

From: [Soo, Kit, Env. Health](#)
To: "Steven Greenwood"; "Kalve, Erica"
Cc: Carolyn.Choy@aspirepublicschools.org; [Tan, Angeline](#); [Roe, Dilan, Env. Health](#)
Subject: RO0411 - Pacific Electric Motors Site - ACDEH Response and Action Items wrt August 22, 2016 Meeting
Date: Tuesday, September 13, 2016 4:32:00 PM
Attachments: [image001.png](#)

Hi Erica and Steven,

Thank you for attending the meeting on August 22, 2016. Attendees of the meeting included Steven Greenwood from Aspire Public Schools); Erica Kalve from Arcadis; and Dilan Roe and Kit Soo from Alameda County Department of Environmental Health (ACDEH). The purpose of the meeting was to discuss the status of the project as well as to introduce myself as the new case worker for this site. Your email below and dated August 22, 2016 accurately summarizes our discussions. The below further summarizes our review of certain documents and the proposed action items during the course of the meeting.

ACEH staff has reviewed the following documents and associated referenced directives:

- *Second Vapor Intrusion Evaluation Report for Building 200 for the Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case Number RO0000411)*, dated February 19, 2016, prepared by Arcadis. This report presents results from additional outdoor air, crawl space, and soil gas sampling to further evaluate the potential for vapor intrusion. This is pursuant with the directive DIR_L_2016-01-11 dated January 11, 2016 requesting for a technical report.
- *Vapor and Air Monitoring Report for Building 300 for the Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case Number RO0000411)*, dated May 10, 2016, prepared by Arcadis. This report presents results and evaluation of the vapor in pipe risers and indoor air samples collected on April 8, 2016 to provide additional confirmation of the effectiveness of the Vapor Intrusion Mitigation (VIM) system. This is pursuant with the directive DIR_L_2015-11-30 dated November 30, 2015 requesting for a technical report.

We have also reviewed the information outlined in your email below (dated August 22, 2016) with respect to the evaluation of vapor intrusion potential and potential outdoor air contributions to indoor air quality for Buildings 200 and 300.

Technical Comments

Based on our review of the mentioned documents and your email, ACDEH requests that the following comments are incorporated and addressed in a work plan to implement the proposed work.

Additional comments are also provided in ***bold italics within parentheses***, in your original email below:

Buildings 200 and 300

- Perform the work in accordance with the *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (Guidance Document), dated October 2011,

published by the Department of Toxic Substances Control (DTSC) and California Environmental Protection Agency.

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Building 200

- Benzene in crawl space samples were detected above the United States Environmental Protection Agency (USEPA) Residential Regional Screening Level (RSL). Soil gas samples were only collected from two locations and only during the September 2015 event. Soil gas samples could not be collected from SVP-6, -7, -8, -9 and -10 during the January 2016 sampling event either due to the presence of water in the probe, or due to low flow conditions.
- Due to the detection of benzene in the crawl space sample and outdoor air samples, and the absence of results associated with a number of soil gas samples in the vicinity of Building 200, we request that an indoor air sampling event be performed instead of an additional attempt to collect soil gas from existing vapor probes, to assess the benzene concentrations, and evaluate whether these concentration pose a vapor intrusion potential or are due to outdoor air contributions to indoor air quality. As discussed during our meeting and mentioned in your email below, two additional 8-hour sampling events will be performed: 1) during normal school hours when the parking lot is actively utilized, and 2) during a holiday weekend when there is minimal use of the parking area. For further comments to details of the sampling, we agree with your outline below however, please refer to our additional comments in ***bold italics within parentheses***.

-
Building 300

- Benzene and naphthalene concentrations were detected above the USEPA RSLs in most of the indoor air samples collected. The only outdoor air sample collected showed similar concentrations. As such, we request that additional indoor air and vent riser piper sampling event be performed to verify the benzene and naphthalene concentrations, and evaluate whether these concentrations pose a vapor intrusion potential or due to outdoor air contributions to indoor air quality. As discussed during our meeting and mentioned in your email below, two additional 8-hour sampling events will be performed: 1) during normal school hours when the parking lot is actively utilized, and 2) during a holiday weekend when there is minimal use of the parking area. For further comments to details of the sampling, we agree with your outline below however, please refer to our additional comments in red which references the yellow highlighted headers below.

Technical Report Request

Please upload the work plan to the ACDEH ftp site (Attention: Kit Soo), and to the State Water Resources Control Board's GeoTracker website according to the following schedule and file-naming convention:

- September 28, 2016 – Buildings 200 and 300 Indoor Air Monitoring Work Plan
File to be named: WP_R_yyyy-mm-dd R00411

Let me know if you have additional questions.

