Aaron Costa
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6111 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 543-2961
Fax (925) 543-2324
acosta@chevron.com

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

Re: Chevron Service Station No. 9-3600
2200 Telegraph Avenue
Oakland, CA

I have reviewed the attached report dated January 30, 2009.

I agree with the conclusions and recommendations presented in the referenced report. This information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This workplan was prepared by Conestoga Rovers Associates, upon who assistance and advice I have relied.

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

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

Sincerely,

Aaron Costa
Project Manager

Attachment: Report

CONESTOGA-ROVERS
& ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
http://www.craworld.com

January 30, 2009 Reference No. 311965

Mr. Steven Plunkett
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Work Plan for Soil Borings
Chevron Service Station 9-3600
2200 Telegraph Avenue
Oakland, California
Fuel Leak Case RO0002435

Dear Mr. Plunkett:

Conestoga-Rovers & Associates (CRA) is submitting this *Work Plan for Soil Borings* on behalf of Chevron Environmental Management Company (Chevron) for the site referenced above. Alameda County Environmental Health Services (ACEH) requested additional source area and downgradient plume characterization in a letter dated September 11, 2008 (Attachment A). CRA proposes to advance four soil borings to further delineate petroleum hydrocarbons vertically and laterally. Presented below are a summary of the site background and the proposed scope of work.

SITE BACKGROUND

The site is an active Chevron gasoline service station located at 2200 Telegraph Avenue, on the southeast corner of Telegraph and West Grand Avenues in Oakland, California (Figure 1). Chevron purchased the land in 1951 and operated a retail service station until 1983. All facilities and improvements were removed in 1984 when Chevron attempted to sell the land. Due to the Bay Area Rapid Transit (BART) right of way, Chevron was unable to sell the land and in 1985 rebuilt the station in to its current configuration. In 2000, Chevron sold the land and facilities to the station dealer. Current site facilities consist of a kiosk, bathroom, storage room, three 10,000-gallon underground storage tanks (UST) that share a common pit near the northeastern corner of the site, and five dispenser islands covered by a canopy (Figure 2). The site is surrounded by commercial businesses.

A Valero gasoline station is located west of the site on the southwest corner of Telegraph and West Grand Avenues. An auto repair facility utilizes the property north of the site, across West Grand Avenue. BART tracks run northwest to southeast beneath the center of the site in an underground tunnel at a depth of approximately 30 feet below grade (fbg).

A total of eight soil borings, 16 vadose wells and three groundwater monitoring wells have been installed at the site. A summary of environmental investigations conducted to date at the site are summarized in Attachment B.

SITE GEOLOGY AND HYDROGEOLOGY

The site is located on the eastern flank of the San Francisco Basin, a broad Franciscan Complex depression. Soils encountered beneath the site generally consists of silty and clayey sand from grade to depths of approximately 5 to 10 fbg, underlain by sandy clay and poorly graded sand to 20 fbg, the total depth explored.

The site is located within the Oakland subarea of the East Bay Plain groundwater basin. Groundwater flow direction in the basin typically flows along surface topography. Topography is relatively flat at an elevation of approximately 20 feet above mean sea level. The nearest surface water is Lake Merritt, which is located approximately 1/2- mile east of the site. Lake Merritt drains into Oakland Inner Harbor. Depth to groundwater has historically ranged from approximately 11 to 12 fbg. Groundwater flow direction is to the southeast at a gradient of 0.005.

PROPOSED SCOPE OF WORK

In a letter dated September 11, 2008, ACEH requested further lateral and vertical delineation of hydrocarbons in soil and groundwater in the vicinity of the UST pit (Attachment A). Previous investigations at this site included Gettler-Ryan's November 2000 *Baseline Evaluation*, in which 10 onsite soil borings were attempted at the site with the following results:

- Soil boring B-1 was advanced to 15 fbg;
- Borings B-2, and B-4 through B-7 to 10 fbg within the BART right-of-way;
- Boring B-3 to 5.5 fbg, also within the BART right-of-way;
- Boring B-8 hit refusal at 4 fbg; and
- Borings B-9 and B-10 were not completed (Figure 2).

