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Secretary for  
Environmental Protection

**Department of Toxic Substances Control**

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**Gavin Newsom**  
Governor

May 7, 2025

**SENT VIA ELECTRONIC MAIL**

Mr. Carey Upton  
Santa Monica-Malibu Unified School District  
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CONDITIONAL APPROVAL OF SOIL SAMPLING RESULTS AND SOIL CLEANUP  
LEVEL DETERMINATION TECHNICAL MEMORANDUM AND WINTER 2024/2025  
SOIL VAPOR SAMPLING REPORT, ROOSEVELT ELEMENTARY SCHOOL, 801  
MONTANA AVENUE, SANTA MONICA, (SITE CODE: 304696)

Dear Mr. Upton:

The Department of Toxic Substances Control (DTSC) has reviewed the "Soil Sampling Results and Soil Cleanup Level Determination Technical Memorandum" (NV5, March 17, 2025), and the "Winter 2024/2025 Soil Vapor Sampling Report" (NV5, March 17, 2025) for a 1.6-acre portion (Site) of Roosevelt Elementary School (School). DTSC considers the above documents as a Supplemental Site Investigation (SSI) Technical Memorandum (SSI Tech Memo). The SSI Tech Memo presents the results of three soil sampling events and four soil vapor sampling events.

The SSI Tech Memo concludes that the total volume of impacted soil to be removed is 11.89 cubic yards using a site-specific cleanup goal concentration of 18 mg/kg and proposes to conduct housekeeping excavation. Confirmation samples will be collected from the excavated areas. The SSI Tech Memo also concludes that no further measures would be required to mitigate risks associated with the identified VOCs in soil vapor based on the results, but a vapor barrier will be installed for the new building as a precautionary measure.

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DTSC concurs with the conclusions and recommendations and hereby approves the SSI Tech Memo provided the following comments are incorporated during future fieldwork and/or reports:

**Lina Hijazi**  
**Project Manager**  
**Brownfields Restoration and Schools Evaluation Branch**

**COMMENTS:**

1. "Soil Sampling Results and Soil Cleanup Level Determination Technical Memorandum", Post Soil Excavation Confirmation Sampling and Contingency Plan, Page 8: The SSI Tech Memo states: "it is proposed that confirmation soil samples will be collected from the excavation side walls and floor. If a concentration of any COC above a cleanup goal is identified in a confirmation sample, the excavation will be extended one foot vertically and two feet horizontally, and another confirmation sample collected. This process will be continued until the all the COC concentrations are below the established cleanup goals".

Based on confirmation sampling, if the volume of impacted soil is within what's considered de minimis volume (10 to 15 cubic yards or 1 truck load), then housekeeping excavation and documentation in a Supplemental Site Investigation (SSI) would be adequate. If the volume is significant, then a Removal Action Workplan (RAW) may be warranted.

**Joe Hwong, P.G., C.HG.**  
**Senior Engineering Geologist**  
**Brownfields Restoration and Schools Evaluation Branch**

**COMMENTS:**

1. Geologist concurs with the proposed clean-up levels for lead, dieldrin, and aroclor-1254. As for arsenic clean-up level, cleanup goal 18 mg/kg, (Scenario 1)

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seems adequate based on site-specific data. However, I will defer to a DTSC toxicologist to conduct a final evaluation and determination.

2. Geologist concurs with recommendation associated with the vapor issues. However, I defer to a DTSC toxicologist to review the Johnson and Ettinger Model and Vapor Intrusion Risk Evaluation (VIRE).

**Cedric Clark, Ph.D.**  
**Associate Toxicologist**  
**Human and Ecological Risk Office (HERO)**

### **GENERAL COMMENTS**

The following comments pertain to the Tech Memo:

According to the Tech Memo, arsenic concentrations in 21 out of 83 soil samples exceed the upper-bound ambient level of arsenic in southern California (12 mg/kg). To aid in determination of a site-specific cleanup goal for arsenic, the data were evaluated in three different ways. (a) First, a Fourth Spread Analyses was used to identify outliers. In the first iteration, any concentration above 17.85 mg/kg was identified as an outlier. A second iteration was conducted where any concentrations above 13.38 mg/kg were identified as outliers. (b) Next, a Probability Plot was used to identify an inflection point in the curve, where all arsenic data from the Site was plotted, and 18 mg/kg was identified at the inflection point. This was identified as “a break between the ambient level of arsenic for the Site and the portion of the curve that represents a separate, higher population which may be a consequence of a release to the environment”. (c) In the third step, a 95% Upper Confidence Limit (95% UCL) on the mean was calculated for four groupings of arsenic concentrations (all data up to the maximum concentration of 200 mg/kg, all data up to 18 mg/kg, all data up to 13 mg/kg, and all data up to 12 mg/kg) and these values (95% UCL on the four different means) were then compared to 12 mg/kg. The 95% UCL on the mean of the four groups were calculated to be 31 mg/kg, 9.7 mg/kg, 9 mg/kg and 8.9 mg/kg. The report concluded that the 95% UCL on the mean of arsenic concentrations was less than 12 mg/kg in the last three groupings. Based on these three evaluations, 18 mg/kg was identified as the cleanup goal for arsenic at the Site. Below are HERO’s comments on the evaluation.

