



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
US ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE  
5158 BLACKHAWK ROAD  
ABERDEEN PROVING GROUND MD 21010-5403

MCHB-TS-EGW (40)

21 January 2004

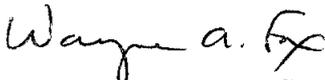
MEMORANDUM FOR National Guard Bureau (NGB-ARE-I/Fran Coulters), Building E-4430,  
Aberdeen Proving Ground, MD 21010-5420

SUBJECT: ARNG Range Assessment No. 38-EH-00WVa-03, Hawaii Army National Guard  
Kanaio Training Area, Ulupalukua, Maui, Hawaii, 20-28 February 2003

One paper copy of three CD-ROMs of subject final report are enclosed.

FOR THE COMMANDER:

Encl

  
WAYNE A. FOX, P.G.  
Program Manager  
Ground Water and Solid Waste

CF(w/encl):  
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**U.S. Army Center for Health Promotion  
and Preventive Medicine**

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ARNG RANGE ASSESSMENT NO. 38-EH-00WVa-03  
HAWAII ARMY NATIONAL GUARD KANAIO TRAINING AREA  
ULUPALAKUA, MAUI, HAWAII  
20-28 FEBRUARY 2003

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**EXECUTIVE SUMMARY**  
**ARNG RANGE ASSESSMENT NO. 38-EH-00WV a-03**  
**HAWAII ARMY NATIONAL GUARD KANAIO TRAINING AREA**  
**ULUPALAKUA, MAUI, HAWAII**  
**20-28 FEBRUARY 2003**

1. **PURPOSE.** The purpose of this Army National Guard (ARNG) Range Assessment (RA) was to evaluate potential sources of environmental contamination associated with closed impact ranges at the Hawaii Army National Guard (HIARNG) Kanaio Training Area and to assess the immediate or potential threat that possible wastes at the site pose to human health and the environment. Information gathered during the RA will be used to support a decision regarding the need for further environmental investigation at the site.

2. **CONCLUSIONS.**

a. The HIARNG presently uses active training areas 1, 2, and 3 within the northern half of the Kanaio Training Area for maneuver and blank fire training. The active training area may extend outside of the historic property boundaries to the west. HIARNG personnel reported that an active rifle range is situated in the vicinity of Impact Area 3A southwest of Pu'u Pimoe. Area D and most of Area C south of Pu'u Pimoe are considered to be closed.

b. Historic boundaries at the Kanaio Training Area generally appear to include Kanaio Homestead Lands 9 through 16, but to exclude all land grants and land commission awards (LCA) except for the three small LCA 3, 6, and 22 north of Pu'u Pimoe. Although it is possible that land outside of the historic boundaries was used for HIARNG training, it appears that the original intent was to restrict activities to within the historic boundaries shown on Figure E.

c. The coastal area of the Kanaio Training Area, previously situated within Area C, will no longer be included in the Kanaio Training Area under the executive order (EO). The HIARNG also wishes to acquire additional land under the EO. Both of these conditions may lead to a need for an environmental baseline study (EBS) at the Kanaio Training Area for land transfer.

d. Ordnance-related scrap found during unexploded ordnance (UXO) sweeps in 1981 and 1998 at the Kanaio Training Area include: 81mm illumination projectiles, practice projectiles, and live mortars; signaling flare tubes; 3.5-inch rockets and 4.2 inch rockets, M72 LAW rockets and motor tubes; 40mm grenades, practice grenades, and high explosive rounds; and small arms ammunition, small arms brass, M73 sub-caliber rounds, tail booms to recoilless rifle rounds, and 155mm projectile scrap. It is likely that high-explosives and/or pyrotechnics-containing duds

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exist below the ground surface at the Kanaio Training Area. The majority of the land surface at the Kanaio Training Area was not included in these UXO sweeps.

e. Impact Areas 1 and 2 are fenced and restricted from entry due to UXO concerns. The boundaries of Impact Areas 1 and 2 were established during initial UXO removal operations conducted in 1981, soon after high-explosives exercises were permanently suspended at the Kanaio Training Area. Therefore, it is likely that the fenced boundaries of Impact Areas 1 and 2 adequately delineate firing ranges and impact areas that should be restricted for safety purposes.