Soil samples from borings B-1 through B-8 were only collected to a maximum depth of 10 fbg. No petroleum hydrocarbons were detected in any soil sample from this investigation. ACEH believes there may be hydrocarbon impact present at 12 fbg, based on photo-ionization detector (PID) readings from boring B-1. Monitoring well MW-1 was installed approximately 5 feet from boring B-1 and nearer to the USTs, outside of the BART right-of-way. Soil samples from MW-1 were collected at 5-foot intervals, starting at 6.5 fbg down to 20 fbg. Only the soil sample from 11.5 fbg contained hydrocarbon concentrations of 3.2 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 0.015 mg/kg ethylbenzene. No benzene or methyl tertiary butyl ether (MTBE) was detected in any of the soil samples from MW-1. Groundwater results from quarterly monitoring reports have shown decreasing trends for TPHg and MTBE, with no benzene present since 2004.

ACEH has requested that the originally proposed borings, B-9 and B-10, adjacent to the UST pit, be installed. It was not stated in the original report why the borings could not be advanced.

- Boring B-9: Based on current site configurations, the UST pit is actually within 2 feet of the sidewalk along West Grand Avenue. A water line runs within the sidewalk, approximately eight feet away from the UST pit. Due to safety concerns, this boring cannot be advanced and the site plan will be updated to show the correct dimensions and utility locations (Figure 3).
- Boring B-10: The UST pit is also bordered by a fence that defines the property line. There is no room on the property to install boring B-10. There is also a billboard in the northwestern corner of the offsite property, near the UST pit and adjacent to the property line, which further restricts access.

As an alternative to these originally proposed locations, CRA proposes that:

- One soil boring be advanced offsite, downgradient from the originally proposed boring B-10 and approximately 15 feet southeast from the property line, and one more boring be advanced in transect towards the BART right-of-way; and
- Two soil borings be advanced approximately 20 feet further southeast (downgradient) for plume delineation. Proposed boring locations are presented on Figure 2.

The borings will be advanced on the adjacent property and outside the approximate delineation of the BART right-of-way. To accomplish this scope of work, Chevron and CRA propose to conduct the following:

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

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

Underground Utility Location: CRA will contact Underground Services Alert (USA) and use a private utility locator to reconfirm that no utilities exist at and near the probe locations. Per Chevron safety standards, each boring will be cleared to 8 fbg using an air-knife assisted vacuum rig or hand auger.

Geoprobe® Borings: CRA proposes to advance borings B9 through B12 to approximately 30 fbg. After clearing to 8 fbg, the borings will be advanced using dual tube hydraulic push rods advanced into undisturbed sediments. After soil and grab-groundwater samples have been collected, the borings will be filled with Portland neat cement and finished to match the existing grade. Exact boring locations and final depths will be based on site and utility constraints. CRA's Standard Field Procedures for Soil Borings is presented as Attachment C.

Soil Sampling Protocol: Soil samples will be collected for laboratory analysis at approximately 5-foot intervals, at obvious changes in soils, and where hydrocarbon staining or odors are observed, to a depth of 30 fbg. CRA geologists will log collected soils using the Unified Soil Classification System. Soil will be field-screened using a photo-ionization detector (PID) and visual observations. All samples will be sealed, capped, labeled, logged on a chain-of-custody form, placed on ice and transported to a Chevron and State-approved laboratory for analysis.

Groundwater Sampling Protocol: Depth discrete grab-groundwater samples will be collected at first encountered groundwater and subsequent 10-foot intervals to 30 fbg from all borings using a hydropunch and decanted into clean, laboratory -supplied containers. All samples will be sealed, labeled, logged on a chain-of-custody form, placed on ice and transported to a Chevron and State-approved laboratory for analysis.

***Chemical Analysis*:** Soil and grab-groundwater samples will be analyzed for the following:
- TPHg by EPA Method 8015 modified; and
- Benzene, toluene, ethylbenzene and xylenes (BTEX), MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME) and tertiary butyl alcohol (TBA) by EPA Method 8260B.

Waste Disposal: Soil cuttings generated will be placed in drums and labeled appropriately. These wastes will be transported to the appropriate Chevron-approved disposal facility following receipt of analytical profile results.

