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 3, 2008

Mr. Terry Grayson
76 Broadway
Sacramento, CA 95818

Messrs. Arthur Yu and Kevin Ma
411 W. MacArthur Blvd.
Oakland, CA 94609

Subject: Fuel Leak Case No. RO0000251 and Geotracker Global ID T0600101472, Unocal #3538, 411 W. MacArthur Blvd., Oakland, CA 94609

Dear Messrs. Grayson, Yu and Ma:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the documents entitled, *Quarterly Status Report – Third Quarter 2007*, dated October 31, 2007 and *Offsite Groundwater Investigation Work Plan* dated March 8, 2007 both prepared by TRC. Soil borings SB-1, SB-3 and SB-5 which were advanced in March 2006, contained petroleum hydrocarbon and oxygenate contamination at maximum concentrations in soil at 6,100 mg/kg TPH-g, and water samples at 13,000 ppb TPHg, 510 ppb benzene, and 340 ppb MTBE. The vertical extent of contamination in soil and groundwater was not delineated. TRC recommended installing two additional groundwater monitoring wells "to better characterize the extent of dissolved-phase hydrocarbons, especially MTBE" and preparing a site conceptual model for the site. ACEH concurs with your proposal to prepare an SCM, but does not agree with the location or the screen lengths for the proposed wells. Please address the technical comments and submit the report requested below.

TECHNICAL COMMENTS

1. **Upcoming Groundwater Monitoring Event.** During the next groundwater monitoring event ACEH requests that you analyze all wells for the following constituents and ensure that the following methods are used: TPHg 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 also analyze for other VOCs by EPA Method 8260 in MW-1 due to the detections of 1,1- dichloroethene, tetracholorethene, and trichlorotriflouroethane.

2. **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 vertical extent of petroleum hydrocarbon and oxygenate contamination near SB-3 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.

3. **Proposed Well Locations and Screened Intervals** – Groundwater samples collected from the March 2006 borings had maximum detected concentrations of 13,000 ppb TPHg, 510 ppb benzene and 340 ppb MTBE in SB-3W. On-site boring SB-5W also contained elevated TPHg, benzene and MTBE concentrations. These areas do not currently have wells capable of monitoring depth discrete intervals. ACEH requests that discretely screened wells (those with a maximum screened interval between 2 and 3 feet and a maximum sand pack interval of 5 feet) be installed both on-site and off-site to monitor both on- and off-site concentrations of petroleum hydrocarbons and oxygenates. Long screen intervals can dilute the contamination coming in from the area as described in detail by Elci, et al in *Implications of Observed and Simulated Ambient Flow in Monitoring Wells* (Ground Water November-December 2001). Installing depth discrete groundwater wells can save money in that any remediation that may be required could be targeted to the specific water bearing unit and depth of the contamination. Please re-evaluate the site data and propose discrete interval wells as needed to define the extent of contamination both on- and off-site. Submit your plan in the SCM/work plan requested below.

4. **Vertical Delineation of Soil and Groundwater** – As discussed above, elevated petroleum hydrocarbon and oxygenate concentrations were detected in samples collected from borings

SB-1, SB-3 and SB-5. The maximum concentrations in soil were collected from SB-3 from 16- feet below ground surface (bgs) 6,100 mg/kg TPH-g, and both benzene and MTBE were below the detection limits but with elevated detection limit of <9.7 mg/Kg. The 14-ft. bgs sample in this boring contained concentrations of 0.11 mg/Kg benzene and 0.64 mg/Kg MTBE. The maximum concentrations in groundwater samples were also from boring SB-3 at maximum concentrations of 13,000 ppb TPHg, 510 ppb benzene, 340 ppb MTBE. No soil or groundwater samples were collected below this interval leaving the contamination in these media vertically undefined. Please evaluate your data gaps regarding vertical definition in the SCM and propose work to fill the data gaps in the work plan requested below.

TECHNICAL REPORT REQUEST

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

- **November 3, 2008** – Groundwater Monitoring Report
- **December 31, 2008** – Site Conceptual Model and 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

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

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

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

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

UNDERGROUND STORAGE TANK CLEANUP FUND

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

AGENCY OVERSIGHT

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

If you have any questions, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J Jakub

Barbara Jakub, P.G.
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Ms. Debbie Bryan, Delta Environmental, 312 Piercy Road, San Jose, CA 95138

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)

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

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Messrs. Arthur Yu and Kevin Ma
411 W. MacArthur Boulevard
Oakland, CA 94609

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