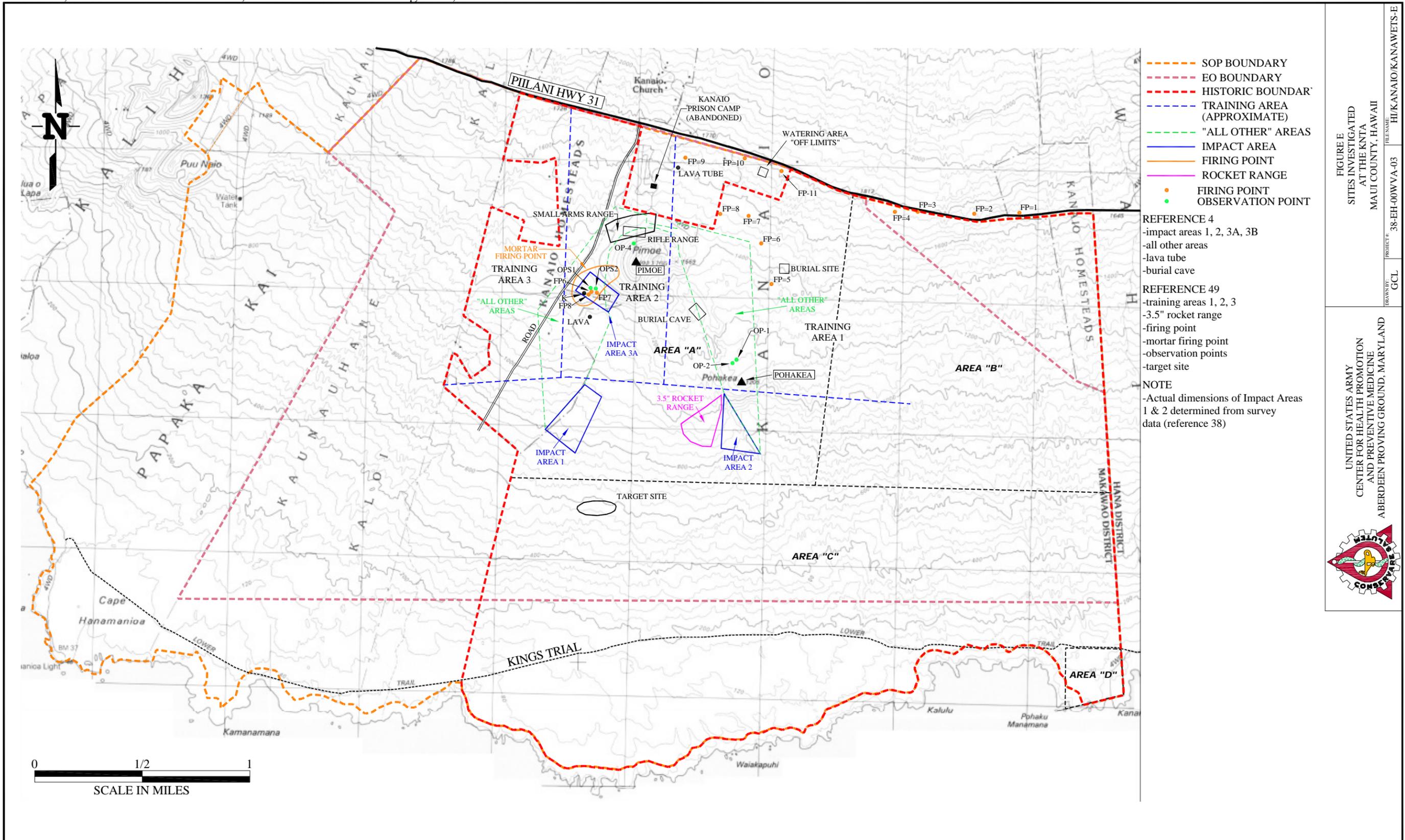
f. Previous UXO removal operations and the characteristics of high explosives and pyrotechnics-containing ammunition commonly used at Kanaio Training Area (including rockets and mortars) indicate that it is likely that duds exist on or beneath the ground surface at impact areas within the Kanaio Training Area. Explosives and pyrotechnics residues associated with the duds may have been released to the surrounding soil and rock material within the impact areas.

g. Low precipitation rates, combined with high evaporation rates reduce the potential for ground water beneath the site to be impacted by explosives and/or pyrotechnics associated with duds. If ground water is impacted, the only ground-water target(s) identified during the assessment were coastal spring-fed anchialine pools and the candidate endangered anchialine pool shrimp that reside within the pools. The pools found in southwest Kanaio Training Area contain thriving communities of native plants and animals, indicating that it is unlikely that they have been affected by Kanaio Training Area activities. It is possible, though unlikely, that the ground-water pathways would be completed for the Kanaio Training Area.

h. The Kanaio Training Area has low precipitation rates, high evaporation rates, and highly fractured and permeable surface lava. For these reasons, no surface water drainage features exist at the Kanaio Training Area, and it is unlikely that the surface water pathway would be completed for the site.

i. Most of the Kanaio Training Area is covered by a'ala lava without any soil development. Although there are isolated areas of the Kanaio Training Area having thin soil cover, levels of explosives, pyrotechnics, and/or metals contamination that might be associated with those soils are not expected to present a threat to human or environmental targets. It is unlikely that the soil and air pathways would be completed for the Kanaio Training Area.

3. RECOMMENDATION. None.



**FIGURE E**  
**SITES INVESTIGATED**  
**AT THE KNTA**  
**MAUI COUNTY, HAWAII**

FILE NAME: HI/KANAIO/KANAWETS-E  
 PROJECT #: 38-EH-00WVA-03  
 DRAWN BY: GCL

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 ABERDEEN PROVING GROUND, MARYLAND

- SOP BOUNDARY
- EO BOUNDARY
- HISTORIC BOUNDARY
- TRAINING AREA (APPROXIMATE)
- "ALL OTHER" AREAS
- IMPACT AREA
- FIRING POINT
- ROCKET RANGE
- FIRING POINT
- OBSERVATION POINT

**REFERENCE 4**  
 -impact areas 1, 2, 3A, 3B  
 -all other areas  
 -lava tube  
 -burial cave

**REFERENCE 49**  
 -training areas 1, 2, 3  
 -3.5" rocket range  
 -firing point  
 -mortar firing point  
 -observation points  
 -target site

**NOTE**  
 -Actual dimensions of Impact Areas 1 & 2 determined from survey data (reference 38)



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HAWAII ARMY NATIONAL GUARD KANAIO TRAINING AREA  
ULUPALAKUA, MAUI, HAWAII  
20-28 FEBRUARY 2003

