further, phase II soil boring locations have been moved for the their original location? The location of phase II soil borings is now roughly 300 feet west of phase I soil boring locations, while the original location of phase II soil borings was slightly east of Penniman Street. To determine the down gradient extent of the plume, the location of phase II soil borings must be within 120 feet of phase I soil borings. Currently, the work plan has not been completed and we request that you immediately pursue any offsite access agreements necessary to install soil boring at parcel # 27-890-12 and parcel #27-890-25.Furthermore, provisional soil vapor data indicate that vapor intrusion may be a concern at the residences adjacent to the site boundary.

ACEH agrees that additional soil vapor assessment is required at phase I soil boring locations B-14, B-15 and B-16. Once the phase II borings have been installed and a soil, groundwater and soil vapor investigation report have been uploaded to that ACEH ftp site and Geotracker, ACEH may request a meeting to discuss potential options for the site and further action including remedial alternatives.

Sincerely,
Steven Plunkett
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

510-383-1767
510-337-9355 Fax
steven.plunkett@acgov.org



*"The bicycle is a curious invention,
the passenger is its engine."*

From: Lawson, Jeff [mailto:jsl@svlg.com]
Sent: Thursday, February 14, 2008 6:00 PM
To: Jonas, Mark; Plunkett, Steven, Env. Health
Cc: caferealty@aol.com; dazemo@zemoassociates.com
Subject: RE: Meeting Request - Golden Empire Properties RO0000271

Mark
Any feed back from the County on this?
thx

Jeff Lawson

From: Jonas, Mark [mailto:mjonas@craworld.com]
Sent: Thursday, February 07, 2008 2:59 PM
To: Steven.Plunkett@acgov.org
Cc: caferealty@aol.com; Lawson, Jeff; dazemo@zemoassociates.com
Subject: Meeting Request - Golden Empire Properties RO0000271

Dear Steven:
We are requesting a meeting with you to discuss Phase II for the Golden Empire Properties project, Fuel Leak Case No. RO0000271. Please provide some dates and times you are available. Our meeting should take less than 45 minutes. We could meet at your office.

Sincerely,
Mark Jonas
Mark Jonas, P.G.
Conestoga-Rovers & Associates, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608
510/420-3307 direct
510/420-9170 fax

www.CRAworld.com

APPENDIX B

Standard Field Procedures

Conestoga-Rovers & Associates

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document describes Conestoga-Rovers & Associates' standard field methods for drilling and sampling soil borings. 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 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

Soil borings are typically drilled using hollow-stem augers or hydraulic push technologies. At least one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments 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 split barrel sampler. 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.

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

Sample 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.

Field Screening

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

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch type sampler or are collected from the open borehole using bailers. The 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.

Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

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.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55 gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

Conestoga-Rovers & Associates

STANDARD FIELD PROCEDURES SOIL VAPOR SAMPLING

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

Objectives

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

Direct Push Method for Soil Vapor Sampling

The direct push method for soil vapor sampling uses a hollow vapor probe, which 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 screw 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. In addition, hydrated bentonite is placed around the sampling rod and the annulus of the boring to prevent ambient air from entering the boring. 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. Once the sampling is completed, the borings are filled to the ground surface with neat cement.

