



**CONESTOGA-ROVERS
& ASSOCIATES**

RECEIVED

12:36 pm, Apr 24, 2007

Alameda County
Environmental Health

To Whom it May Concern,

We are pleased to announce that effective April 2, 2007, Cambria Environmental Technology, Inc (Cambria) was acquired by Conestoga-Rovers & Associates, Inc. (CRA) and will be conducting all future work under this new name. Our project managers, business addresses, e-mail addresses and telephone contact numbers will remain the same. Beginning May 1st our e-mail addresses will change to *****@craworld.com. In the interim, please use the current Cambria e-mail addresses you have for electronic correspondence.

Sincerely,

Diane M. Lundquist
Vice President



**CONESTOGA-ROVERS
& ASSOCIATES**

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

April 23, 2007

Mr. Barney Chan
Alameda County Department of Environmental Health (ACDEH)
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: **Workplan for Additional Soil Impact Definition**
Former Chevron Station 9-0020
1633 Harrison Street
Oakland, California
CRA Project No. 311956

Dear Mr. Chan:

Conestoga-Rovers & Associates (CRA) has prepared this *Additional Soil Impact Definition Workplan*, for the site referenced above on behalf of Chevron Environmental Management Company (CEMC). Chevron and CRA recently met with the Oakland Housing Authority, the proposed developer of the site and their consultant, on April 16, 2007 to discuss measures necessary to facilitate submittal of a U.S Department of Housing and Urban Development (HUD) application for financing to construct a senior housing development on the subject site. Requirements for HUD financing include an approved Remedial Action Plan. The objective of this investigation is to acquire the necessary data to define the extent of hydrocarbon impacted soil in the northeast corner of the site to facilitate the development of an appropriate remedial action plan. A brief description of the site background and our proposed investigation scope of work are described below.

SITE BACKGROUND

Site Description: The site is a former Chevron gasoline service station located on the southwest corner of the intersection of 17th and Harrison Streets in Oakland, California. Chevron operated a service station on the site until 1972 at which time it was shut down. Since that time the site has been operated as a parking lot. Local topography is flat and located in downtown Oakland in an area of commercial and multi-unit residential. Elevation is approximately 40 ft above mean sea level (Figure 1).

1988 Soil Vapor Survey investigation: A soil vapor survey was conducted in January 1988. Twenty-two samples were collected at eleven locations around the site. The highest hydrocarbon concentrations were detected in the vicinity of the former waste oil underground storage tank (UST) in the western central portion of the site.

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1988 Monitoring Well Installation: Western Geologic Resources (WGR) drilled and installed wells MW-1 through MW-3 in October 1988. Benzene, toluene, ethylbenzene, and xylenes (BTEX) and total fuel hydrocarbons were not detected in groundwater samples. However, halogenated volatile organics (HVOs) were detected. These compounds were later identified as originating from another source, likely one of several nearby former dry cleaners.

1989 Soil Boring and Monitoring Well Installation: WGR drilled five soil borings and four wells (MW-4 through MW-8). Total petroleum hydrocarbons as diesel (TPHd) was detected in soil up to 600 ppm at 9.6 feet below grade (fbg) near the former waste oil UST. Total petroleum hydrocarbons as gasoline (TPHg) was detected at a reported concentration of 50,000 ppm at 23.5 fbg in MW-7 near the northeastern corner of the property.

June 1990 Offsite Well Installation: WGR installed four offsite wells, MW-9 through MW-12, in June 1990. The purpose of this was to delineate the extent of hydrocarbons down-gradient and cross-gradient of the site. No hydrocarbons were detected in any soil samples collected during this phase of investigation. However, a groundwater sample from well MW-9 contained 5,700 ppb TPHg and 47 ppb benzene. Offsite wells MW-10 through MW-12 contained HVOs which have been determined to have originated from other sources in the area.

