Department of Health
HEER Office, 1582
Kamehameha Avenue,
Hilo, Hawai'i 96720-4623

FACT SHEET
Proposed Soil Cleanup Action at the former Kohala Sugar Company
Pesticide Mixing Site, North Kohala, Hawai'i

TMK 3-5-5-019:025

Introduction

The State of Hawai'i Department of Health (HDOH) is publishing this fact sheet to provide information and to solicit comments from persons interested in the proposed arsenic, dioxin, and semivolatile organic compounds cleanup project by the Hawai'i Island Community Development Corporation (HICDC) at a property located in North Kohala, Hawai'i County (Figure 1). The HDOH Hazard Evaluation and Emergency Response Office (HEER Office) is providing oversight, and the investigation and public participation requirements are being conducted pursuant with Hawai'i Administrative Rules Chapter 11-451. This fact sheet outlines the proposed cleanup options and the remedy proposed to address soil contamination at the site.

A Draft Removal Action Report presents details on alternative remedies to address elevated soil contamination at the former Kohala Sugar Company Pesticide Mixing Site. Each alternative is described and evaluated in terms of effectiveness, implementability and cost. A recommendation is made on the preferred remedy to address the soil contamination.

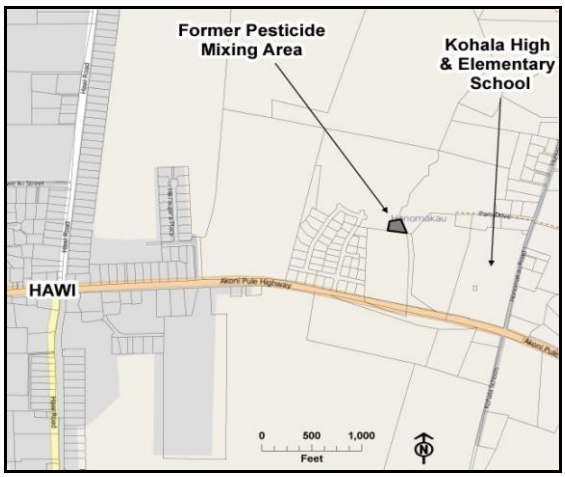

Figure 1. Site Location in North Kohala

Site Description and Property Information

The subject property (site) consists of approximately 0.5 acres of land in the vicinity of the town of Hawi, North Kohala District, Hawai'i, which formerly housed Kohala Sugar Company pesticide storage and mixing facilities. The parcel TMK is 03-5-5-019:25 (portion). The site supported former operations in the plantation fields, and is now surrounded by fallow, highly vegetated pasture land or residential properties. Former facilities remaining on the site include two (upper and lower) rock/concrete retaining walls and four empty steel above-ground storage tanks. A fence has been installed around the former pesticide mixing area to prevent trespasser direct contact with site soils.

Site investigations have been conducted by HDOH and environmental consultants for the property owner to identify the contaminants of concern and areas of soil contamination. Arsenic and dioxin are the principle chemicals of concern and soil environmental hazards. Arsenic was historically used as an herbicide in sugar cane cultivation, while dioxin is a byproduct of other historically used pesticides and herbicides such as pentachlorophenol.

Soils within a ¼-acre area at the former pesticide mixing area (the "source area" within the ½-acre site) show elevated arsenic and dioxin concentrations, extending to a depth of approximately 3 feet below the ground. Moderately elevated soil dioxin is also present just south of the HICDC property, and contamination is assumed to extend east of the HICDC property. This fact sheet and proposed cleanup action addresses the HICDC property only. Action to assess and address soil contamination on the adjacent properties is on-going.

HDOH manages soil arsenic hazards based on a measure of bioaccessible arsenic, which is the fraction of total arsenic that is expected to be available for uptake by way of incidental soil

ingestion of arsenic-contaminated soil. HDOH has developed four soil categories (A-D) based on bioaccessible arsenic levels. Category A soils have naturally-occurring background levels of arsenic. Soils with bioaccessible arsenic below 23 mg/kg (Category B soils) are considered minimally impacted, and are "within acceptable health risks for long-term exposure". Category C soils (moderately impacted) have bioaccessible arsenic levels from 23 to 95 mg/kg, and sites with these soils need further evaluation or controls for unrestricted (i.e residential) land use. Sites with Category C soils may be suitable for commercial or industrial land uses. Category D soils with bioaccessible arsenic above 95 mg/kg (heavily impacted) typically require remedial action irrespective of future land use.

Dioxin levels are expressed using a Toxic Equivalency Factor (TEQ), which is a method of summing the toxic effects of the multiple dioxin and furan compounds typically identified and generating a single TEQ dioxin value. Like arsenic, HDOH has developed four soil categories based on TEQ dioxin levels: Category A (natural background levels) when TEQ dioxin is below 20 ng/kg, Category B (minimally impacted) when TEQ dioxin is between 20-240 ng/kg, Category C (moderately impacted) when TEQ dioxin is between 240-1,500 ng/kg, and Category D (heavily impacted) when TEQ dioxin is above 1,500 ng/kg.

