Nowell, Keith, Env. Health

From: Nowell, Keith, Env. Health
Sent: Thursday, March 17, 2016 4:07 PM
To: 'ronpatelvidge@gmail.com'
Cc: 'Gary Bates'; 'Patrick Ellwood'; 'dcs@youngdahl.net'; 'Paul King'; Roe, Dilan, Env. Health
Subject: Work Plan Review, ACEH case file RO2981 and GeoTracker Global ID T10000000416, Red Hanger Kleaners, 6235-6239 College Ave., Oakland

Dear Mr. Elvidge,

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the recently submitted document entitled *Site Investigation and Soil Vapor Extraction Feasibility Test Work Plan* (Work Plan) prepared by P & D Environmental, Inc. (P&D), dated March 15, 2016. The referenced report proposes to:

- Advance six onsite boreholes (B9 through B14) for the collection of grab groundwater (GGW) samples;
- Install two onsite soil gas wells (SG4-17 and SG11-17) to depth of 17 feet below the ground surface (bgs) for soil gas sample collection;
- Use of a video camera to evaluate the integrity of the on-site sanitary sewer, perform an exploratory excavation along the length of a section of the sewer line to evaluate trench construction materials, evaluate the presence of tetrachloroethene (PCE) in the trench materials, and install a slotted horizontal soil vapor extraction (SVE) pipe alongside the portion of the sanitary sewer trench where exploratory excavation is performed;
- Installation of three 17-foot deep SVE wells (SVE1, SVE2, and SVE3) for SVE feasibility testing; and
- Perform a SVE feasibility test using existing soil gas wells and vapor pins at the site to monitor for vacuum in the vicinity of the locations where soil vapor is extracted.

ACEH generally concurs with the proposed scope of work. 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. Please provide 72-hour advance written notification to this office (e-mail preferred to: keith.nowell@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Sand Pack**- The Department of Toxic Substances Control (DTSC) July 2015 document entitled *Advisory- Active Soil Gas Investigations* (Advisory) states for soil gas wells deeper than 15 feet, a tremie pipe should be used to avoid bridging or segregation during placement of the sand pack and annular seal. The Work Plan does not indicate a tremie pipe will be used for the constructing the 17-foot deep soil gas wells. Therefore, please incorporate the use of a tremie pipe for sand and seal placement in accordance with the Advisory. This is consistent with the technical comments made by ACEH in its November 6, 2015 review letter of the document entitled *Soil Gas Investigation Work Plan*, prepared by P&D and dated October 16, 2015.

2. **Well Seal-** The description of the well seal, consisting of a hydrated bentonite slurry, is not in agreement with the Advisory, which calls for emplacing at least six inches of dry granular bentonite on top of each sand pack. ACEH requests placement of at least six inches of dry granular bentonite on top of each sand pack in accordance with the Advisory.

   The proposed soil gas wells are described as permanent wells. However, the WP does not discuss the length of time the soil gas wells are anticipated to be in service. Bentonite-only annular seals are discouraged for long-term use as bentonite annular seals in the vadose zone desiccate readily and will not rehydrate once damaged. The

Advisory states that, for wells that will be sampled for less than one year, the annular seal can be hydrated bentonite or other materials, as appropriate. However, for wells that will be used for longer than one year, the annular seal should be neat cement with bentonite.

If the service life of the soil gas wells is not known, ACEH requests that an annular seal consisting of neat cement with bentonite be used. This is consistent with the technical comments made by ACEH in its November 6, 2015 review letter of the P&D document entitled *Soil Gas Investigation Work Plan*, dated October 16, 2015, and will insure a well construction similar to the previously installed soil gas wells at the site.

3. **Well Depth-** As stated above, two soil gas wells and three SVE wells are proposed to be advanced to a depth of 17 feet bgs. Previous investigations conducted at the site have documented depths to water in the 16- to 21-foot bgs range. In accordance with the Advisory, the deepest soil gas samples should be collected near the capillary fringe, not in or below the capillary fringe. Therefore, ACEH requests the depth to water be evaluated in each of the well bores prior to soil gas well installation, and that the depth of each well be adjusted to a shallower depth if it is determined to be warranted. This is consistent with the technical comments made in the November 6, 2015 ACEH letter commenting on the October 16, 2015 P&D document entitled *Soil Gas Investigation Work Plan*.

4. **Well Cover-** The method of securing the five wells, as described in the Work Plan, is to enclose each well in a well box with a lid that is secured with bolts. ACEH requests that, in addition to the well box, a gas-tight valve or fitting for capping the sampling tube be used to provide additional well protection. Please incorporate capping to all site soil gas wells.

5. **Soil Sample Analysis-** The Work Plan states that soil samples will be collected from all of the continuously cored boreholes at a depth immediately above the water table and that, with the exception of the 3-foot bgs soil sample collected from borehole B9, all of the soil samples will be placed on hold pending receipt of the groundwater sample results. The Work Plan does not specify what happens upon receipt of the groundwater sample results.

   ACEH requests the groundwater sample analytical report be provided to ACEH for review prior to a determination on how to proceed with the soil samples. Please note that the hold times for soil samples analysis is 14 days, potentially requiring expedited analysis of the GGW samples. Therefore, ACEH requests incorporating an appropriate GGW analysis turn-around time to provide an adequate review period.

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:

- **June 20, 2016- Site Investigation and Soil Vapor Extraction Feasibility Test Report** (file name: RO0002981_SWI_FEASSTUD_R_yyyy-mm-dd)

Thank you for your cooperation. ACEH looks forward to working with you and your consultants to advance the case toward closure. 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

Regards,
Keith Nowell

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

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