1. INTRODUCTION.

- a. References. Appendix A contains a list of references.
- b. Authority. Statement of Work between U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) and National Guard Bureau (NGB), dated 12 December 2002.
- c. Purpose. The purpose of this Army National Guard (ARNG) Range Assessment (RA) was to evaluate potential sources of environmental contamination associated with closed impact ranges at the Hawaii Army National Guard Kanaio Training Area and to assess the immediate or potential threat that possible wastes at the site pose to human health and the environment. Information gathered during the RA will be used to support a decision regarding the need for further environmental investigation at the Kanaio Training Area.
- d. Procedures. This RA was conducted by the USACHPPM between 20 and 28 February 2003. The scope of this investigation included activities conducted at the Kanaio Training Area since March 25, 1965, which is when the Kanaio Training Area property was leased to the Hawaii Army National Guard (HIARNG). The investigation was conducted by review of available documentation from the HIARNG, interviews with site workers, a comprehensive target and migration pathway survey, and offsite reconnaissance to the north and east. No environmental samples were collected or analyzed during this RA. The RA team physically observed only those areas of the Kanaio Training Area that were visible from outside the Kanaio Training Area boundaries to ensure personnel safety by avoiding rugged arid terrain containing possible unexploded ordnance (UXO). Moreover, USACHPPM felt that a thorough onsite reconnaissance was not necessary for the scope of this RA. The U.S. Environmental Protection Agency's (EPA) 1991 Guidance for Performing Preliminary Assessments under the Comprehensive Response, Compensation, and Liability Act (CERCLA) was used to focus this investigation. Supporting documentation is provided in Appendix B.

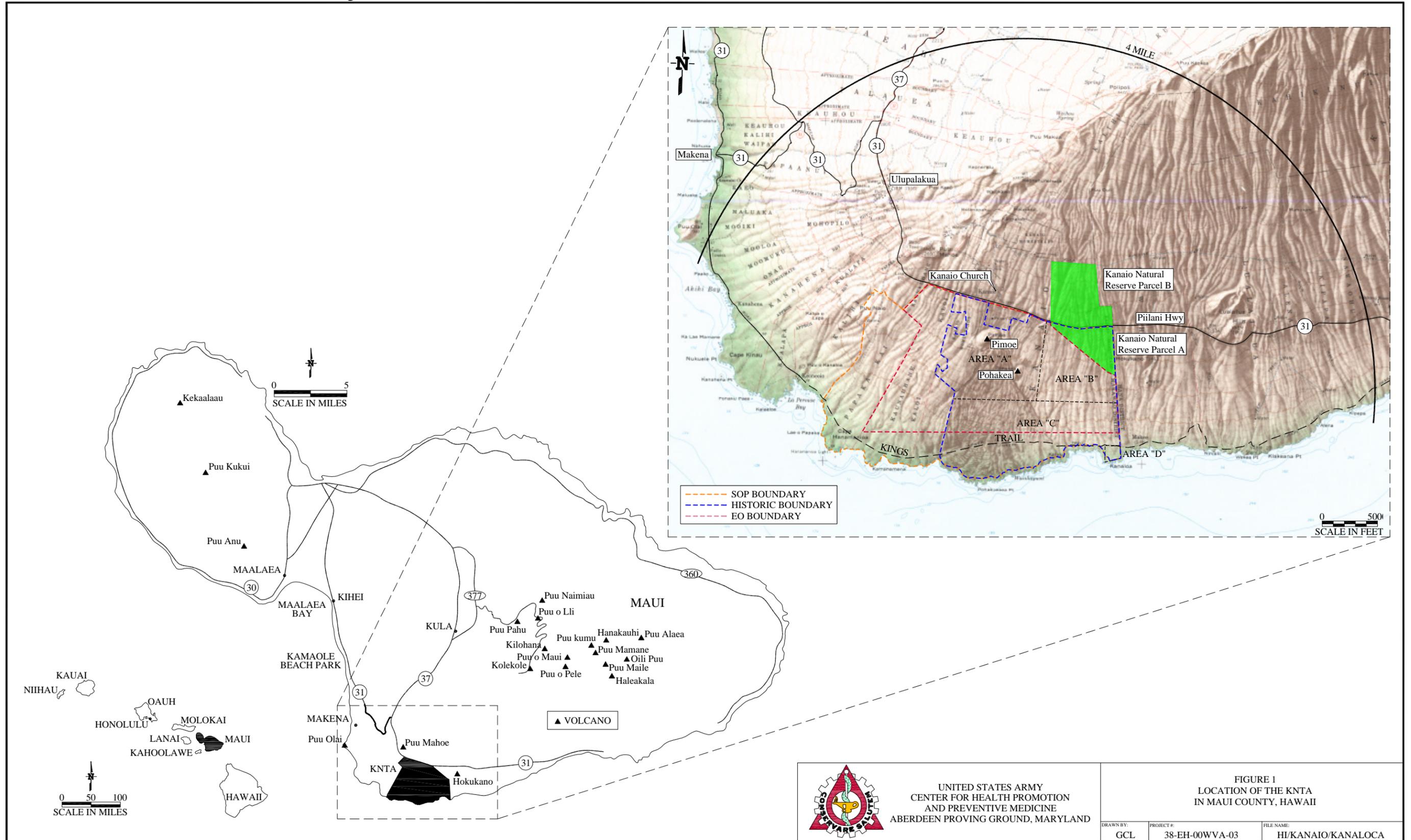
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e. Personnel Contacted.

- (1) Bill Rogers, HIARNG
- (2) Ron Swafford, HIARNG
- (3) Mike Wysong, HIARNG
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- (5) MAJ Arnold Iaea, HIARNG
- (6) Charley Ice, Hawaii Department of Land and Natural Resources (DLNR)
- (7) SSG Roy Yamada, 1<sup>st</sup> Bn 299<sup>th</sup> Charlie Company, HIARNG
- (8) Michael Miyahira, Hawaii State Department of Health
- (9) Jason Koga, Hawaii DLNR
- (10) Arnold Abe, Engineering Department of Water Supply, Maui County
- (11) Trisha M.L. Kapualala, Zoning Office, Department of Planning, Maui County
- (12) Tony Durso, Ulupalakua Ranch
- (13) Sumner Erdman, Ulupalakua Ranch

