



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

September 3, 2008

Mr. Randal Nahas
P.O. BOX 3059
San Ramon, CA 94583

Frank Tien
20405 Redwood Rd.
Castro Valley, CA 94502

Subject: Fuel Leak Case No. RO0000295 and Geotracker Global ID T0600101370, Unocal, 20405 Redwood Road, Castro Valley, CA

Dear Messrs. Nahas and Tien:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the document entitled, *Report Eighth Semi-Annual Groundwater Monitoring*, dated October 3, 2003. The groundwater monitoring report indicates that MTBE remains in groundwater beneath the site at a concentration of 1,100 micrograms per liter ($\mu\text{g/L}$) and has been detected in the furthest downgradient well at a concentration of 440 $\mu\text{g/L}$. These concentrations are above the environmental screening level for this constituent and indicate that the downgradient extent of the MTBE has not been defined. MTBE is very mobile in groundwater and with the lack of monitoring over the last five years, it is unknown if it has migrated to nearby receptors. ACEH requests that you perform the work requested below, address the following technical comments, and submit the report requested below.

TECHNICAL COMMENTS

- 1. Dissolved Contamination Plume Definition.** Data from the last monitoring report indicates that MTBE concentrations are elevated in wells MW-101 and appear to be increasing in downgradient well MW-6. Please redevelop and sample wells MW-2, MW-3, MW-4, MW-6, MW-7 and MW-101 during the fourth quarter and analyze for the following constituents: TPHg, TPHd by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), and ethylene dichloride (EDC) by EPA Method 8260 and submit the results of this sampling in the report requested below.

Please continue groundwater monitoring on a semi-annual basis according to the schedule below.

2. **Paved Over Wells MW-2 and MW-7** – Wells MW-2 and MW-7 were apparently paved over and are lost. These wells remain as conduits for potential contaminant migration. Please locate these wells using survey data, metal detection devices, ground penetrating radar, manual methods or any other method that you recommend. If you are able to uncover these wells please redevelop and sample them for the constituents requested above. If these wells cannot be developed they will have to be properly destroyed. Please include a discussion of the methods used to locate the well in the SCM requested below.
3. **Groundwater Monitoring Reports** – Please include the depth to water on the summary groundwater table and include a rose diagram on the map as requested below. Include all historical data on the table as well so groundwater fluctuations versus concentrations can be evaluated.
4. **Preferential Pathway Evaluation.** 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. We request that you perform a preferential pathway study that details 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.

Discuss your analysis and interpretation of the results of the preferential pathway study (including the well survey and utility survey requested below) and report your results in the SCM requested below. 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 includes a 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.

5. **Site Conceptual Model.** We understand that the on-site characterization is nearing completion at this site. However, additional characterization and remediation work may still be required at the site, in particular defining the extent of MTBE downgradient of well MW-6 and off-site. Considerable cost savings can be realized if your consultant focuses on developing and refining a viable Site Conceptual Model (SCM) for the project. An 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, which improves the efficiency of the work, and limits the 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 is 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 two cross-sections in the SCM, one parallel and one perpendicular to the groundwater flow direction.
- c. Identification and listing of specific data gaps that require further investigation during subsequent phases of work.
- d. Proposed activities to investigate and fill data gaps identified above.
- e. The SCM shall include an analysis of the hydraulic flow system 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. To evaluate the potential interconnection between shallow and deep aquifers, include hydrographs of hydraulic head in shallow aquifer versus pumping rates from nearby water supply wells.

f. 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.

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

At this juncture, 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. potential contaminant volatilization to indoor air or contaminant migration along preferential pathways, etc.) are identified in the SCM, please address those data gaps in the report requested below.

TECHNICAL REPORT REQUEST

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

- **January 20, 2008** – Groundwater Monitoring Report, Site Conceptual Model w/ cross-sections and preferential pathway study.
- **March 16 20, 2008** – First Quarter Groundwater Monitoring Report.
- **September 15, 2008** – Third Quarter Groundwater Monitoring Report.

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.

Mr. Randal Nahas and Mr. Frank Tien
RO0000295, September 3, 2008
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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 Jakub, P.G.
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Alex Eskandari, P.E., BSK Associates, 1181 Quarry Lane #350, Pleasanton, CA 94566

Donna Drogos, ACEH, (via electronic mail)
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.

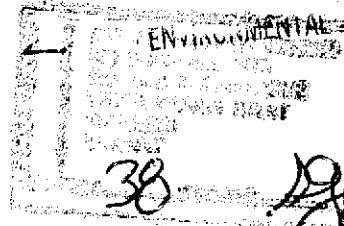
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire 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)



ALAMEDA COUNTY
HEALTH CARE SERVICES AGENCY
 Environmental Health Services Administration
 1131 Harbor Bay Parkway, Suite 250
 Alameda, CA 94502-6577

RECEIVED

SEP 15 2008



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**Frank Tien
 20405 Redwood Road
 Castro Valley, CA 94502**

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RETURN TO SENDER
 NO SUCH NUMBER
 UNABLE TO FORWARD

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