Reporting: Upon completion of field activities and review of the analytical results, we will prepare an investigation report that, at a minimum, will contain:
- Descriptions of the drilling and sampling methods;
- Boring logs;
- Tabulated soil and groundwater analytical results;
- Analytical reports and chain-of-custody forms;
- Soil disposal details;
- An evaluation of the extent of hydrocarbons in the subsurface; and

- Conclusions and recommendations.

CRA will also update the site conceptual model submitted to ACEH on December 30, 2008.

SCHEDULE

CRA will proceed with the proposed scope of work upon receipt of written approval from ACEH. After approval, CRA will obtain the necessary drilling permits, access agreements, and schedule the subcontractors at their earliest availability. We will submit our investigation report approximately six to eight weeks after completion of field activities.

We appreciate the opportunity to work with you on this project. Please contact Ms. Charlotte Evans at (510) 420-3351 or Mr. Aaron Costa at (925) 543-2961 if you have any questions or comments regarding this report.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charlotte Evans

PROFESSIONAL GEOLOGIST BRANDON S. WILKEN No. 7564 STATE OF CALIFORNIA

Brandon S. Wilken, P.G. # 7564

CE/doh/1
Encl.

Figure 1	Site Vicinity Map
Figure 2	Site Plan with Proposed Borings
Attachment A	ACEH September 11, 2008 Letter
Attachment B	Summary of Previous Environmental Work
Attachment C	Standard Field Procedures for Soil Borings

cc: Mr. Aaron Costa, Chevron Environmental Management Company
Mr. Ui Hwang, Former Property Owner
Choung & Myung Inc., Current Property Owner