October 1991 Offsite Well Installation: Pacific Environmental Group (PEG) installed well MW-13 to further evaluate the extent of dissolved hydrocarbon plume and up-gradient monitoring well MW-14 to investigate suspected (subsequently confirmed) offsite origination of HVOs. Additionally, four soil borings, B-A through B-D, were drilled to assess the extent of hydrocarbons in the vicinity of MW-7. This was due to the reported sample result of 50,000 ppm TPHg at 23.5 fbg in well MW-7. Only B-D contained detected hydrocarbons at 120 ppm TPHg and up to 1.8 ppm BTEX. The reported TPHg soil concentration of 50,000 ppm in well MW-7 is even more questionable due to the results of borings B-A through B-D.

November-December 1992 Offsite Well Installation: Groundwater Technology Inc. (GTI) installed offsite wells MW-15 and MW-16 to further delineate the dissolved hydrocarbon plume. No hydrocarbons were detected in soil samples collected at 20 and 30 fbg in well MW-15 and at 10 and 20 fbg in well MW-16.

SVE Remediation System Installation and Operation: A soil vapor extraction (SVE) system was installed and operated at the site from July 1, 1993 through December 12, 1993. Evaluation of the system showed minimal effectiveness. Augmentation of the system with additional wells was evaluated and, due to low permeability soils, it was determined that efficiency would not be appreciably enhanced. The system was shut down in December 1993 and all system equipment was removed in December 1996.



January 1992 Soil Excavation: PEG oversaw removal of hydrocarbon impacted soil from the vicinity of well MW-4 and excavation of a 30-foot long by 5-foot deep trench across the area of the former USTs to confirm that the USTs had been removed from the site. Removal of the USTs was confirmed, however construction debris such as concrete slabs and piping were observed beneath the surface in the area of the former USTs.

June 2004 Additional Subsurface Investigation: In anticipation of future site development, which at the time was to include subsurface parking, Cambria conducted additional subsurface investigation to further define residual hydrocarbon impacts in soils beneath the site to pre-profile soils for appropriate disposal options. Results confirmed hydrocarbon impacts to soil in the vicinity of well MW-7 that appear to originate from the first generation dispenser island, having been located approximately 15 feet upgradient of the well.

PROPOSED SCOPE OF WORK

The objective of the proposed scope of work is to provide defining data as to the extent of hydrocarbon impacts associated with a first generation dispenser island that appears to be the source of hydrocarbons observed in both soil and groundwater impacts in well MW-7. Acquisition of defining data will allow for development of a remedial action plan to address the in-situ weathered hydrocarbons. In order to accomplish these goals, Chevron and CRA intend to conduct the following activities.

Underground Utility Location: CRA will contact Underground Services Alert (USA), an underground utility locating service, to reconfirm that no utilities exist at and near the boring locations.

Site Health and Safety Plan: CRA will prepare a site safety plan to protect site workers. The plan will be reviewed and signed by all site workers and visitors. The plan will be kept onsite during all field activities.

Permits: CRA will obtain soil boring permits from the Alameda County Department of Public Works prior to beginning field operations.

Soil Borings: CRA will advance two borings in the upgradient direction from well MW-7. The purpose of these borings is to further define the source of residual hydrocarbons and conduct a risk evaluation based on the proposed development scenario. The location of these proposed borings is illustrated on Figure 2. CRA's borings will be advanced equidistant between previous borings B25 and B-D and slightly west (upgradient) of the estimated location of the first generation dispenser island. If the upgradient boring indicates the presence of hydrocarbons, based on visual observation and PID readings, an additional boring will be advanced further west of that location. These borings will be advanced to minimum depths of 25 fbg to coincide with hydrocarbons



identified in soil samples collected from well MW-7 and boring B23A. These newly acquired data will be used in a revised RBCA evaluation for both residential and commercial development scenarios at the site. Results of the RBCA evaluation will assist in development of the Remedial Action Plan. CRA's standard field procedure for Soil Borings is presented as Attachment A.

