ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

July 3, 2013

Mr. Paul Harper
United Parcel Service
55 Glenlake Parkway, NE
Atlanta, GA 30328-3474
(Sent via E-mail to: pharper@ups.com)

Mr. Douglas Hermann
Port of Oakland
530 Water St.
Oakland, CA 94607
(Sent via E-mail to: dherman@portoakland.com)

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

Dear Mr. Harper and Mr. Herman:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Work Plan for Separate Phase Hydrocarbon Characterization and Dissolved Phase Plume Delineation* (Work Plan), dated April 26, 2013, which was prepared by Arcadis for the subject site. The work plan recommends advancing four CPT/UVOST borings to define the extent of separate phase hydrocarbons (SPH), advancing three Geoprobe borings to define the off-site extent of contamination, and conducting bail down tests in wells MW-12 and IW-1 to quantify recovery rates of free product to determine its mobility.

ACEH has evaluated the data and recommendations presented in the above-mentioned report, in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Based on ACEH staff review, we have determined that the site fails to meet the LTCP General Criteria d (Free Product), e (Site Conceptual Model), f (Secondary Source Removal), the Media-Specific Criteria for Groundwater, and the Media-Specific Criteria for Direct Contact and Outdoor Air.

The proposed scope of work may be implemented provided that the modifications requested in the technical comments below are addressed and incorporated during the field implementation. Submittal of a revised Work Plan is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed. However, a revised map is required as described below. In addition, ACEH would like to schedule a teleconference meeting with you and your consultants to discuss the technical comments below. Please call us by **July 11, 2013** with proposed dates and times for the meeting.

TECHNICAL COMMENTS

1. **LTCP General Criteria d (Free Product) –** The LTCP requires free product to be removed to the extent practicable at release sites where investigations indicate the presence of free product by removing in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges, or disposes of recovery byproducts in compliance with

applicable laws. Additionally, the LTCP requires that abatement of free product migration be used as a minimum objective for the design of any free product removal system.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to assess free product at the site. Specifically, free product has been measured in 12 of the 18 on-site wells (MW-2, MW-3, MW-4, MW-10, MW-11, MW-12, MW-13, MW-14, OW-1, IW-1, IW-4 and IW-6) at thicknesses ranging from 0.01 to 1.4 feet. Additionally, a review of historical soil and groundwater analytical data provides indirect evidence of free product as described in the SWRCB's *Technical Justification for Vapor Intrusion Media-Specific Criteria (Final 03-21-2012).* Total petroleum hydrocarbons as diesel (TPHd) have been detected in soil samples at concentrations above the SWRCB's free product indicator "rules of thumb" of 10 to 50 milligrams per kilogram (mg/kg) in borings SB-01, SB-02, SB-05, SB-06, SB-07, and SB-08 at concentrations ranging from 66 mg/kg to 5,000 mg/kg. TPHd has been detected in groundwater samples at concentrations above the SWRCB's free product indicator "rules of thumb" of greater than 5,000 micrograms per liter (µg/L) in samples collected from MW-1, MW-2, MW-3, MW-4, MW-8, MW-10, MW-11, MW-12, OW-1, IW-1, IW-2, IW-3, IW-4, IW-5, and IW-6.

Arcadis proposes advancing four CPT/UVOST borings to determine the lateral extent of free product in this area. ACEH requests additional borings to delineate the free product in the areas where direct and indirect evidence of free product has been observed, as described above. Please submit a revised figure with additional boring locations as described in Item 5, below.

Arcadis proposes to conduct bail down tests in wells MW-12 and IW-1 to quantify recovery rates of free product to determine its mobility. ACEH is in general concurrence with the proposed scope of work.

Please incorporate the results of the CPT/UVOST investigation and proposed bail down tests in the Soil and Water Investigation (SWI) Report described in Item 6 below.

2. **LTCP General Criteria e (Site Conceptual Model) –** According to the LTCP, the SCM is a fundamental element of a comprehensive site investigation. The SCM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants). The SCM is relied upon by practitioners as a guide for investigative design and data collection. All relevant site characteristics identified by the SCM shall be assessed and supported by data so that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy.

   Our review of the case files indicates that insufficient data and analysis has not been presented to assess the nature, extent, and mobility of the release and to support compliance with General Criteria d and f as discussed in Item 1 above and Media Specific Criteria for Groundwater, and Direct Contact and Outdoor Air Exposure as described in Items 3 and 4 below, respectively.