2. **SITE DESCRIPTION.** The Kanaio Training Area is located on the outskirts of the town of Ulupalakua on the southeast coast of the island county of Maui, Hawaii, as shown in Figure 1. The address for the Kanaio Training Area is Maui Island, Ulupalakua, HI 96790. The geographic coordinates of the Kanaio Training Area range from 20°34'54" to 20°37'26" east longitude and 156°20'11" to 156°24'21" north latitude. The general layout of the Kanaio Training Area and vicinity is shown on Figure 2. The Piilani Highway (also named the 'Ulupalakua-Kaupa Road, Kanaio-Kalama Park Road, and Highway 31) and Pacific Ocean coast form the north and south boundaries of the Kanaio Training Area, respectively. Ulupalakua Ranch uses the property surrounding much of the Kanaio Training Area. Ranchland, small farms, and homesteads are located along the western side of the range. Trails and jeep roads provide access from Piilani Highway to the coast both on the Kanaio Training Area and nearby. An access road, formerly known as Kanaio Prison Road, connects Pu'u Pimoe cinder cone with Piilani Highway. The Kings Trail, which is a historic footpath and horse trail also known as the Hoapili Trail, Kings Highway, or Pi'ilani Trail, follows the entire coast of southeast Maui, traversing the coastal portion of the Kanaio Training Area. The Kanaio Training Area vicinity is a rural highland used primarily for cattle ranching; this area is also referred to as being part of Upcountry Maui, indicating its location on the upper slopes of Haleakala volcano. There are several tourist towns located on the coast between 2 and 4 miles west of the range, including Makena, Kanahena, Keoneio, and Keawakapu. Nearby residential development consists only of isolated small homesteads of up to 10 houses; many of the houses are used only on weekends or less often. The 2000 census population for the entire southwest slope of the Haleakala volcano was approximately 600 individuals; less than ¼ of that area may lie within 4 miles of the Kanaio Training Area boundaries (reference 1). The Kanaio Natural Area Reserve (NAR), which is administered by the U.S. Fish and Wildlife Service (USFWS) and/or DLNR, Division of Forestry and Wildlife, is located at the northeast corner of the Kanaio Training Area. The Kanaio Training Area presently encompasses approximately 4771 acres.