1. Inflection Point: While we concur with the identification of the inflection point at 18 mg/kg, we identified two additional outliers in the dataset (18 mg/kg and 17 mg/kg) using the ProUCL software.
2. Location of the soil samples: The six soil samples (HA22-0.5, SV14-0.5, HA23-0.5, HA24-0.5, HA19-0.5, and HA20-2) with arsenic concentrations between 12 mg/kg and 18 mg/kg are interspersed between a larger cluster of arsenic detections exceeding 18 mg/kg, including HA20 (200 mg/kg) and HA35 (120 mg/kg). The close proximity of this cluster may be indicative of a contamination source rather than simply “background” concentrations of arsenic.
3. 95% UCL on the mean: The 12 mg/kg value is the 95% UCL on the 99th percentile of the Southern California arsenic dataset, and not the 95% UCL on the mean. The 95% UCL on the mean of arsenic for the Southern California dataset is actually 3.1 mg/kg, which is 3 times lower than the 95% UCL on the mean calculated for the three datasets with arsenic concentrations below 18 mg/kg (see above). This indicates that there will still be a low but pervasive contamination of arsenic even if all arsenic above 12 mg/kg were to be excavated. Low levels of site-related arsenic contamination appear to be interspersed with the ambient concentrations, thus increasing the 95% UCL on the mean values above ambient levels. Therefore, determining a site-specific ambient level of arsenic is not feasible at this Site.

Based on this information, HERO recommends that a risk management decision be made as to whether soils will be excavated to 18 mg/kg or down to 12 mg/kg since low residual concentrations of arsenic above the Southern California ambient levels will remain at the Site regardless of which value is chosen as the cleanup goal.

4. Soil Removal. Soil is slated to be removed at locations where lead, dieldrin, or Aroclor-1254 were detected at concentrations exceeding the respective soil residential screening levels (Res-SL) of 80 mg/kg, 0.034 mg/kg, and 0.24 mg/kg.

The following comments pertain to the Report:

Section 6, Vapor Intrusion Risk Evaluation. According to the Report, soil vapor samples were collected during April, June, and July 2024 and January 2025 for analysis of volatile organic compounds (VOCs). Evaluated chemicals were categorized as

trihalomethanes (namely chloroform), chlorinated solvents, and petroleum hydrocarbons. Vapor intrusion for chloroform, was not evaluated because it was suspected that contamination comes from chlorinated water pipes in the subsurface. Vapor intrusion related to other chlorinated solvents were compared to screening levels using an attenuation factor of 0.03. Petroleum hydrocarbons were compared to screening levels using an attenuation factor of 0.003 because bio-attenuation is suspected to be occurring. Considering the maximum concentrations detected across all soil vapor samples collected in 2024 and 2025, the cancer risk was determined to be approximately  $5 \times 10^{-6}$  and the non-cancer hazard to be 0.17. Considering only the maximum concentrations detected in January 2025, the cancer risk was determined to be approximately  $5 \times 10^{-7}$  and the non-cancer hazard to be 0.01. Regarding this evaluation:

5. HERO recommends providing evidence, such as oxygen content in the subsurface, to support the use of bioattenuation when determining a site-specific attenuation factor for petroleum related compounds.
6. Conceptual Site Model. HERO recommends preparing a conceptual site model (CSM) in an upcoming report that identifies the known sources of contamination, potential fate and transport pathways, contaminated media, and potential receptors that may be affected by the contamination.
7. Inhalation Unit Risk. Inhalation slope factor (ISF) is used in Table 6 in place of inhalation unit risk (IUR), which is used in the remainder of the report. Please continue to use IUR for consistency.

HERO notes that the decisions made in this document are site specific and should not be construed as a policy decision applicable to other sites. If you have additional questions, please feel free to contact me at [cedric.clark@dtsc.ca.gov](mailto:cedric.clark@dtsc.ca.gov).

Revisions to the SSI Tech Memo are no longer necessary. Please submit a response-to-comments table along with the future deliverable. Notify DTSC of a minimum of seven (7) days in advance of fieldwork or schedule changes so that DTSC staff can be present at the Site during field activities.

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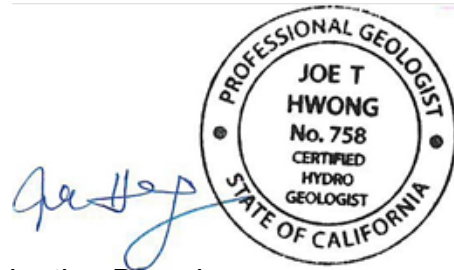
If you have any questions, please contact Ms. Lina Hijazi, Project Manager at (714) 484-5334 or at [Lina.Hijazi@dstc.ca.gov](mailto:Lina.Hijazi@dstc.ca.gov), or contact me at (714) 484-5472 or at [Aslam.Shareef@dtsc.ca.gov](mailto:Aslam.Shareef@dtsc.ca.gov).


Sincerely,



Aslam Shareef  
Unit Chief  
Brownfields Restoration and Schools Evaluation Branch  
Site Mitigation and Restoration Program

Reviewers: Joe Hwang, P.E., C.H.G.  
Senior Engineering Geologist  
Brownfields Restoration and Schools Evaluation Branch



Cedric Clark, Ph.D.   
Associate Toxicologist  
HERO

cc: (via e-mail)

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Brownfields Restoration and Schools Evaluation Branch Reading File - Cypress