



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
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March 28, 2010

Ms. Julie Straub
United Parcel Service
55 Glenlake Parkway, NE
Atlanta, GA 30328-3474

Subject: Fuel Leak Case No. RO0000315 and Geotracker Global ID T0600100939, United Parcel Service, 8400 Pardee Dr., Oakland, CA 94621

Dear Ms. Straub:

Thank you for the recently submitted documents entitled, *Corrective Action Plan (CAP)* dated December 2011 and received January 23, 2012, *Groundwater Monitoring Report* dated January 27, 2012, and *Work Plan* dated December 2011 and received January 30, 2012 which were prepared by Arcadis for the subject site. Alameda County Environmental Health (ACEH) staff has reviewed the case file including the above-mentioned reports for the above-referenced site. The work plan proposes installing six injection wells screened from four to nine feet below ground surface to inject magnesium sulfate into the subsurface to enhance the development of sulfate-reducing conditions and promote the biological oxidation process. However, no background studies or pilot tests have been performed or presented to determine if this method would be appropriate, to calculate the radius of influence at the injection points, or to estimate the quantity of material needed to reduce the remaining hydrocarbons at the site.

The scope of work presented in the work plan and CAP has not been adequately justified and cannot be approved at this time. ACEH requests that you address the following technical comments and send us the reports requested below.

TECHNICAL COMMENTS

1. **Remedial Technology Screening** – The CAP provides a preliminary evaluation of multiple remediation technologies (one paragraph each) but does not provide sufficient information such as cost analysis, maps of the proposed excavation area, groundwater extraction wells, time frame, etc. In addition, the costs are not appropriately justified. Please submit a detailed evaluation of each option including a cost estimate for each remedial option evaluated, the general assumptions used, along with maps showing the location of proposed extraction wells, the effective radius of each pumping well, the area of the excavation, and timeframe to meet both active remediation levels and long term cleanup goals. Please note that ACEH only requires detailed evaluations of three active remediation techniques not including monitored natural attenuation or the no action alternative. Please provide this evaluation in the CAP Addendum requested below.

Also, the UST Cleanup Fund's Five-Year Review noted, that the tank pit was backfilled with asphalt materials and suggested that this may add to the length of time needed for remediation. Please address this concern in your evaluation.

2. **Selected Remedial Option/Pilot Test** – The selected remedial method in the CAP is injecting magnesium sulfate into the subsurface at multiple locations and in multiple phases. It appears that several assumptions were used to justify the selected method but no baseline testing or calculations were performed to determine if this method is feasible. Presented below are the assumptions from CAP along with information and tests that ACEH requires before a remedial alternative can be evaluated and approved.
 - a. **Baseline Sampling** – The primary assumption that oxygen is depleted and that biodegradation is occurring at the site has not been demonstrated. No analytical results for dissolved oxygen, sulfate and other biodegradation parameters have been presented. No discussion of whether the addition of magnesium sulfate will increase TDS to concentrations that would preclude the use of groundwater from beneficial use in the future and no baseline analysis of TDS has been presented. Background analysis and measurement of dissolved oxygen, sulfate, total dissolved solids, metals concentrations (specifically Fe), at a minimum, should be performed prior to proposing a remedial action based on these assumptions. Please collect data demonstrating the current geochemical background of the groundwater system and present this data and your evaluation of it, in the pilot test work plan requested below.
 - b. **Pilot Test** – The CAP states that the radius of influence is estimated at 12.5 feet, the figures suggest that there will be radial flow from each of these points and the work plan proposes installing three additional monitoring points, all of which are located over the 12.5 foot estimated radius of influence. However, no hydraulic testing results have been presented to determine the radius of influence of injected fluids. Based on this, both the proposed monitoring network and injection points do not appear to be appropriately spaced. At this time, ACEH requests that a pilot test is performed before designs for full-scale implementation are approved. The pilot test should provide the basis for evaluating whether magnesium sulfate injection will work at the site, determining the spacing of both injection points and monitoring locations, and providing accurate costs for this alternative. Please submit a pilot test work plan by the due date requested below. The work plan should propose an appropriate monitoring network to assess the influence of injected fluids and injection points in varied locations to determine if high concentrations of TPHd can be remediated using this method.
 - c. **Pre-Injection Calculations** – Before ACEH considers approving magnesium sulfate at the site, a more quantitative analysis should occur to determine if the site is suitable for this treatment. In addition to obtaining the data requested above, please determine the mass of the plume and using this estimate, calculate the site specific magnesium sulfate demand factor. Please update your cross-sections to include all available soil data, high and low groundwater levels, and planned injection well locations and screen intervals. This will aid in determining the residual mass at the site as well as the treatment areas. Please add the depths of the utility conduits on