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**FIGURE 1**  
 LOCATION OF THE KNTA  
 IN MAUI COUNTY, HAWAII

DRAWN BY:	PROJECT #:	FILE NAME:
GCL	38-EH-00WVA-03	HI/KANAIO/KANALOCA

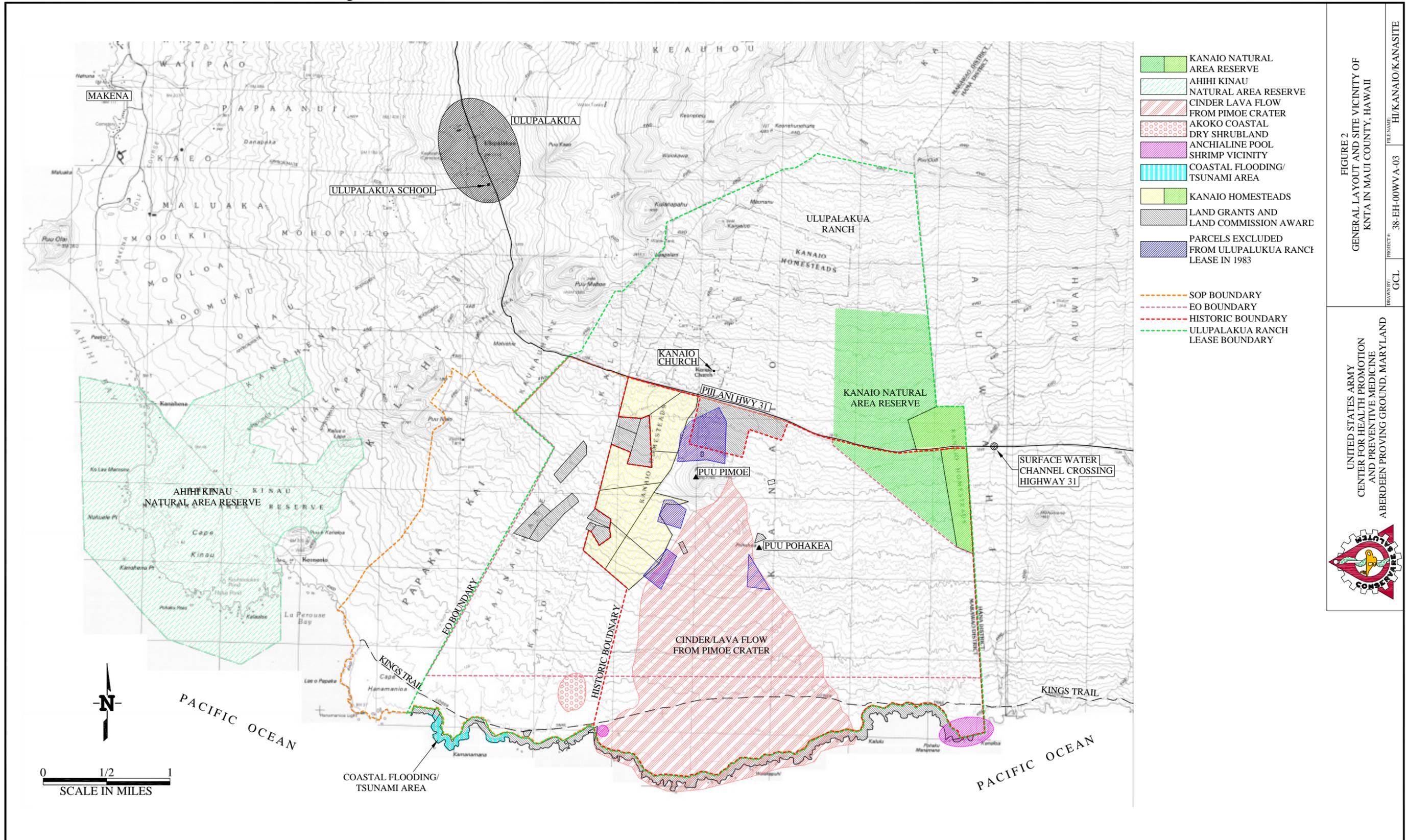


FIGURE 2  
GENERAL LAYOUT AND SITE VICINITY OF  
KNTA IN MAUI COUNTY, HAWAII

PROJECT # 38-EH-00WVA-03  
DRAWN BY GCL  
FILE NAME: HI/KANAIO/KANASITE

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a. Physiography. Figure 2 shows the topography and features in the vicinity of the Kanaio Training Area. The Kanaio Training Area is located on the southwestern slope of the dormant volcano Haleakala in the District of Makawao on the southeast coast of the Island of Maui. Cinder cones in the Kanaio Training Area vicinity exist in a pattern trending from northwest to southeast, reflecting the development of Haleakala's southwest rift zone (reference 2). The most prominent physical features at the Kanaio Training Area are two cinder cones, Pu'u Pimoe and Pu'u Pohakea, located on the north-central portion of the Kanaio Training Area. The ground surface is mostly a'a lava that recently originated from Pu'u Pimoe, with older, lighter-colored pahoehoe lava flows visible along the western side of the site and exposed in areas beneath the younger a'a lava flow (references 3 and 4). Several caves that formed within lava voids and tubes are present at the Kanaio Training Area. The overall elevation drops gently from about 1800 feet above mean sea level (msl) at Piilani Highway to msl at the southern coast. The top of Pu'u Pimoe is at 1766 feet msl. No karst features were identified at the Kanaio Training Area.

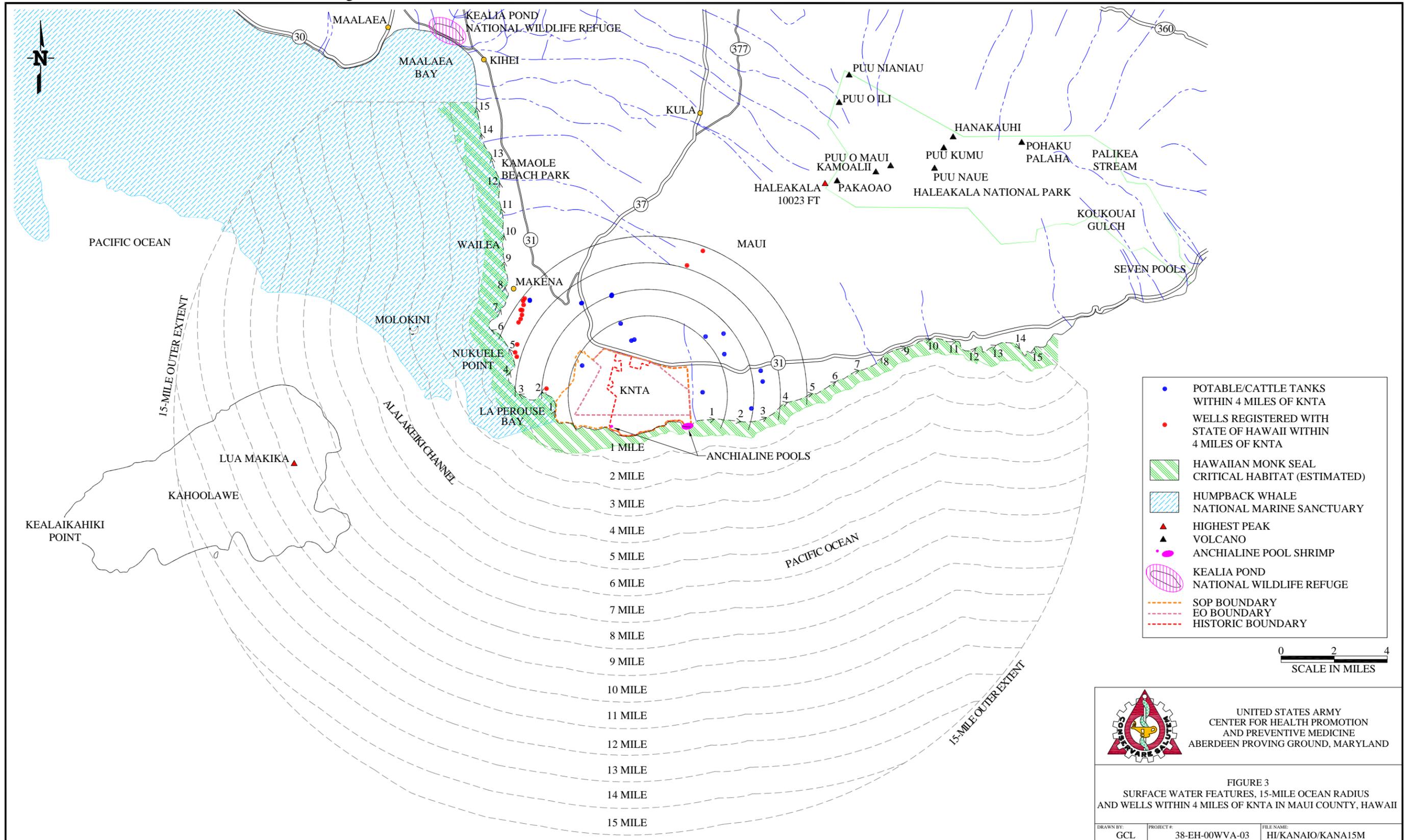
b. Vegetation. The vegetation at the Kanaio Training Area is described in depth in references 2 and 3. Native vegetation for this area included native dryland forests dominated by wiliwili (*Erythrina sandwicensis*), lama (*Diospyros sandwicensis*), and hao (*Rauvolfia sandwicensis*) (reference 3). Early Hawaiians converted the slopes around the Kanaio area to pili (*Heteropogon contortus*) grassland and farmed dryland crops (reference 3). The introduction of large feral cattle populations and human-related fire damage further altered native vegetation in the area (reference 3). As the native vegetation declined, non-native plants became established and further displaced native growth (reference 3). At present, most of the Kanaio Training Area is barren or is dominated by non-native scrub, primarily grasses and shrubs (reference 3). Native and indigenous plants scattered throughout the non-native species in the non-native scrub include a'ali'i (*Dodanea viscosa*), 'uhaloa (*Waltheria indica*), alena (*Boerhavia repens*) and pua kala (*Argemone glauca*) (reference 3). Small patches of vegetation occupy *kipuka*, which are island-like areas of older substrate surrounded by younger lava. *Kipuka* comprise important cattle grazing areas for local ranchers, and are sought out and protected for that use. The HIARNG uses some of the most disturbed and barren areas of the Kanaio Training Area, which were originally disturbed due to cattle and feral ungulate grazing, for its training activities (reference 3). Remnant pockets of native vegetation still provide habitat for rare and endangered plants, including the 'ohai tree (*Sesbania tomentosa*). Overall, vegetation communities that may contain native species occupy 15-20% of the site (reference 2).

