



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
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April 22, 2015

Ms. Sara May (Sent via E-mail to: smay@metrovation.com)
Terradev Jefferson LLC
c/o Metrovation
580 Second Street
Oakland, CA 94607

Subject: Case File Review for Fuel Leak Case No. RO0003001 and GeoTracker Global ID T10000001072, Terradev Jefferson LLC Property, 645 Fourth Street, Oakland, CA 94607

Dear Ms. May:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above referenced site including the recently submitted document entitled, "*Additional Site Characterization Report*," dated March 27, 2015 and received by ACEH on March 31, 2015 (Report). The Report, which was prepared on your behalf by Blue Rock Environmental, Inc., presents results from two soil borings advanced in Fourth Street and passive soil vapor sampling at nine locations inside the building. Based on these results, the Report concludes that a gasoline source upgradient of the site appears to be present. The only known release of gasoline directly upgradient of the site is from a former underground storage tank (UST) and dispensers at the Grove Auto Repair site (ACEH fuel leak case RO0000582 closed on November 4, 1993) at 424 Martin Luther King Jr. Way near the intersection of Fifth Street and Martin Luther King Jr. Way. The former UST is approximately 250 feet from the closed-in-place UST at the site and the nearest dispenser is approximately 210 feet from the closed-in-place UST at the site. We have reviewed the Report and do not find sufficient basis to conclude that there is an upgradient gasoline source affecting the site. Although it cannot be definitively concluded that a gasoline source is not present north of the site, the nature and extent of contamination is much more consistent with a source of gasoline in the area of the closed in place UST at the site based on the following:

1. Light nonaqueous phase liquids (LNAPL) have been measured at thicknesses up to 0.13 feet in groundwater monitoring wells adjacent to the closed-in-place UST. Based on the highly elevated concentrations of hydrocarbons detected in soil and groundwater in upgradient borings SB-7 and SB-8, it appears that the capillary fringe in the area of these borings has been affected by LNAPL. LNAPL migrates downward until encountering a physical barrier or are affected by buoyancy near the water table. Once the capillary fringe is reached, the NAPL migrates laterally as a free-phase layer along the upper boundary of the water-saturated zone due to gravity and capillary forces. Although the principal migration may be in the direction of the maximum decrease in water table elevation, some migration may occur initially in the upgradient and cross gradient directions. As the LNAPL migrates laterally, infiltrating precipitation and passing groundwater in contact with the LNAPL will dissolve soluble components and form a dissolved phase plume. It appears that the petroleum hydrocarbons detected in borings SB-7 and SB-8 are from LNAPL migration north from the closed in place UST at the site. Please see technical comment 3 below regarding utilities in the area of the closed-in-place UST which potentially could act as conduits to utilities beneath Fourth Street and borings SB-7 and SB-8.

2. LNAPL was not reported at 424 Martin Luther King Jr. Way. Furthermore, it seems implausible that LNAPL would travel 250 feet from a former UST at 424 Martin Luther King Jr. Way to the specific area of the closed in place UST at the site.
3. The maximum concentration of benzene detected in groundwater during the final sampling event at 424 Martin Luther King Jr. Way on March 7, 1988 was 13,000 micrograms per liter ($\mu\text{g/L}$). Benzene concentrations in groundwater at the site are similar to or higher than 13,000 $\mu\text{g/L}$. Some attenuation would be expected over this distance and time period.
4. There is no evidence of a migration pathway from the former UST and dispensers at 424 Martin Luther King Jr. Way to the site. Soil boring SB-3, which is located approximately 50 feet southeast of the former UST at 424 Martin Luther King Jr. Way, is located between the former UST and dispensers at 424 Martin Luther King Jr. Way and the site. If a plume migrated from 424 Martin Luther King Jr. Way to the site, some impacts would be observed in boring SB-3. Two soil samples collected at depths of 9-9.5 feet bgs and 14-14.5 feet bgs from boring SB-3 did not contain petroleum hydrocarbons at concentrations above reporting limits.
5. Two mobile dual-phase extraction (DPE) events were conducted at the site in October 2010 (5 days) and July 2012 (15 days). During the DPE events, an estimated 340 to 423 pounds of petroleum hydrocarbons were removed. Following the DPE events, groundwater concentrations rebounded indicating that a significant mass still remains. It appears highly unlikely that the significant mass of hydrocarbons removed and remaining following 20 days of DPE in the area of the closed in place UST is related to an off-site source more than 200 feet away.
6. A review of historic aerial photos for the site indicates that the current building was constructed sometime between 1980 and 1988. Prior to that time, the area adjacent to the closed in place UST appeared as an open yard area and it is possible the tank could have been in use. The UST at 424 Martin Luther King Jr. Way was removed in 1983. Therefore, both tanks may have been removed from service around the same time. MTBE detected in groundwater at the site may be from the closed in place UST at the site and does not necessarily indicate an off-site source. Lead scavengers have been detected at elevated concentrations in site groundwater indicating that releases also occurred prior to the early 1980s.