these cross-sections to the maps as well. Present these calculations in the CAP Addendum requested below.

3. **Cleanup Goals** – The CAP refers to both the Environmental Screening Levels and the Low-Threat Closure Policy in the cleanup goal section to establish work that needs to be performed before closure. Please note that the Low-Threat Closure Policy is still in draft and has not been adopted. Therefore, references to this document are not appropriate. The site is located adjacent to the estuary and the San Francisco Bay RWQCB's Basin Plan for the San Francisco Bay Basin states that “all groundwaters are considered suitable, or potentially suitable, for municipal or domestic water supply (MUN).” The groundwater beneath the subject site must be considered beneficial for these uses unless shown to be non-beneficial using criteria presented in the Basin Plan (i.e. the total dissolved solids exceeding 3,000 milligrams per liter (mg/L), electrical conductivity exceeding 5,000 μ S/cm, and yield less than 200 gallons per day). Please present the site-specific corrective action goals in the CAP Addendum requested below.

4. **Preferential Pathway Study** – The CAP and SCM reports that a well survey was performed, yet Arcadis has not presented a map showing the well locations, the well logs, and the list of wells that was provided by the Department of Water Resources and Alameda County Public Works. Please submit this information in the CAP Addendum requested below and inform us as to which source was consulted for the well survey. ACEH will remove the confidential well logs before the information is posted to our website. Also, please place the depths of the utility lines on the map in your reports.

5. **Reported Groundwater Gradient** – The CAP states that groundwater flow direction has fluctuated from the North to the southeast. Please submit a rose diagram which includes the groundwater flow directions from each monitoring event in the next groundwater monitoring report.

6. **Separate Phase Hydrocarbon Cumulative Tables** – Please add the cumulative total for free product removed at the site in all future quarterly monitoring/ remedial status reports. In addition, please identify each well that is not sampled due to free product on the groundwater quality maps.

7. **Waste Discharge Requirements** – Please investigate if a General Waiver of Waste Discharge Requirements is required from the Regional Water Quality Control Board for injection of magnesium sulfate to groundwater. Also since the site is located within 150 feet of the estuary please investigate the requirements for disposing treated water to the surface (an NPDES permit may be required) or if the treated water should be permitted through the POTW. Present this information in the Pilot Test Work Plan requested below.

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TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Barbara Jakub), according to the following schedule:

- **May 20, 2012** –Semi-Annual Monitoring Report (1st Half 2012)
- **May 28, 2012** – Pilot Test Work Plan
- **60 Days After Pilot Test Completion** – Corrective Action Plan Addendum
- **November 30, 2012** – Semi-Annual Monitoring Report (2nd Half 2012)

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

Sincerely,

Barbara J. Jakub, P.G.
Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations
ACEH Electronic Report Upload (ftp) Instructions

cc: Hugh Devery, Arcadis, 975 Cobb Place Blvd. NW, Suite 311, Kennesaw GA, 30144 (*Sent via E-mail to: Hugh.Devery@arcadis-us.com*)
Mr. Douglas Hermann, Port of Oakland, 530 Water St., Oakland, CA 94607 (*Sent via E-mail to: dherman@portoakland.com*)
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (*Sent via E-mail to: lgriffin@oaklandnet.com*)
Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Barbara Jakub, ACEH (*Sent via E-mail to: barbara.jakub@acgov.org*)
GeoTracker
File

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

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.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

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

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection.**
- 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)

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 deh.loptoxic@acgov.org
 - 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, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - 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 deh.loptoxic@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 @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) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.