c. Climate. The Kanaio Training Area is located on the leeward slope of Haleakala where the climate is mostly dry; less than 30 inches of annual precipitation occurs primarily during Kona, or winter storms (reference 5). Despite the arid climate, almost daily cloud cover collects over the slopes of the mountain and produces heavy mist (reference 2). The mean daily average temperature at the Kanaio Training Area is estimated to be between 70 and 75°F with the mean daily temperature range of 65 to 85°F (reference 6). Prevailing winds for the Island of Maui are from the northeast (reference 6).

d. Surface Water. Surface water features at the Kanaio Training Area are shown on Figure 2 and a 15-mile radius into the Pacific Ocean is shown on Figure 3. Due to the lack of precipitation and permeable nature of the surface lava, there are very few surface water features at the Kanaio Training Area (reference 2). When precipitation does occur, water infiltrates relatively rapidly into lava tubes, joints, and fractures. The only surface water feature identified within the Kanaio Training Area vicinity during this assessment was a channel that crosses Piilani Highway about  $\frac{3}{4}$  mile east of the site. The channel reportedly fills with water and flows some distance during rain events (reference 7). The nearest water bodies are anchialine pools found along the southern Maui coast and the Pacific Ocean. Some areas along the coast are located within the 100-year coastal flood plain, which is subject to flooding due to wave action (reference 8). Most of the range is also subject to “minimal tsunami inundation” (reference 8). No wetlands have been identified at the Kanaio Training Area during various ground and aerial surveys (references 2, 4, and 9).

(1) Anchialine Pools. Anchialine pools are land-locked bodies of water formed in highly porous, relatively fresh lava where there is an underground connection to the ocean so that the pool water level rises and falls with the tide (reference 9). The water in anchialine pools is brackish due to the interaction of seaward-flowing fresh ground water mixing with intruding sea water (reference 10). Anchialine pools are considered to be sensitive habitats for the candidate endangered anchialine pool shrimp (*Metabetaeus lohena*) and other endemic Hawaiian organisms such as gobies and various crustaceans and mollusks (references 3, 4, and 11). One anchialine pool, notable for the absence of alien species, was identified near the coast within the southwest boundary of the Kanaio Training Area (reference 9). Additional anchialine pools are located outside of and southwest of the Kanaio Training Area, and an additional pool or pools may exist near the southeast coast of the Kanaio Training Area (references 2 and 7).

(2) Pacific Ocean. The uninhabited islands of Molokini and Kahoolawe are located within 15 miles of the Kanaio Training Area. Molokini Island is regulated by the State of Hawaii as a Marine Life Conservation District due to quality of reef habitat and the abundance of fish (reference 12). Molokini Island is also considered a state seabird sanctuary, and regulated black coral harvesting occurs along its coastline. Conservation efforts are underway to reestablish the native environment on Kahoolawe subsequent to military use of the island for bomber training by the Navy from WWII until 1994 (reference 13). Numerous public beaches and popular tourist locations are found along the Maui coast within the 15-mile radius. Activities such as fishing, surfing, diving, snorkeling, and boating trips are popular water activities within the 15-mile radius. In the year 2000, 32,578 lb of fish were landed off of the southern Maui coast within the 15-mile radius by commercial fisherman (reference 14). The Hawaiian Islands Humpback Whale National Marine Sanctuary protects humpback whales and their habitat from the shoreline to a depth of 600 feet throughout most of Maui (reference 15). Coastal and near-shore habitats including reefs are protected under the Pacific Islands Coastal Program (reference 16), and tidal pools house many species of young fish (reference 12). The Kealia Pond National Wildlife



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**FIGURE 3**  
 SURFACE WATER FEATURES, 15-MILE OCEAN RADIUS  
 AND WELLS WITHIN 4 MILES OF KNTA IN MAUI COUNTY, HAWAII

DRAWN BY: GCL PROJECT #: 38-EH-00WVA-03 FILE NAME: HI/KANAIO/KANA15M

Refuge, which includes a wetland habitat, and Kealia Beach, a known nesting area for the endangered hawksbill sea turtle, are both located along the Maui coast near the approximate perimeter of 15-mile radius west of the Kanaio Training Area (reference 17). The Hawaiian monk seal critical habitat is designated from beaches to a depth of 120 feet around the northwest Hawaiian islands (reference 11). The green sea turtle, which is listed as threatened, and the endangered 'ua'u or Hawaiian dark-rumped petrel may also be encountered within the 15-mile radius (references 15, 18, and 19).

