



August 9, 2018

Steffi R. Zimmerman Trust  
Care of: Mr. Bill Mouat (Sent via E-mail to: [bandsm1@comcast.net](mailto:bandsm1@comcast.net))  
3289 Loma Verdes Place  
Lafayette, CA 94549-1805

Subject: Technical Report Request for Fuel Leak Case No. RO0002936 and GeoTracker Global ID T0600183099, Zimmerman Property, 3442 Adeline St., Oakland, CA 94608

Dear Mr. Mouat:

Thank you for participating in the meeting held at Alameda County Department of Environmental Health's (ACDEH) offices on June 22, 2018 attended in person by yourself, and Jeremy Smith of AEI Consultants (AEI), and by phone Jacquelyn Day and Trent Weise of AEI. The purpose of the meeting was to discuss the *Report on Data Gap Investigation, Updated Site Conceptual Model and Closure Evaluation* (Report) dated September 12, 2017, and the *Semi Annual Groundwater Monitoring Report, First Semester 2018* (Groundwater Report) dated March 26, 2018, both prepared and submitted on your behalf by AEI and identify the next steps to progress the case to closure. The case was evaluated in conjunction with the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP); ACDEH has determined that the site does not meet the LTCP General Criteria d (Free Product Removal), Media-Specific Criteria for Groundwater, or the Media-Specific Criteria for Vapor Intrusion to Indoor Air.

ACDEH understands that the site's buildings are two conjoined warehouses oriented north-south, fronting Chestnut, 35<sup>th</sup>, and Adeline Streets. The northern-most warehouse is used for storage, while the southern warehouse is used as an indoor fitness facility. The site is surrounded primarily by single-and multi-family residential housing.

During the meeting we discussed the following data provided in the above-referenced reports:

- Dissolved concentration of benzene in groundwater samples from MW-7 and MW-3 exceed 1,000 micrograms per liter (ug/L) the LTCP's Media Specific Groundwater maximum;
- Benzene concentrations in soil vapor samples from VB-12 exceed 280 micrograms per meter cubed (ug/m<sup>3</sup>), the LTCP's Commercial use/no bioattenuation zone;
- Light non-aqueous-phase liquid (LNAPL) was discovered in a grab groundwater sample obtained in VB-21;
- Groundwater levels ranging between 3 feet to 12 feet below ground surface which indicates the absence of a bioattenuation zone;
- Possible existence of a vapor intrusion preferential pathway by utility lines (water and sanitary sewer lines and laterals) traversing the former underground storage tank (UST) location and leading south to Chestnut Street neighboring residential properties near VB-3 and VB-4;
- Inability to obtain vapor samples due to tight conditions in VB-6 located in southwest corner of site building and adjacent to the 3431 Chestnut Street residence;
- The introduction of peroxide into unidentified monitoring wells at the site, which may explain discrepancies in the groundwater monitoring well data also discussed during the meeting.

ACDEH requests that you prepare a Data Gap Investigation Work Plan that is supported by an updated Site Conceptual Model (SCM) to address the identified data gaps discussed during our 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.

**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.

ACDEH's review of the case files indicate that in light of the LNAPL discovery and persistent and elevated benzene groundwater concentrations, the SCM should be updated. Insufficient data and analysis has been presented to assess the discovery of light non-aqueous-phase liquid (LNAPL) in a grab groundwater sample obtained during the installation of VB-21, not located adjacent to any known source areas in the northern-most warehouse. VB-21's analytical results detected concentrations of 29,000 micrograms per liter (ug/L) Total Petroleum Hydrocarbons as gasoline (TPHg), 24,000 ug/L TPH diesel (TPHd), 600 ug/L benzene, 150 ug/L ethylbenzene, and 620 ug/L naphthalene.

- a. **Preparation of a Phase 1 Report:** ACDEH requests the preparation and submittal of a Phase I Report to facilitate updating the SCM with the emphasis on informing the LNAPL discovery by describing current and historic site operations/processes, current and historic facility structures and physical features including topographical features and surface water features. Please include current and historic site maps and describe 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. Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).
- b. **Preparation of a LNAPL Figure:** Please provide a figure which shows LNAPL concentration in soil, groundwater and soil vapor.
- c. **Update the SCM for dissolved benzene in groundwater:** Insufficient data and analysis has been presented to assess the relationship between lower/high groundwater elevation, lower/higher benzene concentrations, and the groundwater monitoring well network.
- d. **Relative Moisture Content on Boring Logs:** Determination of the thickness and depth of the bioattenuation zone; ACDEH staff review all site boring logs for descriptions of relative moisture content and indications of first/final depth to groundwater during and at boring completion. Please ensure that future boring logs provide this critical information.
- e. **Introduction of peroxide into unidentified monitoring wells at the site:** Please provide a complete description of this matter and if this in fact occurred, ACDEH requests a report documenting the incident(s) and documentation that the monitoring wells are secured with a lock.