Sampling Protocol: Soil samples will be collected from each boring at appropriate depths to accomplish the stated objectives of this workplan. A selected sample will be sealed, logged onto a chain-of-custody form, stored on ice and delivered to a state-certified laboratory. One or more samples will be tested for petrophysical characteristics to provide an understanding of potential vapor migration in the vadose zone. A sieve analysis will be conducted on least one sample, as well. Selected soil samples will be analyzed for TPHg and BTEX. Grab groundwater samples will be collected from each of the borings.

Chemical Analysis: Selected soil and groundwater samples will be analyzed for the following:

- TPHg by EPA Method 8015,
- BTEX by EPA Method 8260B.

Soil and Water Disposal: Soil cuttings generated will be placed in drums and labeled appropriately. Wastewater will be stored in drums pending proper disposal. These wastes will be transported to the appropriate Chevron-approved disposal facility following receipt of profiling analytic results.

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

- Descriptions of the drilling and sampling methods;
- Boring logs;
- Tabulated soil and groundwater analytic results;
- Analytic reports and chain-of-custody forms;
- Soil and water disposal methods;
- An evaluation of risk to future commercial/residential development based on data acquired from this phase of work,
- A volume and average concentration estimate of hydrocarbon-impacted soil;
- Conclusions and recommendations.



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Mr. Barney Chan
April 23, 2007

SCHEDULE

Due to the short timeframe required for the Oakland Housing Authority's submittal of their HUD financing application, CRA has scheduled this fieldwork to take place on April 27, 2007. As this work has not been requested by ACDEH, this workplan is being submitted for informational purposes and for possible future reimbursement from the California Underground Storage Tank Cleanup Fund.



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Mr. Barney Chan
April 23, 2007

CLOSING

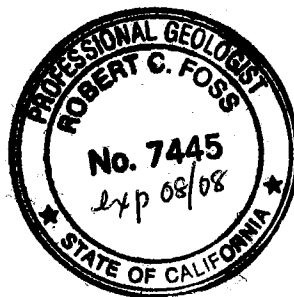
We appreciate this opportunity to work with your organization toward case closure of this property. Please contact Charlotte Evans at (510) 420-3351 or Satya Sinha of Chevron at (925) 842-9876 if you have any questions or comments.