(3) Drinking Water. The Maui County Upper Kula drinking water distribution system, which utilizes the Olinda Water Treatment Facility, serves the Kanaio area and surrounding vicinity using treated surface water from the northeast slope of Haleakala (reference 20). No drinking water intakes or source areas were identified within 0.5 miles of the Kanaio Training Area or within the 15-mile surface water radius (reference 21). Several water tanks on and near the Kanaio Training Area are used for watering cattle. Potable drinking water may also be stored in aboveground tanks near the Kanaio Training Area (reference 20).

e. Soils. Soils at the Kanaio Training Area are described in detail in the Soil Survey of Maui County and are shown on Figure 4 (reference 22). Much of the Kanaio Training Area is covered by recent lava flows, and soils are generally found at higher elevations, north of Pu'u Pimoe and Pu'u Pohakea, or within older pahoehoe flows (reference 23). Most of the surface cover at the Kanaio Training Area falls in the rock land-rough mountainous land association, which is primarily a'a, stony land, or cinder land. About 10% of the Kanaio Training Area is within the Kamaole-Oanapuka association, which include soils developed in weathered volcanic ash. About 5-10% of the Kanaio Training Area may lie within the Pu'u Pa-Kula-Pane association, well-drained medium textured soils on intermediate uplands of East Maui. The soils at the Kanaio Training Area have relatively rapid to high permeability, and runoff is slow to medium.

(1) Rock Land-Rough Mountainous Land Association. Recent a'a lava, very stony land, and cinder land cover most of the Kanaio Training Area. A'a is defined as masses of clinkery, hard, glassy, sharp pieces of lava on rough to undulating topography. Thin layers of ash, extending into cracks and depressions near Pu'u Pimoe and Pu'u Pohakea, support stands of shrubs and grasses. Cinder land, a mixture of bedded magmatic ejecta such as cinders, pumice, and ash with little or no soil development, is found on Pu'u Pimoe and Pu'u Pohakea.

(2) Pu'u Pa-Kula-Pane Association. The Io silt loam, found at the base of Pu'u Pimoe, is developed in volcanic ash and material weathered from cinders. The Io soils consist of up to 40 inches of varying amounts of silt, clay, and loam overlying a substratum of black unweathered cinders. If the soils are exposed there is a slight hazard of wind erosion. The Uma rocky loamy coarse sand is found along the northern boundary of the Kanaio Training Area. The Uma developed in volcanic ash and fine cinders, and consists of less than 10 inches of rocky loamy coarse sand over fine cinders, with a depth to bedrock between 0.5 to 1 foot.



(3) Kamaole-Oanapuka Association. The Oanapuka extremely stony silt loam is found in the west-central part of the Kanaio Training Area. The Oanapuka consists of about 15 inches of silt loam overlying a substratum of silt loam and loam. Stones cover up to 15% of the soil surface area, and the depth to bedrock is between 3.5 and 5 feet.

f. Hydrogeology.

(1) Geology. The islands of Maui, Molokai, Lanai, and Kahoolawe were originally volcanic uplands upon the single ancestral island of Maui Nui (reference 24). As sea levels rose, the volcanic massif of Maui Nui was submerged, resulting in the four separate islands present today (reference 24). Maui is the second largest island in the present-day Hawaii archipelago, and is composed of two volcanoes connected by an isthmus. The Kanaio Training Area is situated upon the southwestern slope of Haleakala, the relatively younger of the two volcanoes that forms East Maui. Haleakala was created by Kula series volcanic eruptions during the Pleistocene era. The Kula andesitic rocks were deposited upon the Honomanu basal basalts and olivines (reference 25). After the Kula volcanic shield surface was deeply eroded, the current landscape of the Kanaio area was formed during recent eruptions of the Hana volcanic series (reference 25). The Hana eruption of Haleakala's Southwest Rift Zone resulted in lava flows and cinder cones, the most prominent of which is Pu'u Pimoe. The basaltic Hana lava flows consist of mostly a'a, with older flows of pahoehoe and cinder near the coast (reference 2). The a'a lava composition at the Kanaio Training Area is 44-45% silica, 10-16% of each iron oxide and magnetite, and 2-4% titanium oxide (reference 26). There is very little alluvium or soil development on the fresh Hana surface. Some limited exposure of Kula rocks may be encountered in the Kanaio Training Area vicinity (reference 25).

(2) Shallow Ground Water. The interconnected void spaces in pahoehoe and layers of clinker between highly fractured a'a flows characteristic of the Hana formation result in high surface permeability (references 2 and 27). A typical feature of the Hana surface is the lack of surface water runoff even during times of heavy rain, which limits development of permanent stream systems (reference 2). The lava in the core of an a'a flow typically cools as a massive body of rock with much lower permeability that may inhibit vertical ground-water flow (reference 27). Additionally, the Kula formation beneath the Hana is known to act as an aquitard in some places and an aquifer in others (reference 25). Perched lenses of fresh water could potentially be developed at the Kanaio Training Area upon confining layers and behind dikes associated with Haleakala's Southwest Rift Zone (reference 27). The Hana may also contain basal ground water near the coast (reference 25). Due to the highly permeable nature of surface, shallow ground water at the Kanaio Training Area would be susceptible to contamination from surface sources (reference 25). The depth to ground water beneath the site is unknown. No surface springs were identified during previous HIARNG surveys, though anchialine pools may be considered springs due to the surface interaction of ground water and sea water. Caves (lava tubes) and lack of surface drainage features due to rapid infiltration mimic karst behavior at the site, though there is no limestone to support true karst terrain development.