FIGURES

05/23/08

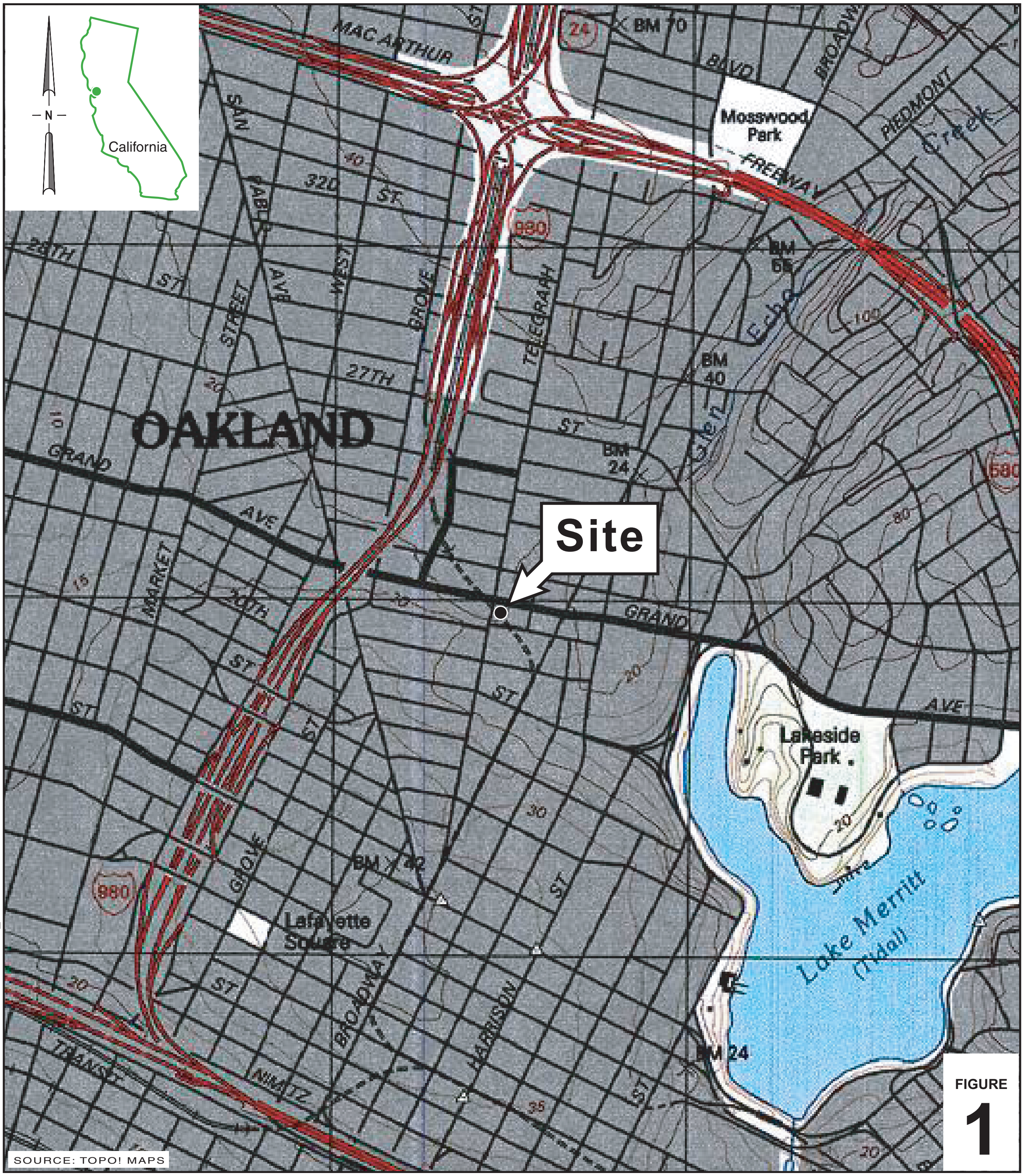


FIGURE 1

I:\9-3600 OAKLAND\FIGURES\9-3600_VICINITY-MAP.AI

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

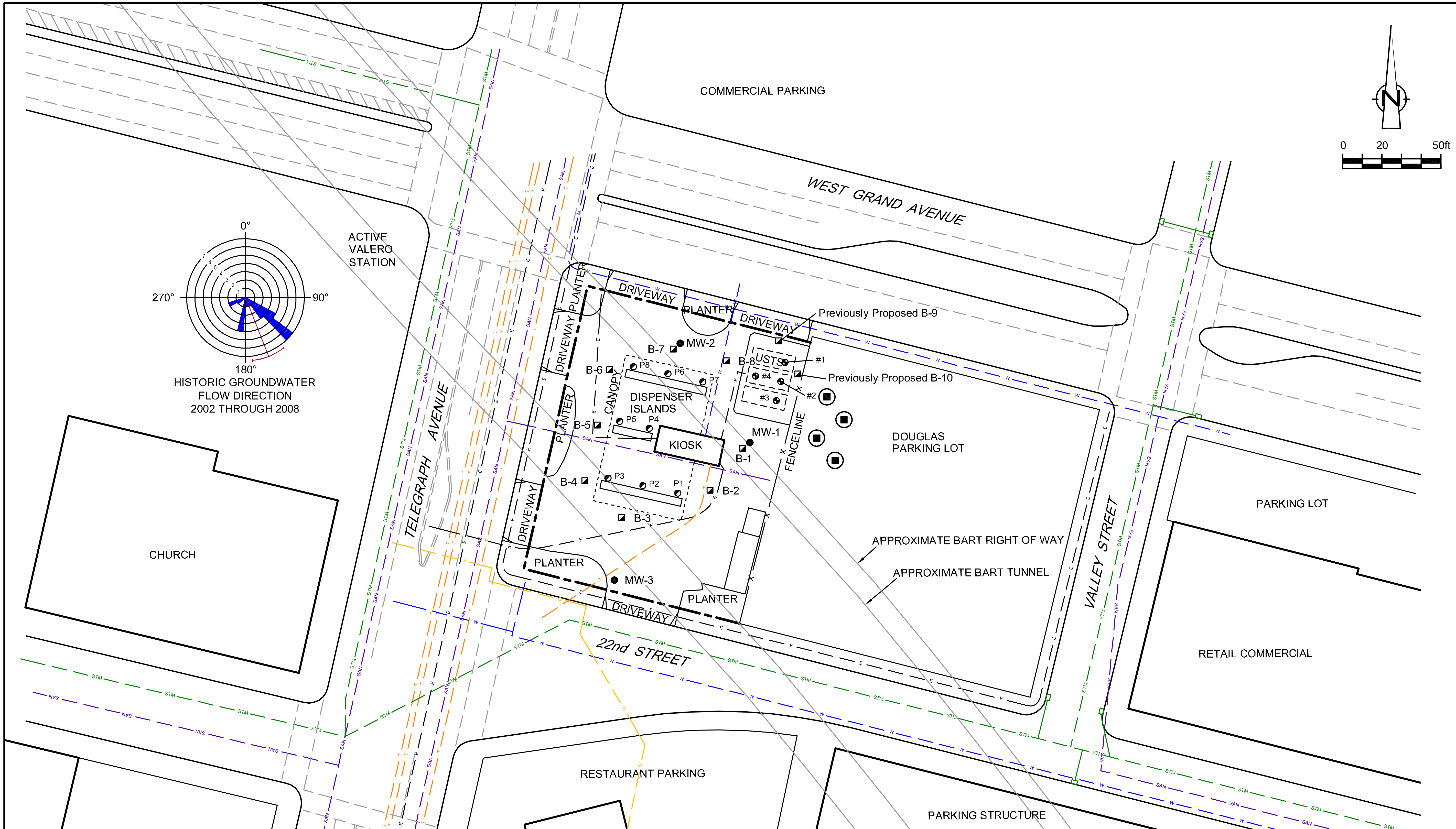
Chevron Service Station 9-3600

2200 Telegraph Avenue

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map



LEGEND

- PROPOSED SOIL BORING LOCATION
- MW-1 MONITORING WELL LOCATION
- B-1 SOIL BORING LOCATION (BASELINE INVESTIGATION, 2000)
- P1 PRODUCT LINE SOIL SAMPLE LOCATION (1994)
- #1 TANK PIT SOIL SAMPLE LOCATION (1986)

- WATER LINE
- ELECTRICAL LINE
- GAS LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- TELECOMMUNICATIONS LINE

BASEMAP MODIFIED FROM DRAWING PROVIDED BY GETTLER-RYAN INC.

figure 2

PROPOSED BORING LOCATIONS
CHEVRON SERVICE STATION 9-3600
2200 TELEGRAPH AVENUE
Oakland, California

311965-2008(001)GN-WA001 JAN 29/2009

ATTACHMENT A

ACEH SEPTEMBER 11, 2008 LETTER

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

September 11, 2008

Mr. Ian Robb
Chevron Environmental Management
6001 Bollinger Canyon Rd K2256
PO Box 6012
San Ramon, CA 94583-2324

Ui Hwang
909 Trent Street
Concord, CA 94518

Choung & Myung Inc.
2200 Telegraph Avenue
Oakland, CA 94612-2316

Subject: Fuel Leak Case No. RO0002435 (Global ID # T06019752694), Chevron #9-3600, 2200 Telegraph Avenue, Oakland CA

Dear Mr. Robb:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above referenced site and the document entitled "Monitoring Well Installation Report", dated May 30, 2002 and prepared by Delta Environmental Consultants, Inc (Delta). Soil sampling conducted during the well installation detected TPHg at concentrations of 3.2 parts per million. Additionally, a previous investigation completed in November 2000 detected dissolved phase