



# Onizuka Village Treatability Study

Fact Sheet No. 3

July 2017

## INTRODUCTION

This fact sheet provides information about a Treatability Study (TS) managed by the U.S. Navy in the Onizuka Village housing area on Joint-Base Pearl Harbor Hickam (JBPHH). The study evaluated the effectiveness of using Soil Vapor Extraction (SVE) technology to reduce concentrations of petroleum-related chemicals in the soil vapor.

## SITE BACKGROUND

Onizuka Village occupies approximately 80 acres in the north-central portion of JBPHH (*Figure 1*). The residential housing area includes community amenities such as basketball courts, tennis courts, parks, and playgrounds.

The area where Onizuka Village housing currently exists was developed as an airfield between 1943 and 1945. Between 1969 and 1978, the airfield was redeveloped into the area known as Onizuka Village. During additional redevelopment of this housing area in November 2009, petroleum-impacted soil was observed in the former runway footprints, at depths of approximately 7 to 10 feet below ground surface (bgs). The source(s) of the petroleum could not be definitively identified, although potential sources are historical releases from buried fuel storage tanks and pipelines and/or spills from aircraft formerly parked and re-fueled on the airfield prior to construction of the residential housing area.

After consultation with the Hawaii Department of Health (HDOH), it was determined that there was no immediate danger to construction workers and future residents. A phased investigation was conducted to evaluate petroleum impacts.

## INVESTIGATION RESULTS

Investigations conducted in 2012 and 2013 found that petroleum-related chemical concentrations present in subsurface soil, groundwater, and sub-slab soil vapor are either non-detectable or are below concentrations that could pose potentially unacceptable risks to current residents or site users.

However, seven locations were identified with elevated concentrations of petroleum in soil vapor, above HDOH



Figure 1: Subsite ST32 Onizuka Village Location

Environmental Action Levels (EALs), at depths of 4 to 6 feet bgs. These locations are denoted as red triangles on *Figure 2*.

To address the petroleum hydrocarbon concentrations in soil vapor above the HDOH EALs, the Navy routinely sampled soil vapor and conducted a TS to evaluate SVE technology as a means to reduce concentrations of petroleum-related chemicals in soil vapor.

## TREATABILITY STUDY

A 100% solar-powered SVE system was constructed in 2014. The system consists of three horizontal extraction wells and a vacuum blower (*Figure 2*). The SVE system is currently operating approximately 10 hours per day.

The results of the performance monitoring completed as part of the TS indicated the following:

- Concentrations at soil vapor sampling locations ASG3-14 and ASG3-02 remain above EALs (shown with blue shading on *Figure 2*) and although some reductions have been observed, modifications to the SVE system may be necessary to further treat petroleum-related chemicals in these areas.
- Concentrations at 4 of the 7 elevated locations have been reduced to below EALs.
- Concentrations at soil vapor monitoring location ASG2-21 remain above EALs. However, as of

February 2017, concentrations have been reduced by approximately 95 percent and are expected to continue to decrease.

**WHAT'S NEXT?**

The TS results indicate that SVE technology is capable of reducing concentrations of petroleum-related chemicals in soil vapor at Onizuka Village. The Navy will continue to evaluate system performance and make modifications as needed to ensure protection of human health. A sampling event is planned to assess remaining concentrations of petroleum-related chemicals in soil vapor.

The sampling event will be conducted using a track-mounted Direct Push Technology (DPT) rig (Figure 3). The DPT rig pushes a small sampling rod into the ground for collection of soil vapor samples. The noise is similar to a backhoe used on construction sites. All samples will be collected exterior to residences around each of the formerly elevated locations (denoted by the red triangles on Figure 2). The final locations will be selected following a survey by a professional utility locator to identify buried utilities. Sampling is anticipated to begin in June 2017 and should take approximate five days to complete. After sampling, the area will be restored to its original condition.



Figure 3: Track-Mounted Direct Push Technology Rig

Additionally, the Navy will finalize and publish a Proposed Plan and Record of Decision to document the decisions regarding implementation of SVE technology for the remediation of the seven elevated locations.

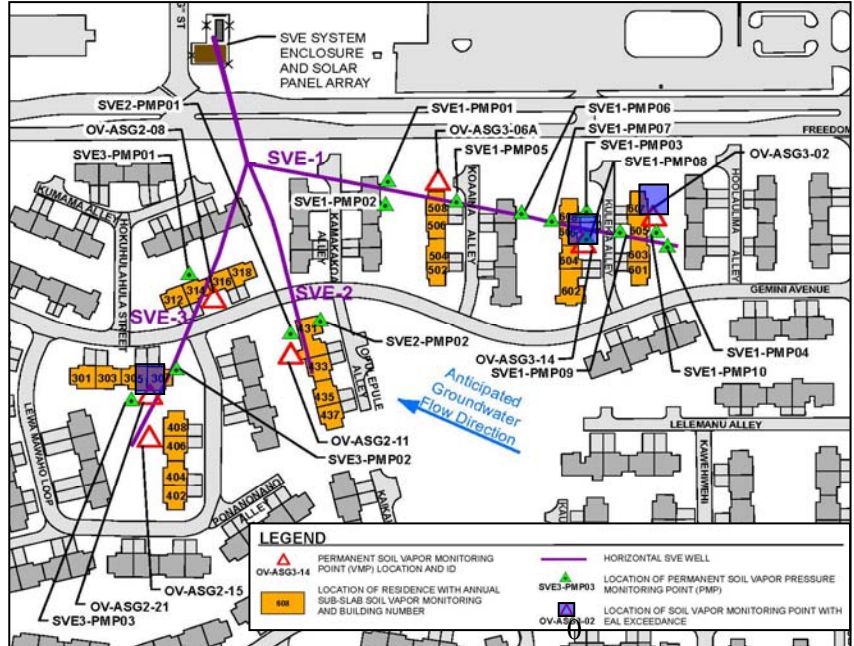


Figure 2: SVE System Layout

**COMMUNITY INVOLVEMENT**

The Navy encourages the public to become familiar with the site and the activities that have been and will be conducted there. Community members and regulatory agencies have provided input through periodic Restoration Advisory Board (RAB) meetings and by reviewing written reports and documents. RAB meetings are held on an as-needed basis. Public meeting information is available at the following website: [https://navfac.navy.mil/navfac\\_worldwide/pacific/fecs/hawaii/about\\_us/our\\_services/environmental/env\\_restoration.html](https://navfac.navy.mil/navfac_worldwide/pacific/fecs/hawaii/about_us/our_services/environmental/env_restoration.html).

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