

From: [Mark Havighorst](#)
To: [SCHATZ Jeff * DEQ](#)
Cc: [Will Short](#); [Melissa Roskamp](#); [NELSON Heidi * DEQ](#)
Subject: RE: Glass Lab - work plan for air sampling
Date: Wednesday, March 8, 2023 5:58:01 AM
Attachments: [image001.png](#)

Thanks Jeff. We will consider DEQ's comments and get back to you as soon as we can.

Mark B. Havighorst, P.E. (OR and WA), Principal Engineer

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From: SCHATZ Jeff * DEQ <Jeff.SCHATZ@deq.oregon.gov>
Sent: Tuesday, March 7, 2023 4:18 PM
To: Mark Havighorst <mhavighorst@farallonconsulting.com>
Cc: Will Short <WShort@skbcos.com>; Melissa Roskamp <mroskamp@farallonconsulting.com>; NELSON Heidi * DEQ <Heidi.NELSON@deq.oregon.gov>
Subject: RE: Glass Lab - work plan for air sampling

Hello Mark-

Again, I apologize for the delay in responding. Things got very busy recently and I also wanted to get feedback from my project engineer.

DEQ appreciates the email description by Farallon Consulting (Farallon) of the proposed work to be performed on behalf of SkanlanKemperBard Companies, LLC (SKB) related to evaluating the effectiveness of the concrete floor in preventing intrusion of chlorinated VOCs into the building with the SSDS deactivated. DEQ has the following comments on the proposal:

Comments

1. DEQ concurs with the proposed use of 14-day Radiello samplers, as this will provide a more accurate time-integrated snapshot of indoor air conditions. However, one round of sampling is not sufficient to demonstrate that elevated levels of cVOCs in soil gas do not pose unacceptable risks to occupants. DEQ requests three rounds of indoor air sampling that span winter, spring, and summer seasons. If the sampling results are favorable, DEQ would consider a request to close out the work under the prospective purchaser agreement.
2. Because this work outlines an alternative approach to evaluating risks to building occupants and compliance with the terms of the prospective purchaser agreement, this proposal should

be presented in a work plan or tech memo format. However, DEQ acknowledges the importance of avoiding undue delays that would prevent data collection while winter conditions persist. If SKB and Farallon are agreeable to implementing the changes herein requested, work could proceed in parallel with preparation of the work plan.

3. DEQ suggests there would be value to collecting an indoor air sample from an enclosed space (e.g., mechanical room or other) within the area shown on Figure 2 that would be representative of possible worst-case conditions that could be encountered by workers. The proposed sample near VP-7 could be collected from an alternative location if a suitable one can be identified.
4. Please also collect an ambient outdoor air sample to aid in data interpretation, preferably from an upwind location (i.e., to the extent possible).
5. DEQ strongly recommends a materials survey be completed prior to deploying the samplers to identify items in the building that could contain chemicals of interest. Once identified, the items should be removed during the sampling period to avoid interference that could complicate interpretation of the results.
6. If DEQ agrees that deactivation of the SSDS is appropriate, the system should be converted to continue to operate in a passive mode.

DEQ appreciates submittal of the sampling proposal on behalf of SKB. DEQ is providing these comments in email format in the interests of expediency. If SKB or Farallon have questions or concerns about these comments, please contact me to schedule a meeting.

Respectfully,

Jeff K. Schatz, R.G.
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From: Mark Havighorst <mhavighorst@farallonconsulting.com>
Sent: Wednesday, February 1, 2023 11:28 AM
To: SCHATZ Jeff * DEQ <Jeff.SCHATZ@deq.oregon.gov>
Cc: Will Short <WShort@skbcos.com>; Melissa Roskamp <mroskamp@farallonconsulting.com>
Subject: Glass Lab - work plan for air sampling

Hello Jeff –

Farallon Consulting, LLC has prepared this email on behalf of ScanlanKemperBard Companies, LLC (SKB) to present a work plan for ambient air sampling at the Glass Lab site (formerly the Morehouse Building) at 350 SE Mill Street in Portland, Oregon (Figure 1).

