

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



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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 sampling 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\\_submission/report\\_rqmts.shtml](http://www.swrcb.ca.gov/ust/electronic_submission/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**

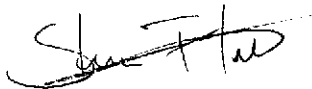
Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

**AGENCY OVERSIGHT**

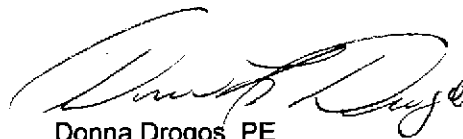
If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 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](mailto: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

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