   Please prepare a focused SCM to address these data gaps and include in the SWI report described in Item 6 below.

3. **LTCP Media Specific Criteria for Groundwater –** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

   Our review of the case files indicates that insufficient data and analysis has been presented to support the requisite characteristics of plume stability or plume classification since the free product plume at the site is not defined and was recently discovered in the new wells that were installed at the site and monitoring of those wells has only been performed for less than one year.

   Arcadis proposes advancing three Geoprobe borings to determine the downgradient lateral and vertical extent of the groundwater contaminant plume. A review of the groundwater contour map presented in the September 17, 2012 Semi-Annual Groundwater monitoring event indicates that groundwater has a radial flow direction and therefore ACEH requests additional borings to adequately delineate the downgradient extent of the plume. Please submit a revised figure with additional boring locations as described in Item 5, below.

   Please incorporate the results of the Geoprobe investigation in the SWI Report described in Item 6 below.

4. **LTCP Media Specific Criteria for Direct Contact and Outdoor Air Criteria** – The LTCP describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air poses a low threat to human health. According to the policy, release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if the maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth bgs. Alternatively, the policy allows for a site specific risk assessment that demonstrates that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health, or controlling exposure through the use of mitigation measures, or institutional or engineering controls.

   Our review of the case files indicates that petroleum hydrocarbon concentrations are present in soil from 0 to 5 feet below ground surface (bgs) and that polycyclic aromatic hydrocarbons (PAHs) are present in levels above the commercial/industrial exposure levels (0 to 5 feet bgs) established in the LTCP. Please incorporate this information into the SCM as described in Item 6 below.

   ACEH notes that although Arcadis proposes to collect PAH data in soil samples in the Geoprobe borings, they do not specifically call out naphthalene. Please ensure that naphthalene data is collected.

5. **Revised Work Plan Figure –** Please prepare a Revised Figure showing the location of additional CPT/UVOST and grab groundwater investigation locations to address the comments in items 1 and 3 above. Please submit a draft of the revised figure to ACEH via e-mail correspondence for approval of additional locations prior to uploading to Geotracker and ACEH's ftp site.

6. **Soil and Water Investigation Report and Focused Site Conceptual Model** (SCM) – Please present the results of the CPT/UVOST and Geoprobe investigation in a Soil and Water Investigation Report by the due date requested below. Include a synthesis of the data in a tabular SCM that identifies remaining data gaps, if any. ACEH previously requested a draft corrective action plan (CAP) by June 12, 2013. A revised date will be issued by ACEH after completion of the data gap investigation and focused site conceptual model.

7. **Groundwater Monitoring** – Please continue semi-annual groundwater monitoring and submit reports by the dates requested below. ACEH concurs with Arcadis' recommendation to discontinue analysis for the fuel oxygenates and lead scavengers since the release is predominantly diesel. However, please include naphthalene in the suite of analyses. Please provide justification for conducting TPHd analysis without silica gel cleanup.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Barbara Jakub), according to Attachment 1 and the following naming convention and schedule:

- **August 2, 2013** – Revised Boring Location Figure
  (File to be named: WP_ADEND_R_yyyy-mm-dd)

- **September 30, 2013** – Second Half Semi Annual Groundwater Monitoring Report
  (File to be named: GWM_R_yyyy-mm-dd)

- **October 31, 2013** – Soil and Water Investigation and Focused SCM Report
  (File to be named: SWI_R_yyyy-mm-dd)

- **March 30, 2014** – First Half Semi Annual Groundwater Monitoring Report
  (File to be named: GWM_R_yyyy-mm-dd)

Thank you for your cooperation. Should 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

Digitally signed by Barbara J. Jakub
DN: cn=Barbara J. Jakub, o, ou, email=barbara.jakub@acgov.org, c=US
Date: 2013.07.03 09:53:34 -07'00'

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

Enclosures: Attachment 1 - Responsible Party(ies) Legal Requirements/Obligations & ACEH Electronic Report Upload (ftp) Instructions

Attachment A – Site Conceptual Model Requisite Elements

cc: Hollis Phillips, P.G., Arcadis, 100 Montgomery, Suite 300, San Francisco, CA 94104 *(Sent via E-mail to: Hollis.Phillips@arcadis-us.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*)
Dilan Roe, ACEH (*Sent via E-mail to: dilan.roe@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/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. 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, 7835, 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, late 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 SCP)	**REVISION DATE:** July 25, 2012
	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 (petroleum UST and SCP) 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.

