REMEDIAL DESIGN AT WAIKOLOA MANEUVER AREA FORMERLY USED DEFENSE SITES PROJECT 02 AND PROJECT 04 (AREAS B, O, Q, J), ISLAND OF HAWAII, HAWAII

SITE OVERVIEW

- Munitions Response Site (MRS) comprises 4,481.1 acres
- Used as a military training range during World War II
- Current land use is a mixture of residential, commercial, industrial, agricultural, and recreational.

REMEDIAL DESIGN SCOPE

The objective was to prepare the design necessary to implement the Remedial Actions (RAs) selected in the Decision Documents.

Data Collection Site View

GEOPHYSICAL INVESTIGATION RESULTS

Remedial Design fieldwork was necessary as the Decision Document used outdated technologies impacting selected remedy effectiveness and cost as well as a requirement to assess previous removal action work.

Highlights:

► Successfully used advanced geophysical classification (AGC) sensors to detect and classify munitions in Hawaiian environment with challenging geology and areas of rugged terrain.

► Further refined AGC data analysis approach to filter out interfering geologic responses.

► Determined anomaly, source, and target of interest (TOI) density estimates for a refined Conceptual Site Model (CSM).

INTRUSIVE INVESTIGATION RESULTS

- Conducted 44,804 intrusive investigations
- Recovered 38 munitions and explosives of concern (MEC) and 3,270 munitions debris (MD) items

Highlights:

► Successful implementation of reduced exclusion zone (EZ) based on AGC size estimate using a miniature open front barricade (MOFB).

► Identified digs divided into their estimated size category by munition type and the relative EZ was applied.

► Developed standard operating procedures and gained approval of an Explosives Safety Submission (ESS) amendment to implement.

► Coordinated evacuations in over 300 properties.
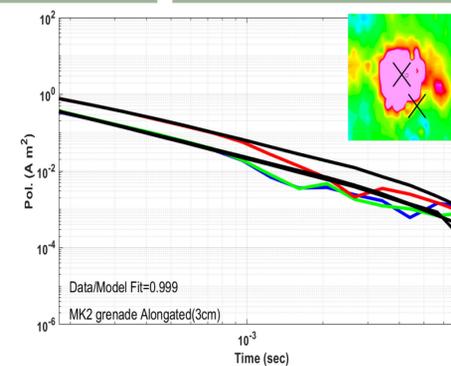
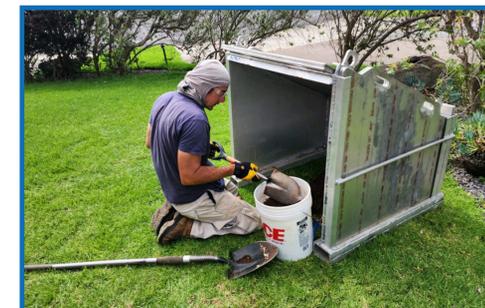► Refined TOI densities for the RA.

APEX Sensor (Cart Mode)

UltraTEM Person Portable Classifier

MPV

Classified Hand Grenade

Intrusive Operations

MOFB to Support Intrusive Operations

APEX Sensor (Litter Mode)

UltraTEM Screener

Metal Mapper 2x2

Geologic Soil Response in Agricultural Area
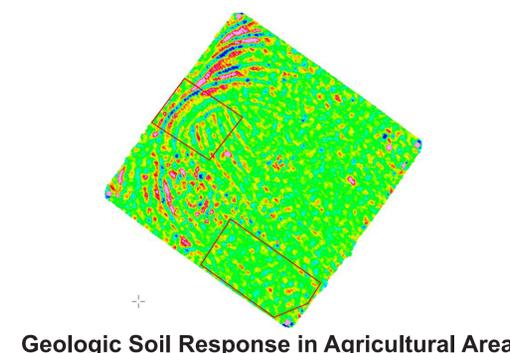
Intrusive Operations

Reduced EZ in a Neighborhood