



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File: HEER Office

September 3, 2020

MGC

Mr. Steve Shropshire
Shropshire Group, LLC
P.O. Box 1146
Hilo, HI 96721

Facility/Site: Hakalau Pesticide Mixing and Seed Dipping Site

Subject: No Further Action Determination with Engineering and Institutional Controls for Hakalau Pesticide Mixing and Seed Dipping Site Based on the Final Remediation Implementation Report, Former Pepe'ekeo Sugar Company Property, 29-2306 Old Māmalahoa Highway, Hakalau, Hawai'i dated August 20, 2020
TMK (1) 2-1-051: Parcel 014.

Dear Mr. Shropshire:

The State of Hawaii, Department of Health (HDOH), Hazard Evaluation and Emergency Response (HEER) Office has *reviewed the Final Remediation Implementation Report for Hakalau Pesticide Mixing and Seed Dipping* dated August 20, 2020 and received in our office via email on August 21, 2020.

The State of Hawaii, Department of Health (HDOH) collected soil samples using multi-incremental sampling in 2007 and 2008. The results of the sampling indicated elevated levels of arsenic in the Pesticide Mixing Area (138.5 mg/kg) and Drainage Area (82.5 mg/kg) at levels exceeding the HDOH Environmental Action Level (EAL). Bioaccessible As was analyzed in sample with the highest Total As and result reported 102 mg/kg. Based on this level of bioaccessible As, the soil will be placed in the HDOH Category R-3 for residential soil, this will require some form of remedial action. All other metals and chemical of concerns were reported to be non-detect or detected below the EAL.

In 2009, a Phase II Environmental Site Assessment was conducted by ERM to determine the lateral and vertical extent of contamination of total and bioaccessible As in soils and to fully characterize the site to determine if other compounds than arsenic were present in soils at concentrations above EALs. ERM performed a comprehensive X-Ray Fluorescence (XRF) for screening of soil across the 8.7-acre property. Eight trenchers were also excavated to determine the vertical extent of contamination. Multi-Incremental soil samples were collected from 5 DUs

across the property. Lastly, soil samples were selected for analysis of total and bioaccessible arsenic to determine the correlation between the total and bioaccessible As. Seven samples were collected from the surface soils (generally fill soils) and 5 samples were collected from vertical sequence of Hilo series soils.

Results of the above investigations indicated that arsenic soil levels greater than 100 mg/kg are generally confined to the area surrounding the former pesticide mixing area and the soil to the east or downhill of the pesticide mixing area. Lead and mercury were also measured using XRF, but the levels show below the HDOH EALs. An isolated location on the east end of the property as well as an area around the northwestern warehouse (Warehouse B) also had arsenic soil concentrations greater than 100 mg/kg

Screening of the samples collected from the test trenches found arsenic soil concentrations greater than 100 mg/kg in several of the trenches. The Phase II ESA evaluated XRF screening data against bioaccessible arsenic analysis and found that arsenic in surface soils had a bioaccessibility of approximately 8%. This led to the conclusions that surface soil XRF screening results of greater than 288 mg/kg would be equivalent to an HDOH Arsenic Soil Management Category C or higher (Integral Consulting Inc., 2014).

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The EHMP describes the engineering and institutional controls to mitigate environmental hazards due to residual contaminants that have been left in place. Engineering controls include:

- Nohona Hale building, parking lot, driveways and concrete paved walkways that serve as a cap for the contaminated soil
- Placement of 1-ft clean fill soil cap to serve as a physical barrier between contaminated soils and potential receptors
- Establishment of vegetation on the surface of compacted soil to prevent erosion of the soil cap.

The institutional and land use controls necessary to maintain the engineering controls are also describe in the EHMP. Prospective buyers of the property, potential lessee and other significant users of the site should be informed of the existing EHMP and HDOH NFA with Engineering and Institutional Controls. These institutional controls also include prohibiting ground disturbance (such as soil grading or excavation) that would compromise the integrity of the engineered cap. In the unlikely event that the soil cap is breached down to underlying contaminated soil, the owner/operator should immediately contact the State of Hawaii, Department of Health, HEER Office. The HDOH should also be informed of the any future redevelopment plan that might impact the contaminated soil.

A long-term monitoring is required in the maintenance of engineering controls. Annual inspection should be conducted ensure the cap is properly maintained, and land use restrictions are implemented.

Please note that the No Further Action with Engineering and Institutional Controls Determination is in effect as long as the controls described in the EHMP dated March 2020, are properly implemented and remain in place. If these controls are not implemented or followed, the NFA with Engineering and Institutional Controls becomes null and void and the HEER Office

Mr. Steve Shropshire

September 3, 2020

Page 2 of 2

will determine the appropriate response action that may be required of the responsible party at the Site to address potential health hazards.

Should future information reveal that contamination exposure at the Site is a potential or imminent hazard to public health, the environment, or natural resources HDOH will determine if a response action is necessary to address those hazards. If response is necessary, HDOH will determine the appropriate response action that will be required of the responsible party to be taken in timely fashion at the Site.

Should there be any questions, please do not hesitate to contact Melody Calisay of my staff at 808-586-7577 or email her at melody.calisay@doh.hawaii.gov.

Sincerely,

Fenix Grange, Supervisor
Site Discover, Assessment and Remediation Section
Hazard Evaluation and Emergency Response