hydrocarbon contamination in a grab groundwater sample collected from soil boring B-1, which is adjacent to the UST complex, at concentration of up to 29,000 parts per billion (ppb) TPHg, 180 ppb benzene and 730 ppb MtBE. The lack of soil and groundwater data adjacent to and downgradient of the UST complex indicates that the vertical and lateral extent of contamination in the source area and downgradient of the source area is undefined.

Based on ACEH staff review of the case file, we request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to mailto:steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENT

1. **Contaminant Source Area Characterization**. In 1986, Blaine Tech collected soil and groundwater samples from the tank pit and up to 44 ppm. TPHg was detected in soil while TPHg and benzene were detected in groundwater. However, no groundwater analytical data was presented to determine the concentrations of these analytes. Please submit this data as an attachment in the site conceptual model. In November 2000 soil boring B-1 was completed to a depth of 15 feet bgs, but soil samples were only collected at 5 feet and 10 feet bgs, which is above the depth of the tank invert and would be unlikely to detect contamination in soil. Moreover, our review of the soil boring log for boring B-1 identified a strong hydrocarbon odor with corresponding PID readings of 850 ppm at 12 feet bgs, indicating that contamination is present at 12 feet bgs. Furthermore, the soil boring permit from ACDPW and the BART Permit to Enter requested the installation of 10 soil boring, but only seven soil borings were installed (see attached Figure 1). We request that the three originally proposed soil borings be installed to complete the UST source area characterization.