This email presents a summary of relevant background information, the proposed scope of work for ambient air sampling, and a discussion of potential next steps based on the air sampling results.

Background

SKB entered into a Potential Purchaser Agreement Consent Order No. 18-01 (PPA) for the Glass Lab due to existing environmental conditions at the site, including but not limited to the presence of tetrachloroethene (PCE) and trichloroethene (TCE) in soil gas at concentrations exceeding risk-based concentrations (RBCs) for occupational receptors. The source of the PCE and TCE has not been clearly identified; however, based on proximity the source of PCE and TCE in soil gas may be off-site.

To mitigate potential vapor intrusion the PPA required installation of a subslab depressurization system (SSDS) and sealing of penetrations and construction joints in the concrete slab building foundation. The attached as-built figure EN1.00 shows the layout of the underground piping for the SSDS system and the approximate areal extent of PCE and TCE exceeding vapor intrusion RBCs for occupational receptors prior to installation of the SSDS. Observations during construction of the SSDS indicate that the concrete slab foundation thickness ranges from approximately 10 to 14 inches.

The SSDS has operated since June 27, 2019. During operation the effectiveness of the SSDS and conditions in soil gas beneath the concrete slab foundation have been evaluated based on vacuum measurements and the results of soil gas sampling performed at up to nine soil gas monitoring points (VP-1 through VP-9). The locations of the soil gas monitoring points and PCE and TCE concentrations detected during monitoring events are shown on Figure 2.

Monitoring results indicate that the SSDS system has been effective; however, concentrations of TCE in soil gas beneath the building's concrete slab foundation remain above the RBC. Consistent with the PPA, the SSDS should be operated until concentrations of PCE and TCE in soil gas are below RBCs. SKB has expressed concerns that long-term operation of the SSDS and upcoming changes to RBCs and DEQ's guidelines for vapor intrusion may be burdensome for SKB or a potential future property owner. The approximate areal extent of PCE and TCE exceeding the anticipated new soil vapor RBCs for occupational receptors (1,566 micrograms per cubic meter [$\mu\text{g}/\text{M}^3$] for PCE and 96 $\mu\text{g}/\text{M}^3$ for TCE) is shown on Figure 2.

Scope of Work

This scope of work is intended to understand whether conditions in indoor air at the Glass Lab building resulting from the presence of PCE and TCE in soil gas at the site pose an unacceptable risk for occupants of the Glass Lab building.

The proposed scope of work includes using Radiello passive samplers to collect ambient air samples inside the Glass lab building. This sampling would occur in the winter (sampling is planned for February 2023), when risks of vapor intrusion are anticipated to be the greatest. The proposed approach for sampling is outlined below.

- The SSDS blower will be shut down for three days prior to the start of sampling. Shutting down the blower will allow soil vapor and ambient air concentrations to stabilize.
- Radiello samplers will be deployed on the first floor of the building near VPs 2, 4, 6, 7, 8, and 9, which are the VPs where PCE or TCE historically has been detected in soil vapor at concentrations above the anticipated new soil vapor RBCs for occupational receptors. A Radiello sampler also will be deployed on the mezzanine level of the building in the communal hallway space. All samplers will be placed approximately 1 meter off the ground to represent the breathing zone.
- After approximately 2 weeks the Radiello samplers will be collected and sent to ALS Environmental in Salt Lake City, Utah, for analysis for chlorinated volatile organics using modified EPA Method TO-17.
- The lab report and tables summarizing the results of ambient air and historical soil vapor sampling and comparing the results to RBCs will be provided to DEQ and a meeting to discuss the sampling results will be scheduled.

Potential Next Steps

It is anticipated that concentrations of PCE and TCE in ambient air samples collected from the Glass Lab building will not exceed RBCs. In this instance, vapor mitigation measures may not be necessary to protect occupants of the Glass Lab building. Accordingly, SKB would request closeout of the PPA without further operation of the SSDS.

Please let us know if DEQ approves this work plan. Please let us know if you have any questions or would like to schedule a meeting to discuss the work plan.

Thanks

Mark B. Havighorst, P.E. (OR and WA), Principal Engineer

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