2. **LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air:** The LTCP describes conditions, including bioattenuation (unsaturated) zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

ACDEH's review of the case files indicate that due to lack of a bioattenuation zone, elevated and persistent benzene concentrations in groundwater, the location of sewer lines and laterals that traverse the former UST location, and the discovery of LNAPL in the northern warehouse, the current risk of vapor intrusion to indoor air has not been adequately evaluated to onsite use and adjacent residential properties.

ACDEH requests preparation of an Updated Site Conceptual Model and Data Gap Work Plan to evaluate the risk of vapor intrusion to both the on-site buildings and to neighboring residences through the installation of permanent soil vapor and sub-slab vapor probes to assess temporal and seasonal variations in soil gas concentrations discussed during our meeting. Please ensure the work plan is consistent with California Department of Toxic Substances Control's (DTSC) *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (Vapor Intrusion Guidance) dated October 2011 and DTSC's *Advisory Active Soil Gas Investigations*, July 2015. Please include Standard Operation Procedures (SOP) for soil vapor probe and sub-slab probe installation and sampling in an appendix in the work plan requested below. As discussed during the meeting, please focus the work plan on the following areas:

**Off-site vapor intrusion risk:**

- a. Prepare an aerial figure of the immediate site vicinity which shows the current use of neighboring parcels as vacant, residential, or commercial. Please provide a description of the foundations of two neighboring properties (3431 Chestnut Street and 3425 to 3427 Chestnut Street).
- b. Contact neighbors to the south along Chestnut Street regarding foundation details and request access permission to collect vapor samples.
- c. Assess vapor intrusion risk to neighboring residential property in the vicinity of VB-3 and VB-6; please propose passive sampling and indoor air sample collection taken for 24 hours with building both closed and open;
- d. Propose collection of passive vapor sample in the sewer laterals near VB-4 where the laterals enter the neighboring properties;

**On-site vapor intrusion risk:**

- e. Preparation of Site Building interior description: confirm the presence of heating, ventilation, and air conditioning (HVAC); present the schedule when the large garage doors on the western side of the warehouse are open;
- f. Provide a site plan of both warehouses that show utilities, ceiling &/or wall fans, bathrooms, sanitary sewers locations;
- g. Document the appearance of the building's interior and provide an occupancy schedule;

- h. Please propose indoor air sample collection both when the building is unoccupied and closed and when it is occupied and open;
- i. Prepare a Site Management Plan (SMP) for building for the time period(s) of occupancy with indoor air sample results.

### **TECHNICAL REPORTS REQUEST**

Please send an e-mail notification (Attention: Karel Detterman) that the following technical reports have been uploaded to the State Water Resources Control Board's Geotracker website, according to Attachment 1 with the following specified file naming convention and schedule:

- **September 7, 2018** – Updated SCM, Data Gap Work Plan, and Phase 1 Report  
File to be named: RO2936\_SCM\_WP\_PHASE1\_R\_yyyy-mm-dd

This report is 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.

Thank you for your cooperation. Should you have any questions or concerns regarding your case, please send me an e-mail message at [karel.detterman@acgov.org](mailto:karel.detterman@acgov.org) or call me at (510) 567-6708. Online case files are available for review at the following website: <http://www.acgov.org/aceh/lop/ust.htm>

Sincerely,

Karel Detterman, P.G.  
Senior Hazardous Materials Specialist

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

cc: Trent Weise, AEI Consultants, (Sent via E-mail to: [tweise@aeiconsultants.com](mailto:tweise@aeiconsultants.com))  
Jacqueline Day, AEI Consultants, (Sent via E-mail to: [jday@aeiconsultants.com](mailto:jday@aeiconsultants.com))  
Peter McIntyre, AEI Consultants, (Sent via E-mail to: [pmcintyre@aeiconsultants.com](mailto:pmcintyre@aeiconsultants.com))  
Dilan Roe, ACDEH, (sent via e-mail to: [dilan.roe@acgov.org](mailto:dilan.roe@acgov.org))  
Karel Detterman, ACDEH, (sent via e-mail to: [karel.detterman@acgov.org](mailto:karel.detterman@acgov.org))  
Paresh Khatri, ACDEH, (sent via e-mail to: [paresh.khatri@acgov.org](mailto:paresh.khatri@acgov.org))  
Case Electronic File, GeoTracker

