FORD & ASSOCIATES, INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS

Multi-increment Surface Soil Sampling

Lahainaluna High School – 980 Lahainaluna Road
Lahaina Intermediate School – 871 Lahainaluna Road
Princess Nahienaena Elementary School – 816 Niheu Street
Lahaina, Maui, Hawaii

FAI Project No. 21-1859 Task 41

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Prepared for:

Hawaii State Department of Education
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EXECUTIVE SUMMARY

The State of Hawaii Department of Education (DOE) retained Ford & Associates, Inc. (FAI) to conduct multi-increment surface soil sampling of three school campuses located in Lahaina, Maui, Hawaii (herein referred to as the "sites" or "schools"), as follows:

- **Lahainaluna High School**, located at 980 Lahainaluna Road. It occupies portions of three contiguous land parcels (Tax Map Key [TMK] No: [2] 4-6-018: Parcels 005, 011, and 012) and measures approximately 45 acres in area.

- **Lahaina Intermediate School**, located at 871 Lahainaluna Road. It occupies a portion of a single land parcel (TMK No: [2] 4-6-018: Parcel 013) and measures approximately 14 acres in area.

- **Princess Nahienaena Elementary School**, located at 816 Niheu Street. It occupies a portion of a single land parcel (TMK No: [2] 4-6-018: Parcel 013) and measures approximately 12 acres in area.

A Site Location Map showing the location of the sites is included as Figure 1, located behind the *Figures* tab. In early August 2023, wildfires destroyed a large portion of the town of Lahaina, located southwest of the schools. Based on communication with the DOE, the three above-referenced schools were not directly affected by the fires. However, there were concerns that any contamination generated from the nearby fire may have impacted surface soils of the schools through airborne migration. Therefore, the DOE has requested that FAI assess surface soils at the sites for the presence or absence of chemicals of potential concern (COPC) resulting from the fires in the surrounding areas.

From August 28 through 30, 2023, FAI representatives mobilized to the sites to conduct multi-increment surface soil sampling in accordance with State of Hawaii Department of Health (HDOH) guidance. Thirteen Decision Units (DUs) were established amongst the three schools, and one multi-increment soil sample consisting of 100 individual increments was collected from each DU. Field Quality Assurance/Quality Control (QA/QC) was performed during this investigation through the collection of one set of replicate samples at each school, which consisted of the primary sample and associated duplicate and triplicate samples. The surface soil was collected from each individual increment at a depth of zero to three inches below ground surface (bgs). The samples were placed in a cooler containing wet ice, and logged on a Chain-of-Custody form for delivery to the laboratory.

The 13 primary multi-increment soil samples and six replicate multi-increment soil samples were submitted to Advanced Analytical Laboratory, located in Honolulu, Hawaii, and analyzed for the following:

- Dioxins/Furans using Environmental Protection Agency (EPA) Method 8290.

- Resource Conservation and Recovery Act (RCRA) 8 Metals plus Copper, Nickel, Zinc, Antimony, Beryllium and Thallium using EPA Methods 6020B/3050B.

- Polychlorinated Biphenyls (PCBs) using EPA Method 8082A/3550C.

- Semi-Volatile Organic Compounds (SVOCs) using EPA Method 8270E/3550C.

Key findings from the analytical results of the multi-increment soil samples are as follows:

- COPC were not detected in any of the soil samples at concentrations that would be considered a concern to human health or environment. Detected concentrations were below either the HDOH Unrestricted Environmental Action Level (EAL) or applicable EPA Residential Screening Levels.

- The Relative Percent Differences (RPDs) and Relative Standard Deviations (RSDs) calculated from the replicate sample data are within the acceptable limits. Additionally, Upper Confidence Level (UCL) calculations indicate that there is 95% confidence that the true means for detected COPC do not exceed their respective Unrestricted EALs or EPA Residential Screening Levels.

Based on these findings, the surface soil at the schools does not appear to have been impacted by the fires.