



Site Inspection Waikane Valley Impact Area

Munitions Response Program
Kaneohe, Hawaii

INTRODUCTION

The Waikane Valley Impact Area is a 187 acre site that was used by the Marine Corps for training from 1953 to 1976. It is located within the Waikane Valley Training Area in the Waiahole and Waikane Valleys, on Oahu's windward side (Kaneohe, Hawaii), approximately 10 miles northwest of Kaneohe Bay (see Figure 1). The former Waikane Valley Impact Area is part of the Navy and Marine Corps Munitions Response Program which is designed to assess site conditions and determine if actions are needed to reduce risks from munitions and explosives of concern (MEC) comprised of unexploded ordnance (UXO), discarded military munitions, and/or munitions constituents (chemical components of munitions) that remain from past training activities.

This fact sheet summarizes the Waikane Valley Impact Area Site Inspection field work, results, and plans for future action.

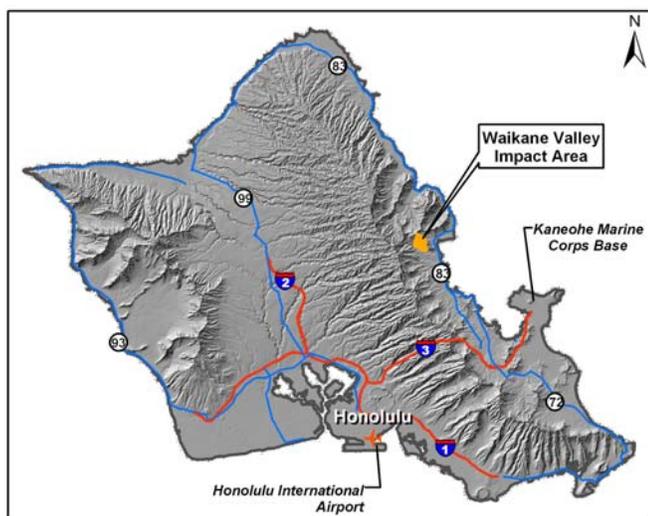


Figure 1: Map Showing Waikane Valley Impact Area

SITE INSPECTION OBJECTIVES

The Site Inspection objectives were to:

- Determine if explosive and chemical hazards exist at the site

- Determine where hazards are located, and
- Evaluate the data collected and make recommendations for future actions.

SITE INSPECTION FIELD WORK

The Waikane Valley Impact Area Site Inspection covered the site, including some of the steep, mountainous terrain (Figure 2).

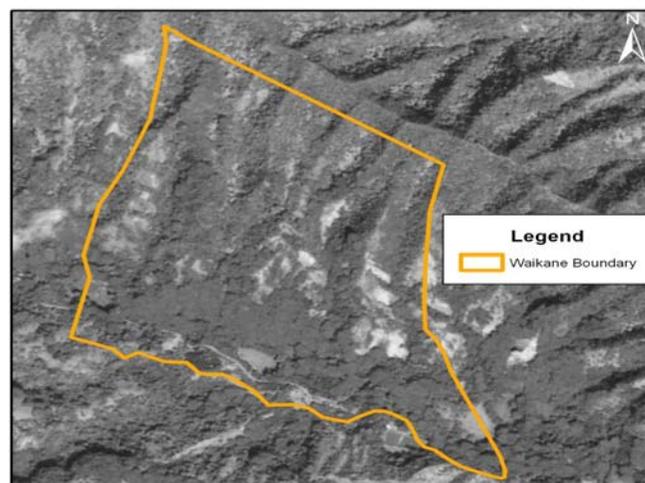


Figure 2: Waikane Valley Impact Area

A detailed walk-through inspection for surface evidence of discarded military munitions and unexploded ordnance and munitions constituents was conducted. This involved making multiple sweeps back and forth on foot across the site by technicians trained to visually identify signs of munitions. The technicians also used specialized metal detectors to locate munitions near the surface (Photo 1).



Photo 1: Detector Aided Field Survey at Waikane Valley Impact Area

Surface soil sampling was conducted to test for munitions constituents including explosive compounds and 9 heavy metals. Composite soil samples were taken from 35 areas of the site. The composite samples were each a mixture of 10 individual soil samples taken from within each sampling area, that ranged from 10 to 50 feet in diameter (Photo 2).



Photo 2: Composite Sampling at the Waikane Impact Area

Composite samples are useful because by combining multiple samples into one the results better represent conditions throughout the site versus at just one specific location.

In addition to the 35 composite samples, the Site Inspection also included taking 10 individual samples from areas where munitions items were found (Photo 3).

These sample locations were selected because they are considered the most likely areas where munitions constituents might be found in the soil.



Photo 3: Discrete Sampling at the Waikane Impact Area

SITE INSPECTION RESULTS

Many items of munitions debris were noted during the Site Inspection. Seventy UXO items were found, including sixty-six 3.5-inch shoulder-fired rockets, one 2.36-inch shoulder-fired rocket, and three rifle grenades (Photo 4 and Photo 5).



Photo 4: M28 Rifle Grenade, Nose Fuze Broken Off



Photo 5: Fuzed and Fired 3.5-inch Shoulder-Fired Rocket

Numbers and locations of the items found during the walk-through inspection were marked using GPS/ data collection tools during the Site Inspection. This information was used to identify areas where denser concentrations of munitions and explosives of concern may exist. The Site Inspection results indicate four distinct target areas (Figure 3) where the majority of munitions and explosives of concern are believed to be located.

