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TECHNICAL MEMORANDUM

10 February 2025
File No. 0202349-002

TO: Washington State Department of Ecology
Ted Uecker, LHG

C: Central Valley School District, Jay Rowell
OAC Services, Inc., Jeff Jurgensen

FROM: Haley & Aldrich, Inc.
John Haney, P.E., Senior Environmental Engineer
Breeyn Greer, P.E., Civil Engineer

SUBJECT: Former Spokane Gun Club Cleanup - Confirmation Sampling Amendment No. 1

Haley & Aldrich, Inc. (Haley & Aldrich) currently is working with the Central Valley School District (CVSD) to remediate the former Spokane Gun Club (Gun Club) property located at 19615 East Sprague Avenue in Spokane Valley, Washington (Site). The Site is listed by the Washington State Department of Ecology (Ecology) as Cleanup Site 14851 and has Facility Site ID 50340. The Site has been impacted by lead and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) from use as a trap and skeet shooting range. The lead contamination was released as pellets from shotguns and the cPAHs were released from clay targets and associated debris, both from shooting activities. The selected remedy to address this contamination consolidates the contaminated materials and debris (e.g., clay target and concrete) in an engineered, capped, on-Site repository within a separate designated parcel of land with a recorded restrictive covenant at the time of cleanup completion. This will allow for divestment and/or reuse of the remaining Site without the encumbrances of environmental contamination. Additionally, an on-Site repository allows for the consolidation of contaminated materials in a controlled environment and minimizes or eliminates exposure pathways and transport of contaminants by installing a physical barrier.

To date, Haley & Aldrich has adhered to the Ecology-approved January 2024 Confirmation Sampling Work Plan[1] to document that excavated areas comply with the proposed project cleanup levels. The Plan calls for collection of composite samples using Incremental Sampling Methodology (ISM) from approximately 0.25-acre sampling units (146 sampling units total) following excavations to target depths as outlined in our January 2024 Cleanup Action Plan[2]. However, based on the ISM sample analytical results provided to date, it has become apparent that the ISM data is not representative of discrete

[1] Haley & Aldrich, Inc. (Haley & Aldrich), 2024. "Confirmation Sampling Work Plan for Spokane Gun Club," 29 January.
[2] Haley & Aldrich, Inc. (Haley & Aldrich), 2024. "Cleanup Action Plan for Spokane Gun Club," January.

sample analytical data collected during the remedial investigation. Additionally, we believe the ISM methodology is negatively skewing analytical results and does not represent Site conditions for the following reasons:

- The ISM methodology only analyzes soil fractions less than 2 millimeters and a large portion of the materials on Site consists of gravel and cobbles; and
- At times, the random distribution of composite sample aliquot collection within each sample unit is not evenly distributed, resulting in clusters of aliquots being collected in certain portions of the sample unit and large areas where no aliquots are collected.

In combination, we feel these conditions result in a high bias in analytical results, which results in additional excavation and increased repository volumes.

Therefore, we propose to change the Confirmation Sampling Work Plan[1] to better reflect Site conditions and provide more representative sample analytical results. Going forward, we propose to follow *Model Remedies for Cleanup of Former Orchard Properties in Central and Eastern Washington*[3] guidance (Guidance) for collecting confirmation samples; specifically, Chapter 7: Performance Compliance Sampling. The number of samples collected will conform to the quantities listed in Table 10, Chapter 7 of the Guidance. We will collect discrete samples from within the already established sample units in an approximately evenly-spaced grid. We will designate the samples according to their purpose, sample unit, sample depth below ground surface (bgs), and sample aliquot within that unit, as described below:

Confirmation_Sample Unit_Depth (bgs)_Sample Aliquot

For example, a confirmation sample collected from sample unit 115 at a depth of 7 feet from the northwest quadrant will be designated as “C_115_7_1”.

We will submit the samples to Eurofins Environment Testing in Spokane Valley, Washington for analysis of arsenic, lead, and cPAHs utilizing the methods described in the Confirmation Sampling Work Plan[1]. Sample results will be compared to Ecology’s Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land use. Remedial excavations will be considered complete when analyses indicate the following acceptance criteria have been achieved:

- 20 milligrams per kilogram (mg/kg) arsenic
- 250 mg/kg lead
- 0.1 mg/kg benzo(a)pyrene (BaP)
- 0.1 mg/kg cPAHs total toxic equivalent soil concentration
- 5 mg/kg total naphthalenes

If these acceptance criteria are not achieved, CVSD’s contractor will conduct additional excavation within the sample unit, the sample unit will be re-sampled, and the new samples will be analyzed as described above.

[3] Washington State Department of Ecology (Ecology), 2021. “Model Remedies for Cleanup of Former Orchard Properties in Central and Eastern Washington,” Publication 21-09-006, July.