

Nowell, Keith, Env. Health

From: Nowell, Keith, Env. Health
Sent: Thursday, September 18, 2014 4:08 PM
To: Phillips, Hollis
Cc: Megan.Smoley@arcadis-us.com; Roe, Dilan, Env. Health
Subject: Fuel leak case RO14 - BP#11132, 3201 35th Ave., Oakland

Dear Ms. Phillips,

Thank you and Megan Smoley, both of ARCADIS U.S., Inc. (ARCADIS), for participating in the meeting today regarding fuel leak cases BP#11132, located at 3201 35th Avenue in Oakland, Alameda County Environmental Health (ACEH) case number RO14. The purpose of the meeting was to discuss the status of the case and identify action items to move the case forward toward closure under the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP), including a discussion of the document entitled, *Work Plan – Additional Site Characterization* (Work Plan), dated June 25, 2014, and prepared by prepared by ARCADIS for the subject site.

As discussed in the meeting, ACEH generally concurs with the scope of work outlined in the Work Plan. 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.

Technical Comments

- Well Replacement - ACEH concurs with the replacement of the off-site groundwater monitoring well MW-10, referred to as MW-10R in the Work Plan. This well is located adjacent to a residence, has historically demonstrated measurable thicknesses of separate phase petroleum hydrocarbons (SPH), was most recently (February 6, 2012) reported to contain benzene at a concentration of 1,1000 mg/L, and has experienced a submerged well screen more than seventy-percent of the time. Additionally, the results of a UVOST boring advanced in the vicinity of the well did not reveal the presence of SPH, suggesting petroleum hydrocarbons detected in the well may not be consistent with site conditions. Proper abandonment of well MW-10 and replacing it with a well in the immediate vicinity of MW-10 will aid in the evaluation of the free product and groundwater contaminant plumes in this area.
- Additional Groundwater Monitoring Well – ACEH concurs the leading edge of the contaminant plume has not been defined. Placement of a down gradient monitoring well in front of the residence located at 3519 Mangels Avenue, as depicted on Figure 2 of the WP, is acceptable to ACEH.
- Monitoring Well Construction – Groundwater at well MW-10 has varied from 12.21 feet bgs to 22.00 feet bgs and has a well screen submergence rate of more than 70-percent. Groundwater at well MW-5, the nearest monitoring well to the proposed MW-11 location, has varied from 9.95 feet bgs to 20.94 feet bgs. The well screen length should be sufficient to intersect the vadose zone while not resulting in the submergence of the well screen. The proposed well screen interval, 12 feet to 27 feet bgs, for the two wells does not appear to be adequate for MW-11. Please provide technical justification for the proposed screened interval in the report requested below or submit, via email (attention Keith Nowell), a new screen interval.
- Soil Gas Probe Installation– ACEH is of the opinion that installation of soil gas probe SV-1, located adjacent to the residences (addressed as 3210 and 3214 35th Avenue) on 35th Avenue across from the site as depicted on Figure 2 of the WP, is premature. ACEH recommends the analytical data for MW-10R be reviewed prior to making a determination of the appropriateness of SV-1 installation. Please provide to ACEH the analytical data for MW-10R for review as soon as the data is available for discussion regarding the soil gas probe installation.

If the groundwater data supports soil gas collection, ACEH requests installation of an additional soil gas probe in the vicinity of 3202 35th Avenue. A review of Google Earth indicates a day care facility or nursery school is located at the eastern corner of Mangels Avenue and 35th Avenue, addressed as 3202 35th Avenue.

If installation of the soil gas probe is prudent, a foundation survey of the residential neighborhood should be performed to determine the appropriate probe depth. Depth of the soil vapor probe sample should be five (5) feet below the base of the foundation (e.g. 5.5 feet below the ground surface, bgs, for on-grade foundations and 5 feet below the base of a basement). If the residences are on raised foundations having crawl spaces, the sample depth should be five (5) feet below the ground surface (bgs).