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)</b>	<b>REVISION DATE:</b> December 14, 2017
	<b>ISSUE DATE:</b> July 25, 2012
	<b>PREVIOUS REVISIONS:</b> September 17, 2013, May 15, 2014, December 12, 2016
<b>SECTION:</b> ACDEH Procedures	<b>SUBJECT:</b> Responsible Party(ies) Legal Requirements / Obligations

REPORT & DELIVERABLE REQUESTS

Alameda County Department of Environmental Health (ACDEH) Cleanup Oversight Programs, Local Oversight Program (LOP) and Site Cleanup Program (SCP) require submission of all reports in electronic form to the State Water Board's (SWB) GeoTracker website in accordance with California Code of Regulations, Chapter 30, Division 3, Title 23 and Division 3, Title 27.

Leaking Underground Fuel Tank (LUFT) Cases

Reports and deliverable requests are 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 (RP) in conjunction with an unauthorized release from a petroleum underground storage tank (UST) system.

Site Cleanup Program (SCP) Cases

For non-petroleum UST cases, reports and deliverables requests are pursuant to California Health and Safety Code Section 101480.

ELECTRONIC SUBMITTAL OF REPORTS

A complete report submittal includes the PDF report and all associated electronic data files, including but not limited to GEO\_MAP, GEO\_XY, GEO\_Z, GEO\_BORE, GEO\_WELL, and laboratory analytical data in Electronic Deliverable Format™ (EDF). Additional information on these requirements is available on the State Water Board's website ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/))

- Do not upload draft reports to GeoTracker
- Rotate each page in the PDF document in the direction that will make it easiest to read on a computer monitor.

GEOTRACKER UPLOAD CERTIFICATION

Each report submittal is to include a GeoTracker Upload Summary Table with GeoTracker valid values<sup>1</sup> as illustrated in the example below to facilitate ACDEH review and verify compliance with GeoTracker requirements.

**GeoTracker Upload Table Example**

Report Title	Sample Period	PDF Report	GEO_MAPS	Sample ID	Matrix	GEO_Z	GEO_XY	GEO_BORE	GEO_WELL	EDF
<b>2016 Subsurface Investigation Report</b>	2016 S1	✓	✓	Effluent	SO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
<b>2012 Site Assessment Work Plan</b>	2012	✓	✓			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2010 GW Investigation Report</b>	2008 Q4	✓	✓	SB-10	W	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
				SB-10-6	SO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
				MW-1	WG	✓	✓	✓	✓	✓
				SW-1	W	✓	✓	✓	✓	✓

<sup>1</sup> GeoTracker Survey XYZ, Well Data, and Site Map Guidelines & Restrictions, CA State Water Resources Control Board, April 2005

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)</b>	<b>REVISION DATE:</b> NA
	<b>ISSUE DATE:</b> December 14, 2017
	<b>PREVIOUS REVISIONS:</b> September 17, 2013, May 15, 2014, December 12, 2016
<b>SECTION:</b> ACDEH Procedures	<b>SUBJECT:</b> Responsible Party(ies) Legal Requirements / Obligations

ACKNOWLEDGEMENT STATEMENT

All work plans, technical reports, or technical documents submitted to ACDEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to the State Water Board's GeoTracker website." This letter must be signed by the Responsible Party, or legally authorized representative of the Responsible Party.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6731, 6735, and 7835) 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 licensed or certified professional and include the professional registration stamp, signature, and statement of professional certification. Additional information is available on the Board of Professional Engineers, Land Surveyors, and Geologists website at: <http://www.bpelsg.ca.gov/laws/index.shtml>.

UNDERGROUND STORAGE TANK CLEANUP FUND

For LUFT cases, RP's non-compliance with these regulations may result in ineligibility to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse the cost of cleanup. Additional information is available on the internet at: [https://www.waterboards.ca.gov/water\\_issues/programs/ustcf/](https://www.waterboards.ca.gov/water_issues/programs/ustcf/)

AGENCY OVERSIGHT

Significant delays in conducting site assessment/cleanup or report submittals may result in referral of the case to the Regional Water 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.