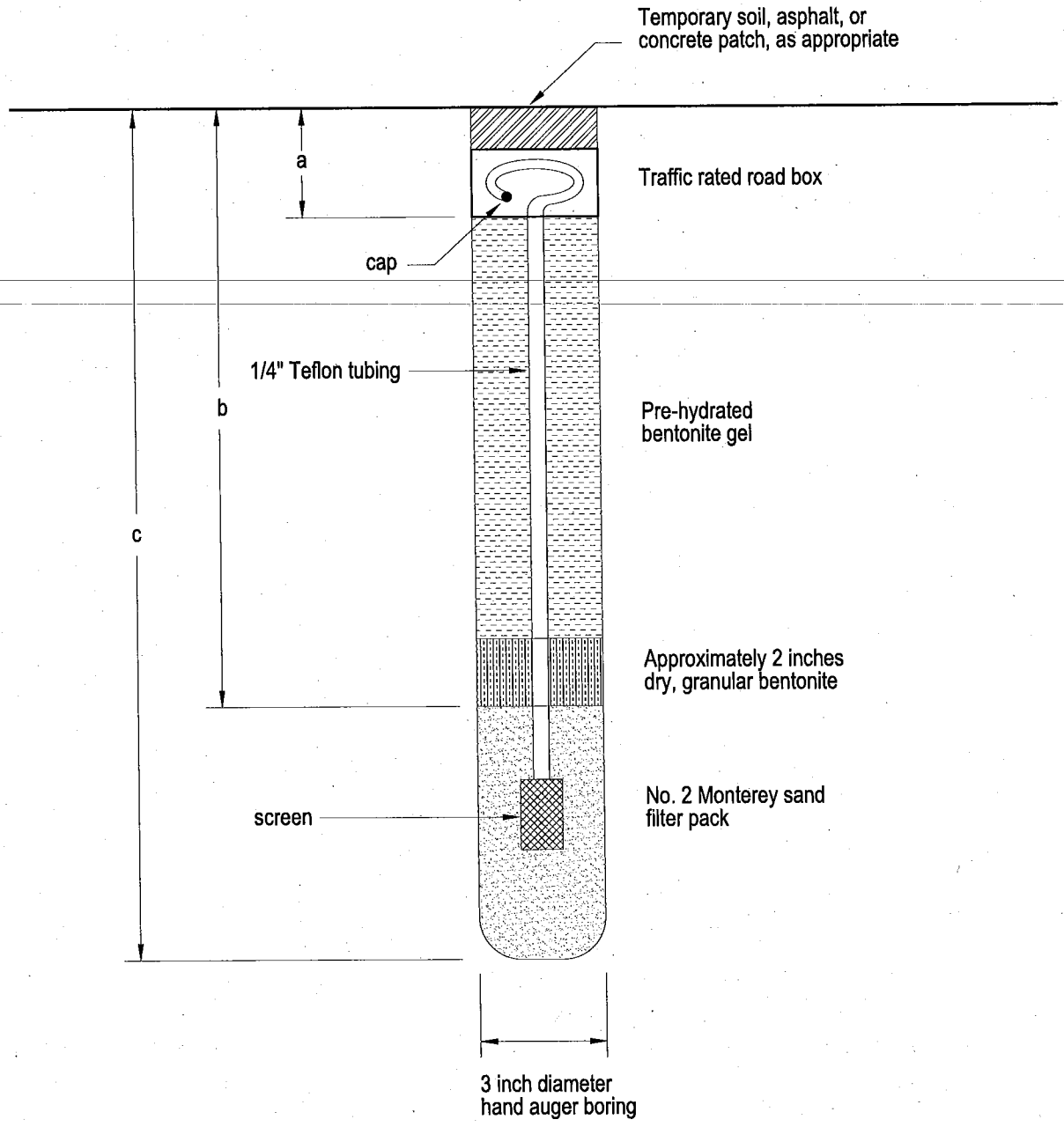
Shallow Soil Vapor Point Method for Soil Vapor Sampling

The shallow soil vapor point method for soil vapor sampling utilizes a hand augur to advance a boring for the installation of a soil vapor sampling point. Once the boring is hand augered to the final depth, a half a foot of number 2/16 filter sand is placed at the base of the boring (Figure A). One, ¼-inch inner-diameter Teflon™ tube of known length is placed into the boring. The tube is fitted with a stainless steel screen and barbed brass fitting to prevent sand from clogging the tube and is capped at the top with another barbed brass fitting. Another half a foot of number 2/16 filter sand is placed above the bottom of the tubing creating a one foot zone of filter sand with the end of the tubing in the middle. A 2-inch layer of unhydrated bentonite chips is placed on top of the filter pack. Next pre-hydrated bentonite gel is then poured into the hole to approximately 0.5 fbg. Another 2-inch layer of unhydrated bentonite chips is placed on top of the bentonite gel. The tube is coiled and placed within a wellbox finished flush to the surface. Soil vapor samples will be collected no sooner than one week after installation of the soil-vapor points to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased. Figure B shows the soil vapor sampling apparatus. A measured volume of air will be purged from the tubing using a hand-held purge pump and a tedlar bag. Immediately after purging, soil-vapor samples will be collected over an approximate 30-minute period using 6-liter Summa canisters and capillary air-flow controllers. The soil-vapor points will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.