ACEH requires the soil gas investigation be conducted following the guidelines presented in the following documents: *Final- Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* prepared by Cal/EPA, dated October 2011 and *Advisory- Active Soil Gas Investigations* prepared by Cal/EPA, LARWQCB, and San Francisco RWQCB, dated April 2012. The DTSC guidance documents can be reviewed at http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf and http://www.dtsc.ca.gov/SiteCleanup/upload/VI_ActiveSoilGasAdvisory_FINAL_043012.pdf web addresses.

Additionally, off-site groundwater monitoring wells MW-8 and MW-9 formerly contained SPH. Greenish staining documented on the boring log for MW-8 for the interval of 1-foot bgs through 20 feet bgs suggests shallow source material may be present at this location. Though recent benzene concentrations in groundwater from these two wells are currently below the LTCP threshold for vapor intrusion at sites with a 10-foot bioattenuation zone, the residences between the two wells may be at risk to vapor intrusion if the foundations extend below grade (e.g. basements). Therefore, please evaluate the need for an additional soil gas probe in this vicinity based on the results of the foundation survey.

- Soil Gas Analysis– Analysis scope for soil gas samples should include total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, oxygen, and methane and tracer gas helium. Though not all these gases are criteria in the LTCP, they provide multiple lines of evidence to aid in site evaluation.
- Soil Samples– A soil sample should be recovered from each soil gas boring from the within the upper five feet bgs and analyzed for TPHg, total petroleum hydrocarbons as diesel (TPHd), BTEX, and naphthalene. If basements are determined to exist and soil gas sampling conducted deeper than five feet bgs, an additional soil sample should be recovered from within the zone of 5- to 10 feet bgs.
- The Work Plan proposes a bail down test for SPH in on-site well OW-1, followed by a vacuum truck extraction to evaluate if additional SPH or dissolved phase hydrocarbons can be removed from the well. As presented in the meeting, SPH thickness in OW-1 is reported less than 0.5 feet, hence the bail down test will be replaced with a manual skimming test. ACEH notes that three bail down tests for SPH in on-site well OW-1 have been performed during the first three months of 2013. These tests were performed in association with a dual phase extraction (DPE) test which included OW-1. It is unclear to ACEH what additional information would be gained when performing another round of bail down/skimming and vacuum extraction tests. Please include technical justification for performing these tests in the report requested below.
- A review of the SWRCB's Geotracker and ACEH FTP databases indicates this site is out of compliance with electronic submittal of information requirements to the ACEH FTP database. Please review the files on the ACEH FTP website and upload any documents not currently found there- several groundwater monitoring reports and a correspondence appear to be missing.
- Please perform a review of the site history to determine if a waste oil tank currently or previously occupied the property. If it is determined the site currently or previously operated a waste oil tank, add naphthalene to the scope of analysis for groundwater in the next groundwater monitoring event. Wells to be included for the naphthalene analysis are all the on-site monitoring wells and well MW-9.

Technical Report Request

Please upload technical reports to the ACEH ftp site (Attention: Keith Nowell), and to the State Water Resources Control Board's GeoTracker website, in accordance with the following specified file naming convention and schedule:

- **September 30, 2014 - GeoTracker and ACEH FTP Site Electronic Deliverables**
- **October 31, 2014 – Analytical groundwater data for monitoring well MW-10R** -sent via email (attention Keith Nowell at keith.nowell@acgov.org and cc'ing Dilan Roe at dilan.roe@acgov.org). Note the data will be uploaded to GeoTracker as an EDF.
- **TBD– Groundwater (and Soil Gas) Investigation Report** (RO0000014_SWI_R_YYYY-MM-DD)

Thank you for your cooperation. Should you have any questions regarding this correspondence or your case, please call me at (510) 567-6764 or send an electronic mail message at keith.nowell@acgov.org.

Sincerely,
Keith Nowell,

Keith Nowell PG, CHG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda , CA 94502-6540
phone: 510 / 567 - 6764
fax: 510 / 337 - 9335
email: keith.nowell@acgov.org

PDF copies of case files can be reviewed/downloaded at:

<http://www.acgov.org/aceh/lop/ust.htm>