From the facts and observations above, it appears that the most likely source of gasoline beneath the site is the closed-in-place UST at the site. We have also located and reviewed additional information from the City of Oakland case files on the Grove Auto Repair site at 424 Martin Luther King Jr. Way. Those additional reports have been uploaded to the case file for ACEH case RO000582 and can be reviewed on the ACEH website (<http://www.acgov.org/aceh/lop/ust.htm>). If there is additional evidence to indicate that another UST was located closer to the site than the former UST at 424 Martin Luther King Jr. Way, please present that information.

Based on review of the passive soil vapor sample data, it appears that further evaluation of the potential for vapor intrusion is necessary as described in technical comment 1 below. The passive soil vapor data also appear to indicate that groundwater contamination may extend continuously from the closed in place UST at the site to boring B-6. Please see technical comment 2 below regarding further plume delineation.

TECHNICAL COMMENTS

1. **Passive Soil Vapor Sampling Results in Area of Previous Sub-slab Vapor Sampling.** The passive soil vapor sampling results within the building were variable with benzene concentrations ranging from 0.04 µg at S-1 to 48.01 µg at S-2. Passive sampling location S-1 is the nearest location to the closed-in-place UST and is also the nearest passive sampling location to previous active soil vapor sampling locations VP-1, VP-2, and VP-3. Based on a comparison of S-1 to other locations within the building, it is possible that sub-slab soil vapor samples collected within the area of S-1 may be biased low. Therefore, we request that you conduct additional evaluation of the potential for vapor intrusion within the building. Please present plans for the evaluation in a Work Plan no later than June 24, 2015. The evaluation should include additional sub-slab vapor sampling and indoor air sampling.
2. **Plume Delineation.** Passive soil vapor samples S-2, S-3, S-5, S-6, and S-8 within the interior portion of the building, had higher concentrations of total petroleum hydrocarbons and benzene than the other four passive soil vapor samples. This distribution of higher concentrations may indicate that the plume extends continuously from the closed-in-place UST to boring B-6. Elevated concentrations of TPHg and benzene were detected in groundwater at B-6. No sampling locations are located south of B-6 to define the extent of the plume. We request that you include plans in the Work Plan requested below to define the extent of the plume by collecting groundwater samples south of the building on Third Street.
3. **Utilities in Fourth Street.** A review of the Geophysical Survey Map in Appendix A of the "*Report for Geophysical Survey and Additional Site Characterization Workplan*," dated September 18, 2014 indicates that the geophysical survey identified utility lines either below or above the closed-in-place UST at the site that appeared to extend beneath Fourth Street. These utility lines potentially could provide conduits between the closed-in-place UST and utilities beneath Fourth Street. Please review available information on the locations, size, and depths, of utility lines in the vicinity of the closed-in-place UST and present the results of your review in the Work Plan requested below. Please propose any recommended additional investigation of the utilities to evaluate the potential for the utilities to act as conduits.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Jerry Wickham), and to the State Water Resources Control Board's GeoTracker website according to the following schedule and file-naming convention:

- **June 24, 2015** – Work Plan
File to be named: WP_R_yyyy-mm-dd RO3001

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.

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If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Markus Niebanck, Amicus, 580 Second Street, Suite 260, Oakland CA 94607 (*Sent via E-mail to:* markus@amicusenv.com)

Brian Gwinn, Blue Rock Environmental, Inc., 1169 Chess Drive, Suite C, Foster City, CA 94404
(*Sent via E-mail to:* brian@bluerockenv.com)

Michelle Heckle, Children's Hospital & Research Center, 747 52nd Street, Oakland, CA 94609

Jerry Wickham, ACEH (*Sent via E-mail to:* jerry.wickham@acgov.org)

GeoTracker, eFile

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: May 15, 2014
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 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.