Four of the 45 soil samples were found to contain copper and lead at levels that require further assessment. These samples were all located within the four

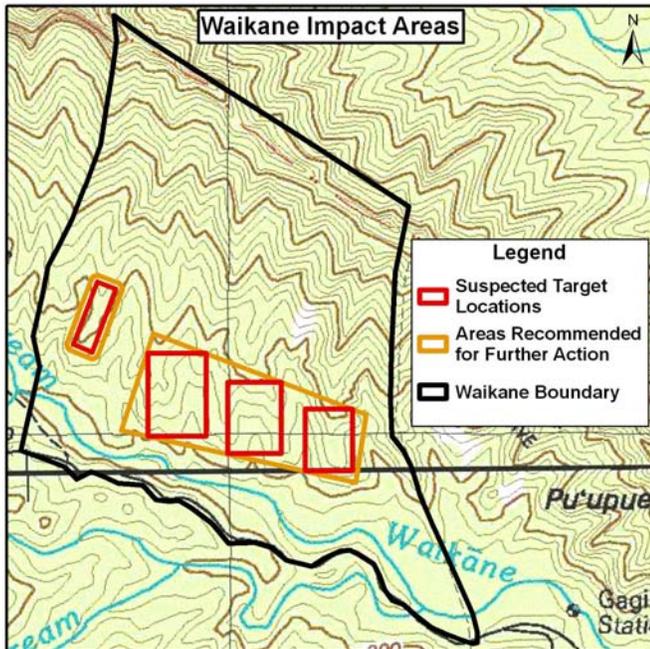


Figure 3: Location of the Four Target Areas Recommended for Further Action

target areas identified in Figure 3. The localized concentrations of copper and lead are believed to be related to high concentrations of munitions debris and the results of past operational practices.

SITE INSPECTION RECOMMENDATIONS

The Site Inspection results support the need for further investigation. UXO and munitions debris were observed on the ground surface, with the heaviest concentrations associated with possible former target locations, and copper and lead were retained as chemicals of potential concern.

A Remedial Investigation is recommended to collect additional data for the evaluation of remedial alternatives for further response actions.

MUNITIONS RESPONSE SITE PRIORITIZATION PROTOCOL

The Department of Defense developed a Munitions Response Site Prioritization Protocol (35 CFR Part 179) as a framework to prioritize Munitions Response Sites throughout the country. The site priority rankings range from 1 (highest priority) to 8 (lowest priority). The ranking was reassessed following the Site Inspection, and the site priority remains a 3 for the Waikane Valley Impact Area site.

ARCHAEOLOGICAL MONITORING

The purpose of archaeological monitoring for this project was to protect archaeological resources during all Site Inspection activities. Monitoring was conducted in accordance with an Archaeological Monitoring Plan stipulating that the archaeological monitor's primary duty was to accompany the Site Inspection teams in order to identify the presence of archaeological sites, features, and items before any disturbance so that they could be avoided and protected (Photo 6).

In the course of the Site Inspection activities all previously recorded sites within the project area were observed and monitored by an archaeologist. They included Statewide Inventory of Historic Places (SIHP) Sites 1057, 1078, 2889, 2890, and 6551 identified and documented by Magnuson, et al. (2004). None of these sites were impacted by the nonintrusive methods of the Site Inspection. Soil sampling penetrated less than 6 inches below surface and no cultural materials were encountered during this sampling.



Photo 6: Archaeological monitors ensured that all cultural resources were avoided.

NEXT STEPS

Draft and draft final versions of the Site Inspection Report will be available for public review from February to June 2009. After incorporating review comments, if any, a final Site Inspection Report is expected in the Summer of 2009.

As part of the Remedial Investigation, clearance of surface UXO from the target areas is required in order to enable a subsurface investigation. The items found during the Site Inspection will also be removed during the surface clearance.

The Remedial Investigation will include a subsurface investigation to assess potential risks from munitions and explosives of concern located beneath the surface. It will also include additional soil sampling to evaluate the potential risks to human health and the environment due to the elevated levels of copper and lead encountered during the Site Inspection.

The Work Plan for the surface clearing actions and the Remedial Investigation is expected to be ready and available for public comment in the Summer of 2009. The Work Plan will provide a detailed description of the work that will be conducted during the surface clearance and Remedial Investigation and procedures to protect both human safety and historic and cultural resources while working on the site.

COMMUNITY INVOLVEMENT

The Draft Site Inspection Report for Waikane Valley Training Area Munitions Response Sites, Kaneohe, Hawaii (January 2009) is available for review at the following information repositories:

University of Hawaii at Manoa

Hamilton Library, Hawaiian & Pacific Collection

2550 McCarthy Mall
Honolulu, HI 96822

Ms. Jean Kusano
(808) 956-8227

Kaneohe Public Library

45-829 Kamehameha Hwy.
Kaneohe, HI 96744

Mr. Tom Churma
(808) 233-5674

KEY Project

47-200 Waihee Road
Kaneohe, HI 96744

Ms. Lanette Mahelona
(808) 239-5777

1 November 2008 RAB Site Visit



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