Site investigation work indicates that there are approximately 1,300 cubic yards (cy) of Category C and Category D arsenic/dioxin contaminated soils at the site which need to be remediated.

Removal Action Objectives

The primary focus of the removal action is to address elevated arsenic and dioxin in the soils at the site to provide protection of human and ecological health by preventing direct exposures to impacted soils. The removal action objectives are as follows:

1. Remediate portions of the property anticipated for future unrestricted (residential) land use to appropriate bioaccessible arsenic and TEQ dioxin soil concentrations, herein defined as removal action levels.
2. Prevent migration of contaminants to surface or groundwater.
3. Minimize potential risk to human health or ecological receptors from exposure to dioxin and arsenic impacted soil, during and after the removal action.

The property owner anticipates unrestricted (residential) land use for the site property, therefore all Category C and D soils will be remediated.

Proposed Remedy

A number of removal action alternatives were considered to address the soil contamination on site. The removal action alternatives selected for final consideration included:

1. No Action (included for comparative baseline)
2. Excavation and Offsite Landfill Disposal of Arsenic/Dioxin Category C and D Soils
3. Onsite Containment Cell for Arsenic/Dioxin Category C and D Soils

Each alternative was considered in light of the Removal Action Objectives for the site as well as effectiveness, implementability, and cost. The proposed removal action alternative recommended is alternative 2: Excavation and Offsite Landfill Disposal of Arsenic/Dioxin Category C and D Soils. This option was judged effective to ensure that any risks to human health or the environment would be avoided. This alternative consists of excavation of all moderately to heavily impacted arsenic and dioxin soils (exceeding 23 mg/kg bioaccessible arsenic and 240 ng/kg TEQ dioxin) and disposal in an approved landfill (West Hawai'i).

Next Steps and Community Involvement

HDOH encourages members of the public to review and comment on the DRAFT Removal Action Report (DRAFT RAR) and proposed remedy for this project during the comment period of December 5, 2013 through January 8, 2014. Written comments should be e-mailed (by January 8, 2014) to John Peard at john.peard@doh.hawaii.gov or mailed to the following address:

John Peard, Project Manager
Hawai'i Department of Health, HEER Office
1582 Kamehameha Ave.
Hilo, Hawai'i 96720-4623

A public meeting will be held during the public comment period to provide an overview of investigations at the site, answer questions, and discuss the Draft RAR including the remediation options considered and proposed. Comments from the public will be accepted at this meeting (and throughout the public comment period). This meeting will be held at the following location and time:

Location: Old Courthouse, North Kohala Senior Center
Address: Kapa'au, HI 96755
Date: Thursday, December 12, 2013
Time: 6:00PM – 8:00PM

After the public comment period is over (after Jan. 8, 2014), HDOH will review and consider all comments received as well as any additional HDOH staff or management input before selecting the final cleanup remedy for the site.

USEPA Cleanup Grant Application by HICDC

Public review and input is also solicited on a Draft Cleanup Grant application for this site that HICDC is planning to finalize and submit to USEPA by January 22, 2014. Eligible sites that are selected in this competitive federal cleanup grant program may receive up to $200,000 to assist in cleanup efforts. The Draft Cleanup Grant application will also be discussed at the public meeting regarding the proposed site cleanup remedy noted above (Dec. 12, 2013, 6-8 PM, Kohala Senior Center, Kapa'au). Copies of the Draft Cleanup Grant application are available through HICDC and HDOH (see contacts below), and comments are requested by January 8, 2014. Comments on the proposed grant application should be mailed or emailed to:

Brian T. Nishimura, Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawai'i 96720, or
email: btnishi@hawaiiantel.net

Information Repository

Relevant portions of the Administrative Record for this site are available for review at the North Kohala Public Library (see Reference Desk) and the HDOH Environmental Health Building in Hilo at 1582 Kamehameha Avenue until January 8, 2014. This includes the Draft Removal Action Report (with the proposed remedy), other site investigation documents, and a copy of the HICDC Draft Cleanup Grant Application to the USEPA. The complete administrative record for the former North Kohala Sugar company site is available for review upon request to HDOH.

Copies of this site Fact Sheet, the Draft Removal Action Report, and the HICDC Draft Cleanup Grant application are also available to view or download from the HDOH HEER Office website at: http://hawaii.gov/doh/heer See the "What's New" section on the homepage and look for announcement and links for the Proposed Soil Cleanup Action at the former Kohala Sugar Company Pesticide Mixing Site.

For any inquiries regarding the proposed cleanup project, contact:
John Peard, HDOH Project Manager, at
(808) 960-0080, or john.peard@doh.hawaii.gov

For questions on the Draft Cleanup Grant application to USEPA, contact:
Brian Nishimura (for HICDC), at
(808) 935-7692, or btnishi@hawaiiantel.net