Based on our review of soil and groundwater analytical data, elevated concentrations of dissolved phase TPHg, benzene and MtBE were detected in groundwater collected from soil boring B-1. Please prepare a work plan to define the lateral and vertical extent of contamination in the source area adjacent the UST complex. You may include the work plan in the SCM requested below.

2. **Dissolved Contaminant Plume Characterization.** According to Delta, the extent of the dissolved plume remains undefined downgradient of your site and additional assessment is constrained due to the location of the BART tunnel. Our review of the soil borings installed during previous investigations indicate that soil borings installed downgradient of the UST complex, toward the southeast, would be unlikely to encounter the BART tunnel. We recommend a transect of soil borings with depth discrete samping of soil and groundwater downgradient of the former UST complex to assess the downgradient extent of soil and groundwater contamination. We request that you prepare a work plan for additional site characterization to determine the extent of contamination to downgradient of your site. You may include the work plan in the SCM requested below.

3. **Monitoring Well Locations**. Delta installed three groundwater monitoring wells at the site in order to assess the hydraulic gradient and evaluate the petroleum hydrocarbon plume. However, monitoring wells MW-2 and MW-3 were installed up gradient of the UST complex, and as such, are unlikely to detect dissolved phase contamination. Additionally, our review of the July 2008 quarterly groundwater monitoring report places monitoring well MW-1 within the BART tunnel right of way, while the May 2002 well installation report places MW-1 near boring B-1 outside the BART tunnel right of way. Please review these two figures (attached) and determine the correct location for well MW-1.

4. **Preferential Pathway Study**. The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of the NAPL and/or plume encountering preferential pathways and conduits that could spread contamination. The preferential pathway study should detail the potential migration pathways and potential conduits (wells, utilities, pipelines, etc.) for vertical and lateral migration that may be present in the vicinity of the site. We request that you re-submit the preferential pathway study and include the results in the SCM. Please include maps and data tables to support your analysis. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

   a. Utility Survey

   An evaluation of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please include maps and cross-sections illustrating the location and depth of all utility lines and trenches within and near the site and plume areas(s) as part of your study.

   b. Well Survey

   The preferential pathway study shall include a detailed well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a ¼ mile radius of the subject site. As part of your detailed well survey, please perform a background study of the historical land uses of the site and properties in the vicinity of the site. Use the results of your background study to determine the existence of unrecorded/unknown (abandoned) wells, which can act as contaminant migration pathways at or from your site. Please review and submit copies of historical maps, such as Sanborn maps, aerial photographs, etc., when conducting the background study.

5. **Site Conceptual Model (SCM).** A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors. The SCM is used to identify data gaps that are subsequently filled as the investigation proceeds. As the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened. Subsurface investigations continue until the SCM no longer changes as new data are collected. At this point, the SCM is said to be 'validated.' The validated SCM then forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

   When performed properly, the process of developing, refining and ultimately validating the SCM effectively guides the scope of the entire site investigation. We have identified, based on our review of existing data, some initial key data gaps in this letter and have described several tasks that we believe will provide important new data to refine the SCM. We request that your consultant incorporate the results of the new work requested in this letter into their SCM, identify new and/or remaining data gaps, and propose supplemental tasks for future investigations. There may need to be additional phases of investigations, each building on the results of prior work, to validate the SCM. Characterizing the site in this manner will focus the scope of work to address the identified data gaps, improving the efficiency of the work, and limit its overall costs.

   Both industry and the regulatory community endorse the SCM approach. Technical guidance for developing SCMs is presented in Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE, American Petroleum Institute Publication No. 4699 dated February 2000; 'Expedited Site Assessment Tools for Underground Storage Tank Sites: A Guide for Regulators' (EPA 510-B-97-001), prepared by the U.S. Environmental Protection Agency (EPA), dated March 1997; and 'Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates, Appendix C,' prepared the State Water Resources Control Board, dated March 27, 2000.