Sincerely,

Conestoga-Rovers & Associates

Charlotte Evans

Robert Foss, P.G. #7445



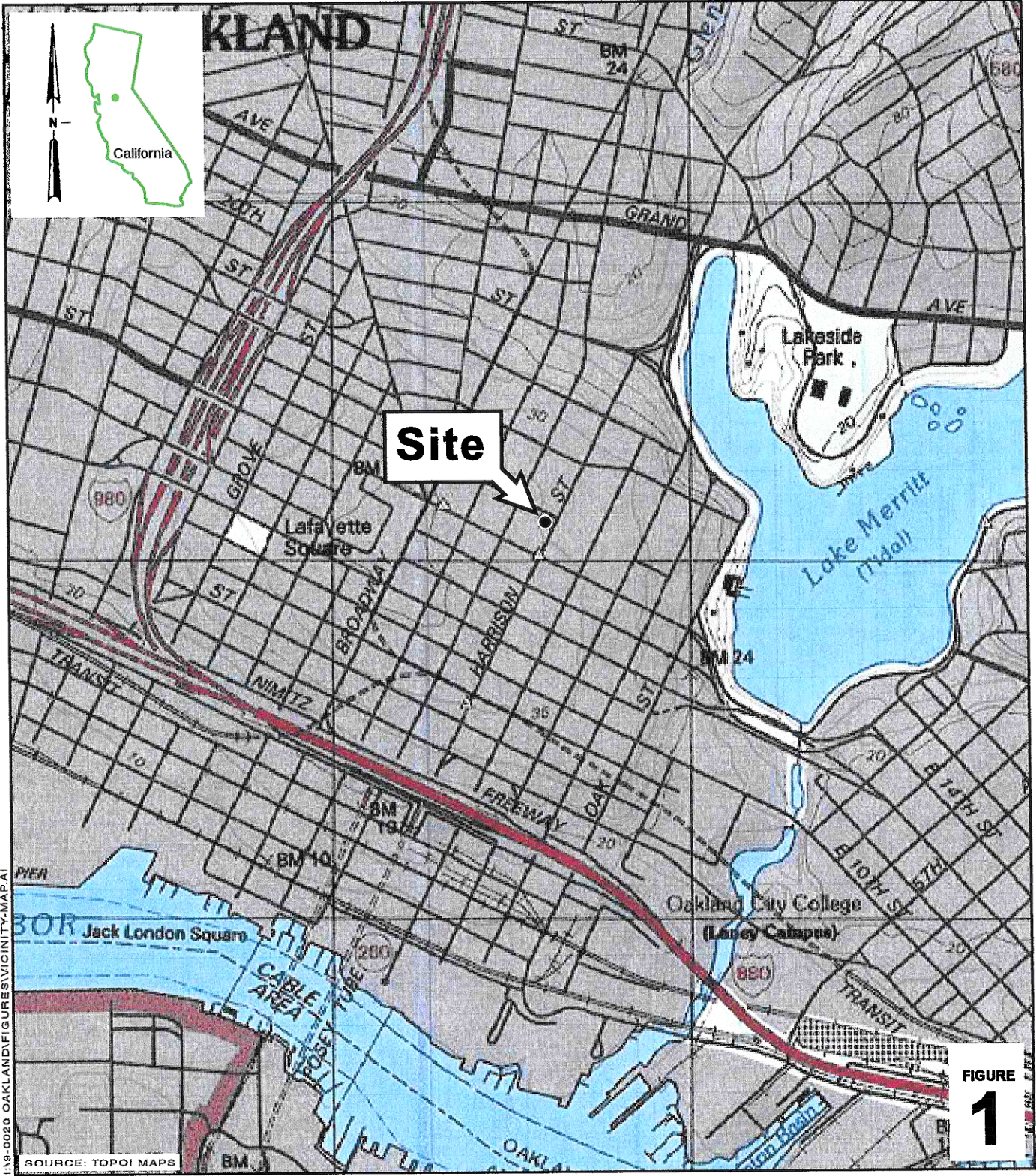
Figures: 1 – Vicinity Map
2 – Proposed Soil Boring Locations

Attachments: A – Standard Field Procedures for Soil Borings

cc: Mr. Satya Sinha, Chevron Environmental Management Company, P.O. Box 6012,
San Ramon, CA 94583
Ms. Jeriann Alexander, FugroWest, Inc., 1000 Broadway, Suite 200, Oakland,
CA 94607
Mr. Shaddrick Small, Oakland Housing Authority, 1805 Harrison Street, Oakland,
CA 94612
Mr. William Pickel, Christian Church Homes/California Community Housing, 303 Hegenberger
Road, Suite 201, Oakland, CA 94621

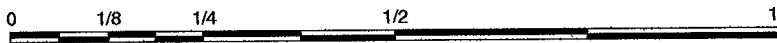
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1:19-0020 OAKLAND\FIGURES\VICINITY-MAP.A1