Thanks, Kit

Kit Soo, PG

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From: Kalve, Erica [<mailto:Erica.Kalve@arcadis.com>]

Sent: Monday, August 22, 2016 2:14 PM

To: Roe, Dilan, Env. Health <Dilan.Roe@acgov.org>; Soo, Kit, Env. Health <Kit.Soo@acgov.org>

Cc: Steven Greenwood <Steven.Greenwood@aspirepublicschools.org>; Tan, Angeline <Angeline.Tan@arcadis.com>

Subject: Meeting Action Item Summary - Former Pacific Electric Motors Site

Dear Dilan and Kit,

Thank you for the productive meeting on Thursday, August 18, 2016, regarding the Former Pacific Electric Motors Site located at 1009 66th Avenue in Oakland, California. As discussed during the meeting, the historical soil and groundwater remediation activities have been effective at reducing constituents of potential concern at the site. We have been in the process of evaluating vapor intrusion potential in buildings 200 and 300. Building 200 has a crawl space area with vent grates located around the building and Building 300 has a passive vapor intrusion mitigation system.

In order to further evaluate vapor intrusion potential and potential outdoor air contributions to indoor air quality, we discussed conducting two additional sampling events including one eight-hour sampling event during normal school operations (when the parking lot is in active use) and one sampling event during a holiday weekend when there is minimal use of the parking area. We discussed incorporating the following sampling approach during both events:

- Collect outdoor air samples at ground level (as was done in during previous sampling events)

(According to the Guidance Document, outdoor samples should be collected approximately off the ground, and also located away from gasoline stations, automobiles, gasoline powered engines, fuel and oil storage tanks, etc. However, due to the site configuration and air flow patterns, we agree that one outdoor sample (as was done previously) should be collected also in order to assess whether there is a difference in where the outdoor samples are collected.

- Collect outdoor air samples from the roof (will coordinate with a roofer to safely gain access to the roof level)

(Note: consider the items outline in the last paragraph of page 31 of the Guidance Document. The Guidance Document suggest 3 ambient samples to be collected per event. Based on the size of this site, fewer than 3 may be justifiable. However, because we have uncertainty in the quality

of the ambient samples collected at the site, 3 samples may make sense. (i.e. 1 from the regular sampling location, 1 from roof, and another location selected based on consideration of the items listed beginning at the bottom of page 31 onwards))

- Collect indoor air samples and crawl space samples from building 200

(Consider the number of samples and their placement, so as to be representative of the breathing area within building 200 (i.e. are there 2 floors, are different classrooms configured similarly or different, are the classrooms ventilated differently from the others etc.). Make sure to include the Building Survey Form (Appendix L of the Guidance Document))

- Collect indoor air and vent riser samples from building 300
 - o Record the riser pressure reading using a micro-manometer prior to sampling
 - o Record weather conditions at the time of sampling (i.e., wind conditions)

(We recommend including the Building Survey Form (Appendix L of the Guidance Document))

- Take a photo log of the parking area during the sampling event

(It may also be useful to note which item as outlined on the bottom of Page 31 of the Guidance Document were considered and if not, why, when collecting the ambient air samples)

- Take depth to water readings from shallow groundwater monitoring wells.

(Please collect the water level data on the same days as the air sampling in order to provide data for correlation)

Upon completion, the report needs to provide a discussion on the trends observed between the two events, and over time. We will also provide a summary of the parking lot usage and outdoor air quality conditions at roof level and ground level and any relationships that are observed during the sample events. Finally, based on the finding of these sample events, we will determine if the vapor intrusion evaluation is complete and proceed with a site closure request, or if a winter sampling will be necessary.

We discussed doing the two sampling events around the Labor Day holiday weekend since it is the next holiday weekend. However, given the timing needed to complete coordination efforts, we suggest using Columbus Day as our holiday weekend to provide adequate planning and coordination. Columbus Day is on Monday, October 10, 2016 and the school will be on Holiday (Steve to confirm).

Additionally, you asked for clarification regarding the screening criteria. We are open to your suggestion but for clarification, based on Jerry's input, we have been using the USEPA Regional Screening Levels with DTSC Note 3 modifications, with the exception of TPH-GRO which is based on the RWQCB Environmental Screening Levels (Table E). These screening levels are all updated on a periodic basis. As such, we will update the screening levels to include the most recent published values and include those for comparison of results collected during the next rounds of sampling for buildings 200 and 300. Additionally, we will plan to present site specific screening levels considering

actual exposure durations of students at the school for additional comparisons.

(Please include both the Residential RSLs and the ESLs (Direct Exposure Human Health Risk Levels) in your report tables)

Also, please note that during a debrief meeting with Angeline Tan (my colleague helping support this project), she mentioned that the most recent sample event for building 300 was conducted during a holiday week so that we could essentially capture “HVAC off conditions”. This is a detail that we thought we should share in looking closely at the proposed approach. It appears that outdoor air conditions may still be impacted by benzene even when the school is closed for the holiday. The outdoor air roof samples will likely help resolve questions associated with ambient air conditions which may still be above appropriate screening criteria.

(Sampling should be done with the HVAC operating normally for the season and time of day, check the Guidance Document)

Please let us know if you have any additional details that need to be incorporated based on our discussion last Thursday. Following your input, we will develop a work plan addendum documenting the approach and submit for approval prior to implementing the sampling event.

We look forward to hearing from you.

Sincerely,
Erica

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