ATTACHMENT A

Site Conceptual Model Requisite Elements

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Site Conceptual Model Requisite Elements

The site conceptual model (SCM) is an essential decision-making and communication tool for all interested parties during the site characterization, remediation planning and implementation, and closure process. 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 initially used to characterize the site and identify data gaps. As the investigation proceeds and the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened until it is said to be "validated". At this point, the focus of the SCM shifts from site characterization towards remedial technology evaluation and selection, and later remedy optimization, and forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

Alameda County Environmental Health (ACEH) requests utilization of a tabular format that highlights the major SCM elements and their associated data gaps, which need to be addressed to progress the site to case closure. Update the SCM at each stage of the project and submit with work plans, feasibility studies, corrective action plans, and requests for closures.

The SCM should incorporate, but is not limited to, the topics listed below. Please maximize the use of large-scaled maps and graphics, tables, and conceptual diagrams to illustrate key points. Please include an extended site map(s) utilizing an aerial photographic base map with sufficient resolution to show the facility, delineation of streets and property boundaries within the adjacent neighborhood, downgradient irrigation wells, and proposed locations of transects, monitoring wells, and soil vapor probes.

a. Regional and local (on-site and off-site) geology and hydrogeology. Include a discussion of the surface geology (e.g., soil types, soil parameters, outcrops, faulting), subsurface geology (e.g., stratigraphy, continuity, and connectivity), and hydrogeology (e.g., water-bearing zones, hydrologic parameters, impermeable strata). Please 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), cross sections, soil boring and monitoring well logs and locations, and copies of regional geologic maps.

b. Analysis of the hydraulic flow system in the vicinity of the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on groundwater elevation contour maps and updated in all future reports submitted for your site. Please address changes due to seasonal precipitation and groundwater pumping, and evaluate the potential interconnection between shallow and deep aquifers. Please include an analysis of vertical hydraulic gradients, and effects of pumping rates on hydraulic head from nearby water supply wells, if appropriate. Include hydraulic head in the different water bearing zones and hydrographs of all monitoring wells.

c. Release history, including potential source(s) of releases, potential contaminants of concern (COC) associated with each potential release, confirmed source locations, confirmed release locations, and existing delineation of release areas. Address primary leak source(s) (e.g., a tank, sump, pipeline, etc.) and secondary sources (e.g., high-concentration contaminants in low-permeability lithologic soil units that sustain groundwater or vapor plumes). Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).

d. Plume (soil gas and groundwater) development and dynamics including aging of source(s), phase distribution (NAPL, dissolved, vapor, residual), diving plumes, attenuation mechanisms, migration routes, preferential pathways (geologic and anthropogenic), magnitude of chemicals of concern and spatial and temporal changes in concentrations, and contaminant fate and transport. Please include three-dimensional plume maps for groundwater and two-dimensional soil vapor plume plan view maps to provide an accurate depiction of the contaminant distribution of each COC.

e. Summary tables of chemical concentrations in different media (i.e., soil, groundwater, and soil vapor). Please include applicable environmental screening levels on all tables. Include graphs of contaminant concentrations versus time.

f. Current and historic facility structures (e.g., buildings, drain systems, sewer systems, underground utilities, etc.) and physical features including topographical features (e.g., hills, gradients, surface vegetation, or pavement) and surface water features (e.g. routes of drainage ditches, links to water bodies). Please include current and historic site maps.

g. Current and historic site operations/processes (e.g., parts cleaning, chemical storage areas, manufacturing, etc.).

h. Other contaminant release sites in the vicinity of the site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for the SCM. Include a summary of work and technical findings from nearby release sites, including the two adjacent closed LUFT sites, (i.e., Montgomery Ward site and the Quest Laboratory site).

i. Land uses and exposure scenarios on the facility and adjacent properties. Include beneficial resources (e.g., groundwater classification, wetlands, natural resources, etc.), resource use locations (e.g., water supply wells, surface water intakes), subpopulation types and locations (e.g., schools, hospitals, day care centers, etc.), exposure scenarios (e.g. residential, industrial, recreational, farming), and exposure pathways, and potential threat to sensitive receptors. Include an analysis of the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e., vapor pathway). Please include copies of Sanborn maps and aerial photographs, as appropriate.

j. Identification and listing of specific data gaps that require further investigation during subsequent phases of work. Proposed activities to investigate and fill data gaps identified.