Vapor Sample Storage, Handling, and Transport

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

09/28/07



Schematic Not to Scale

FIGURE

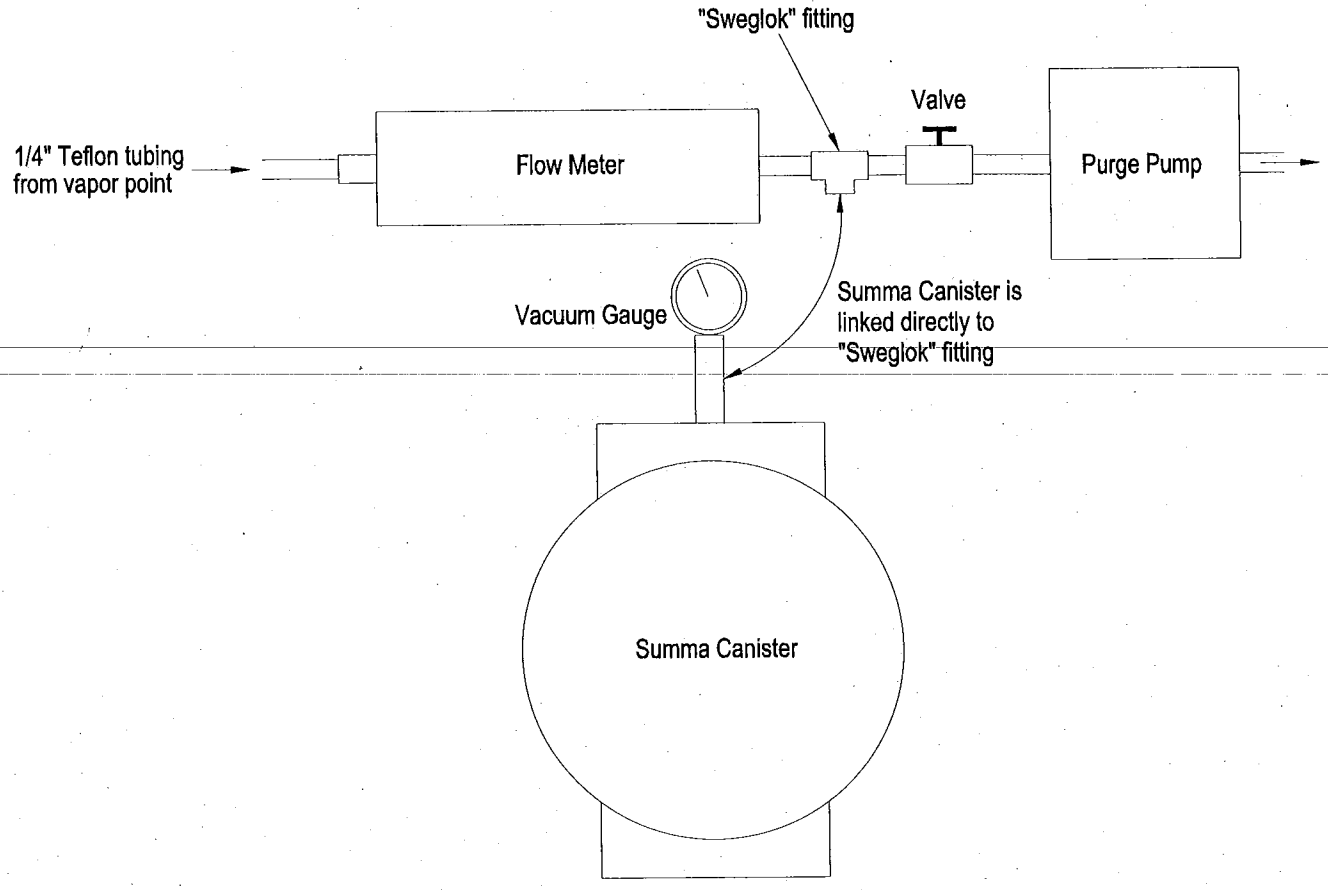
A

Soil Vapor Point

CONESTOGA-ROVERS & ASSOCIATES

I:\VR\- MGT IR GROUP INFO\SOPs\VAPOR-POINT.DWG

09/26/02



S:\0-TEXACO\TEX-SITES\211273\FIGURES\VAPOR-DIAG.DWG

FIGURE

B

Schematic Not to Scale

CONESTOGA-ROVERS
& ASSOCIATES

Soil Vapor Sampling Apparatus Diagram