   The SCM for this project is to incorporate, but not limited to, the following:

   a. A concise narrative discussion of the regional geologic and hydrogeologic setting. Include a list of technical references you reviewed, and copies (photocopies are sufficient) of regional geologic maps, groundwater contours, cross-sections, etc.

   b. A concise discussion of the on-site and off-site geology, hydrogeology, release history, source zone, plume development and migration, attenuation mechanisms, preferential pathways, and potential threat to down-gradient and above-ground receptors (e.g. contaminant fate and transport). Please include the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e. vapor pathway) in the analysis. Maximize the use of large-scaled graphics (e.g. maps, cross-sections, contour maps, etc.) and conceptual diagrams to illustrate key points. Include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s).

   c. Identification and listing of specific data gaps that require further investigation during subsequent phases of work and propose a scope of work to acquire data to address the identified data gaps.

   d. The SCM shall include an analysis of the hydraulic flow system at down-gradient from the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on the groundwater contour maps and updated in all future reports submitted for your site. Include an analysis of vertical hydraulic gradients. Please note that these likely change due to seasonal precipitation and groundwater pumping.

e. Temporal changes in the plume location and concentrations are also a key element of the SCM. In addition to providing a measure of the magnitude of the problem, these data are often useful to confirm details of the flow system inferred from the hydraulic head measurements. Please include plots of the contaminant plumes on your maps, cross-sections, and diagrams.

f. Summary tables of chemical concentrations in different media (i.e. soil, groundwater, and soil vapor), including well logs, well completion details, boring logs, etc.

g. Other contaminant release sites may exist in the vicinity of your site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for your SCM. Include a summary of work and technical findings from nearby release sites, if applicable.

Please prepare a site conceptual model (SCM) as described above, including developing and/or identifying site cleanup goals, and include the results of the SCM in the decision-making process. If data gaps (i.e. vertical and lateral extent of contamination, potential contaminant volatilization to indoor air, or contaminant migration along preferential pathways, etc.) are identified in the SCM, please include a work plan to address those data gaps.

REQUEST FOR INFORMATION

In October 1986, Blaine Tech Services collected soil and groundwater samples from the tank pit; however, there is no record of a tank closure report that details the tank removal and confirmation sampling. Please submit any documents associated with the UST removal, soil excavation and disposal and confirmation soil sampling.

TECHNICAL REPORT REQUEST

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

- **December 30, 2008** – Site Conceptual Model with Preferential Pathway Study
- **January 31, 2009** – Work Plan

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

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format).

Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

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

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

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

UNDERGROUND STORAGE TANK CLEANUP FUND

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

AGENCY OVERSIGHT

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

If you have any questions, please call me at (510) 383-1761 or send me an electronic mail message at steven.plunkett@acgov.org.

Sincerely,

Steven Plunkett
Hazardous Materials Specialist

Donna Drogos, PE
Supervising Hazardous Materials Specialist

cc: Laura Genin
CRA
5900 Hollis Street, Suite A
Emeryville, CA 94608

Donna Drogos, ACEH,Steven Plunkett ACEH, File

ATTACHMENT B

SUMMARY OF PREVIOUS ENVIRONMENTAL WORK

SUMMARY OF PREVIOUS ENVIRONMENTAL HISTORY

A total of 8 soil borings and 3 onsite groundwater monitoring wells have been installed at the site. Reportedly, 16 vadose wells with sensors were installed in 1986-1987 because of the Bay Area Rapid Transit (BART) tunnel beneath the site. No information is available regarding either the installation or destruction of these wells. No information is available regarding the first generation USTs except that they were located in the same tank pit as the current USTs. The second generation USTs were installed in 1986. Additionally, 8 soil samples were collected from beneath product piping removal and replacement in July 1994.

1986 Tank Pit Sampling: In October 1986, new gasoline underground storage tanks (USTs) were installed in the original tank pit. Total petroleum hydrocarbons as gasoline (TPHg) were detected in soil samples at a maximum concentration of 44 milligrams per kilogram (mg/kg) at 2 feet below grade (fbg). TPHg and benzene were detected at 480,000 and 10,000 micrograms per liter (μg/l), respectively, in a grab-groundwater water sample collected from the tank pit. No toluene or xylenes were detected in the grab-groundwater sample. Additional information on soil and groundwater sampling is available in Blaine Tech's accounts of field sampling dated November 21 and 28, 1986.