SOURCE: TOPOI MAPS



SCALE : 1" = 1/4 MILE

Former Chevron Station 9-0020
 1633 Harrison Street
 Oakland, California

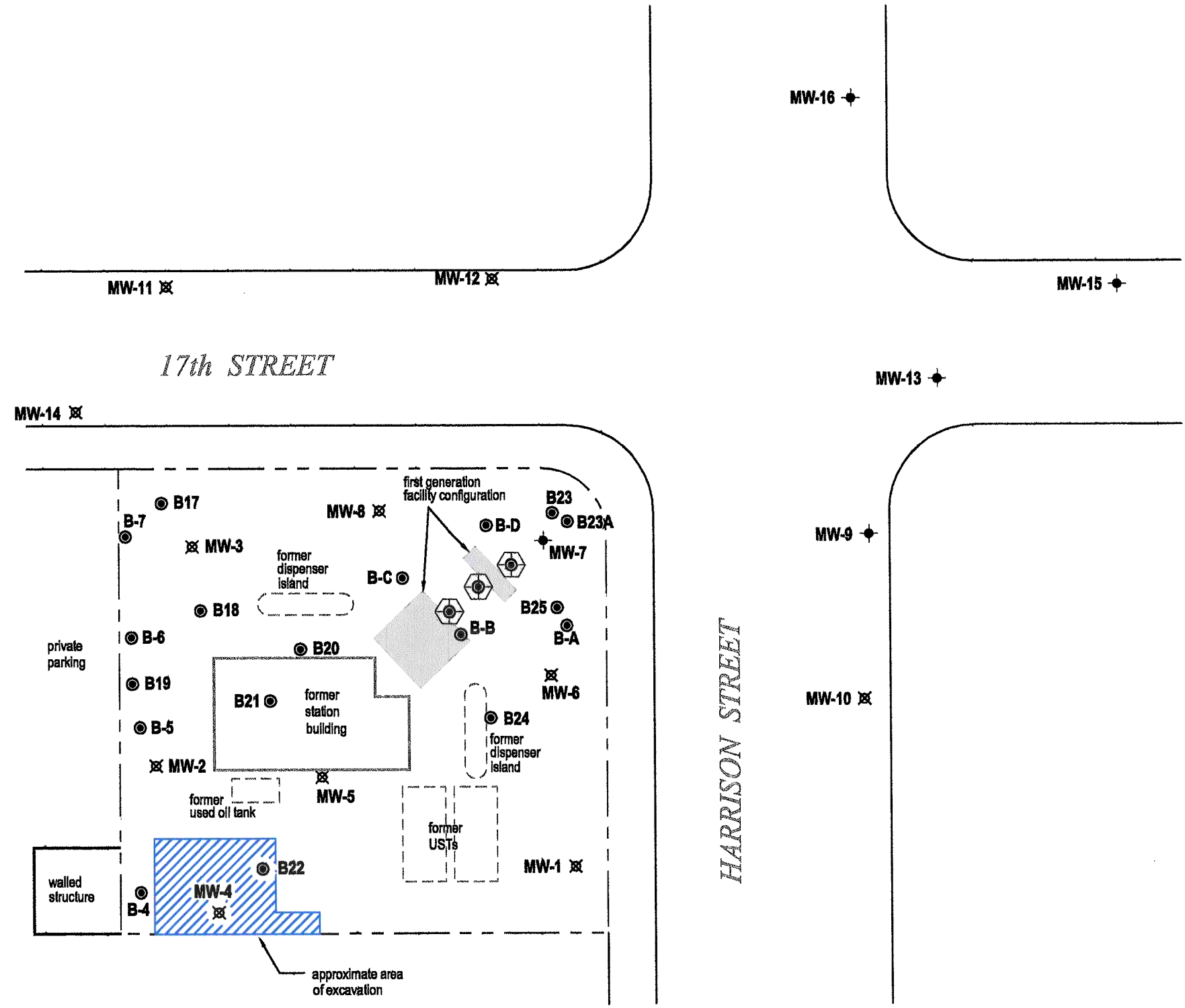


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Vicinity Map

EXPLANATION	
SB-1	Proposed soil boring location
B-A	Soil boring location
MW-7	Monitoring well location
MW-1	Abandoned well location

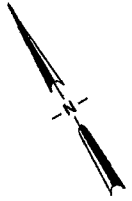
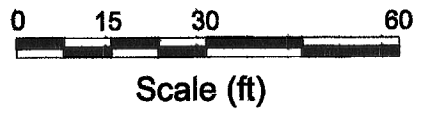
Basemap from Gettier-Ryan Inc.



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Former Chevron Station 9-0020
1633 Harrison Street
Oakland, California

FIGURE
2



1:9-0020 OAKLAND/FIGURE SITE PLAN.DWG

ATTACHMENT A

Standard Field Procedures for Soil Borings

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 Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

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

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.