Vadose Well Installation: During station reconstruction in 1986–1987, 16 vadose wells equipped with vapor sensors were reportedly installed because BART tracks run directly beneath the site in an underground tunnel. No analytic data or report is available for these well installations. Gettler-Ryan (G-R) concluded that the vapor wells and sensors were abandoned and removed from the site at an unknown date.

1992 Vadose Well Sampling: In October 1992, Groundwater Technology, Inc. (GTI) collected a groundwater sample from onsite vadose well VW-2-1 at the request of Chevron. Because these wells do not currently exist, nor is there any record of their installation, the location and depth of this well is unknown. TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected at concentrations of 42,000 μg/l, 3,300 μg/l, 7,100 μg/l, 540 μg/l, and 10,000 μg/l, respectively. More information is available in GTI's *Monitoring and Sampling Report of Vadose Well 2-1,* dated November 20, 1992.

1994 Product Line Replacement: In July 1994, gasoline product lines were removed and replaced to up-grade the product delivery system. Approximately 100 cubic yards of soil were excavated. Touchstone Developments collected 8 compliance soil samples (P-1 through P-8) from product line trenches at depths between approximately 4.5 and 5.5 fbg. No benzene was detected in any samples. TPHg was detected in one sample at a concentration of 3.6 mg/kg at a depth of 5.5 fbg. Toluene, ethylbenzene, and xylenes were detected at maximum concentrations of 0.03, 0.012 and 1.3 mg/kg, respectively. Additional information is available in Touchstone Developments' *Product-Line Removal and Sampling Report*, dated August 9, 1994.

2000 Baseline Evaluation: In November 2000, G-R advanced 8t borings, B-1 through B-8, to depths of 16 fbg to complete a baseline evaluation for Chevron prior to property transfer. Borings B-2 through B-6 were advanced to maximum depths of 10 fbg within the BART right-of-way. No TPHg or BTEX were detected in the soil samples. Borings B-1 through B-6 were advanced above the BART underground tunnel and were therefore only advanced to 10 fbg in accordance with BART restrictions. A grab-groundwater sample from boring B-1 contained TPHg at 29,000 µg/l, benzene at 180 µg/l, ethylbenzene at 2,200 µg/l, total xylenes at 1,100 µg/l, methyl tertiary butyl ether (MTBE) at 730 µg/l, and tert-butyl alcohol (TBA) at 380 µg/l. Additional information is available in G-R's *Baseline Evaluation,* dated November 21, 2000.

2002 Monitoring Well Installation: In March 2002, G-R installed three groundwater monitoring wells, MW-1 through MW-3. No hydrocarbon impacts were detected in soil samples from wells MW-2 and MW-3. TPHg and ethylbenzene were detected in soil samples from MW-1 at concentrations of 3.2 mg/kg and 0.015 mg/kg, respectively, at a depth of 11.5 fbg.

2002 Monitoring Well Development and Sampling: Monitor wells MW-1 through MW-3 were developed and sampled in April 2002. No dissolved hydrocarbons were detected in monitoring wells MW-2 and MW-3. MW-1 contained 2,000 µg/l TPHg, 5.0 µg/l benzene, 12 µg/l ethylbenzene, 8.4 µg/l total xylenes, 370 µg/l MTBE, 200 µg/l TBA and 10 µg/l tertiary amyl methyl ether (TAME). G-R concluded that no significant hydrocarbon impact is present in the soil, and groundwater impact is limited to the area near the USTs and recommended quarterly monitoring of the new wells. Additional information is available in G-R's *Monitoring Well Installation Report*, dated July 21, 2008.

ATTACHMENT C

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

ATTACHEMENT C

STANDARD OPERATING PROCEDURES FOR SOIL BORINGS

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document describes Conestoga-Rovers & Associates, Inc. (CRA) 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,
- 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. Prior to drilling, the first 8 ft of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

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 4oC 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 4oC, 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.