(3) Regional Ground Water. The Lualailua aquifer system, with aquifer ID no. 60603, is the regional aquifer system for the Kanaio area (reference 25). The surface of the Lualailua aquifer is primarily the Hana formation, with limited exposures of the Kula series. Basal ground water within the Lualailua occurs mostly within the underlying Honomanu series basalts (reference 25). The Honomanu aquifer may be recharged in upcountry areas where it is exposed to more plentiful surface water infiltration and where it is exposed in deeply eroded gulches. The Honomanu may also be recharged from the Hana formation where the Kula does not form an aquitard (reference 25). The Honomanu aquifer constitutes one of the principal developable aquifers of East Maui (reference 25). Where the Honomanu aquifer is unconfined, it is susceptible to contamination from surface sources. The depth to ground water within the Lualailua aquifer beneath the Kanaio Training Area has not been established. The direction of regional ground-water flow within the Lualailua aquifer system is expected to be toward the coast.

(4) Ground-Water Use. The Lualailua aquifer is not utilized as a primary water source in the Kanaio Training Area vicinity. There are no wells located on the Kanaio Training Area (references 7, 21, 28, and 29). Wells identified by the State of Hawaii within 4 miles of the Kanaio Training Area are shown on Figure 3. None of the wells within 4 miles are used for municipal or domestic water supplies (reference 20). The State of Hawaii has assessed the Lualailua aquifer as having a potential sustainable yield of 11 million gallons per day (MGD) in the Kanaio vicinity (reference 20).

g. Sensitive Environments and Receptors.

(1) Human Receptors. The nearest schools are 9 miles from the Kanaio Training Area in Kula. No schools or daycare centers were identified within 1 mile of the Kanaio Training Area. Kanaio Homestead Lands exist in and around the Kanaio Training Area. Several occupied homesteads appear to exist within the Kanaio Training Area boundaries. Kanaio Church, along with a small homestead community, is located just north of Piilani Highway adjacent to the Kanaio Training Area. The number of individuals residing within each homestead is unknown, but no more than 60 individuals are estimated to reside on or within 200 feet of the Kanaio Training Area (reference 1). There are no full-time employees at the Kanaio Training Area. Up to 400 individuals train at the Kanaio Training Area for up to 12 weekends per year.

(2) Sensitive Habitats. A biological resources reconnaissance of the Kanaio Training Area was conducted in 1993 (reference 3). Several sensitive habitats shown in Figure 2 were identified in the report, and recommendations were made to prevent damage of these important resources. No wetlands were identified in the Kanaio Training Area vicinity. One or more anchialine pools, rare brackish water bodies that provide habitat for a variety of native species including the candidate endangered anchialine pool shrimp, exist within the coastal boundary area of the Kanaio Training Area (reference 3). The rare lowland cave communities identified within Heliconia Cave on the Kanaio Training Area is one of only three such communities

known to exist (reference 3). Pu'u Pimoe supports populations of several rare plants including endangered 'ohai and rare 'aiea (*Nothocestrum latifolium*) and keahi (*Nesoluma polynesianum*) trees (reference 3). The Kanaio NAR, an 876-acre assemblage of native dryland trees and shrubs, is located adjacent to the range along the northeast border (reference 30). The 'akoko coastal dry shrublands, identified just west of the Kanaio Training Area, are considered extremely rare and are known to contain rare plants (reference 3). The 'Ahihi-Kina'u NAR, a 1,238-acre reserve containing marine and recent lava ecosystems is located about ½ mile west of the Kanaio Training Area (reference 30).

(3) Protected Species. A biological resources reconnaissance of the Kanaio Training Area was conducted in 1993 (reference 3). Sensitive, rare, and protected species were identified in the report, and recommendations were made to prevent damage to these important resources.

(a) Plants. Protected plant species known or expected to exist on the Kanaio Training Area include 'ohai, a Federally-listed endangered native shrub; 'ihi (*Portulaca villosa*), a rare herb; maiapilo (*Capparis sandwichiana*), a shrub on the active list of Category 2 candidates for Federal listing as threatened or endangered; pololei (*Ophioglossum concinnum*), a rare fern species; and 'aiea, a rare tree (reference 2). In 1995, a small population of 'ohai was discovered growing on the unconsolidated cinders of the Pu'u Pimoe crater wall (reference 5).

(b) Animals. The Hawaiian bat, or 'ope'ape'a (*Lasiurus cinereus semotus*), which could potentially be found in the rare lowland cave communities on the Kanaio Training Area, is a Federally-listed endangered species. The 'aiea hawkmoth, or Blackburn's sphinx moth (*Manduca blackburnii*), is also federally listed as endangered. The Kanaio Training Area has been identified as an important habitat for the 'aiea hawkmoth, and the HIARNG has mapped the distribution of the moth's host trees and declared them off-limits to training (reference 9). Other species of concern under the U.S. Endangered Species Act at the Kanaio Training Area include the koa bug (*Coleotrichus blackburniae*), o'ahu capper moth (*Plutella capparidis*), and the Howarth's cave cricket and Schauinsland's bush cricket (*Caconemobius* sp. *howarthi* and *schauinslandi*) (reference 2). Possible transient populations of other rare plants and animals have been identified at the Kanaio Training Area (for instance, plants that exist only on relatively fresh lava flow habitat that becomes unsuitable over time) (reference 3). Some vertebrate species may be seasonal in their presence at the Kanaio Training Area. Rare and endangered species such as the Hawaiian dark-rumped petrel and pueo or short-eared owl may fly over the Kanaio Training Area or briefly land in the vicinity. Resident populations of these species have not been identified at the Kanaio Training Area.

(4) Cultural Resources. A multitude of archaeological sites, both historic (or post-contact in 1778) and prehistoric (pre-contact in 1778), have been identified at the Kanaio Training Area (reference 31). A historic preservation plan has been prepared for the Kanaio Training Area, which describes archaeological resources at the site in detail (reference 31). The greatest known concentration of archaeological sites and features is in the coastal area south of

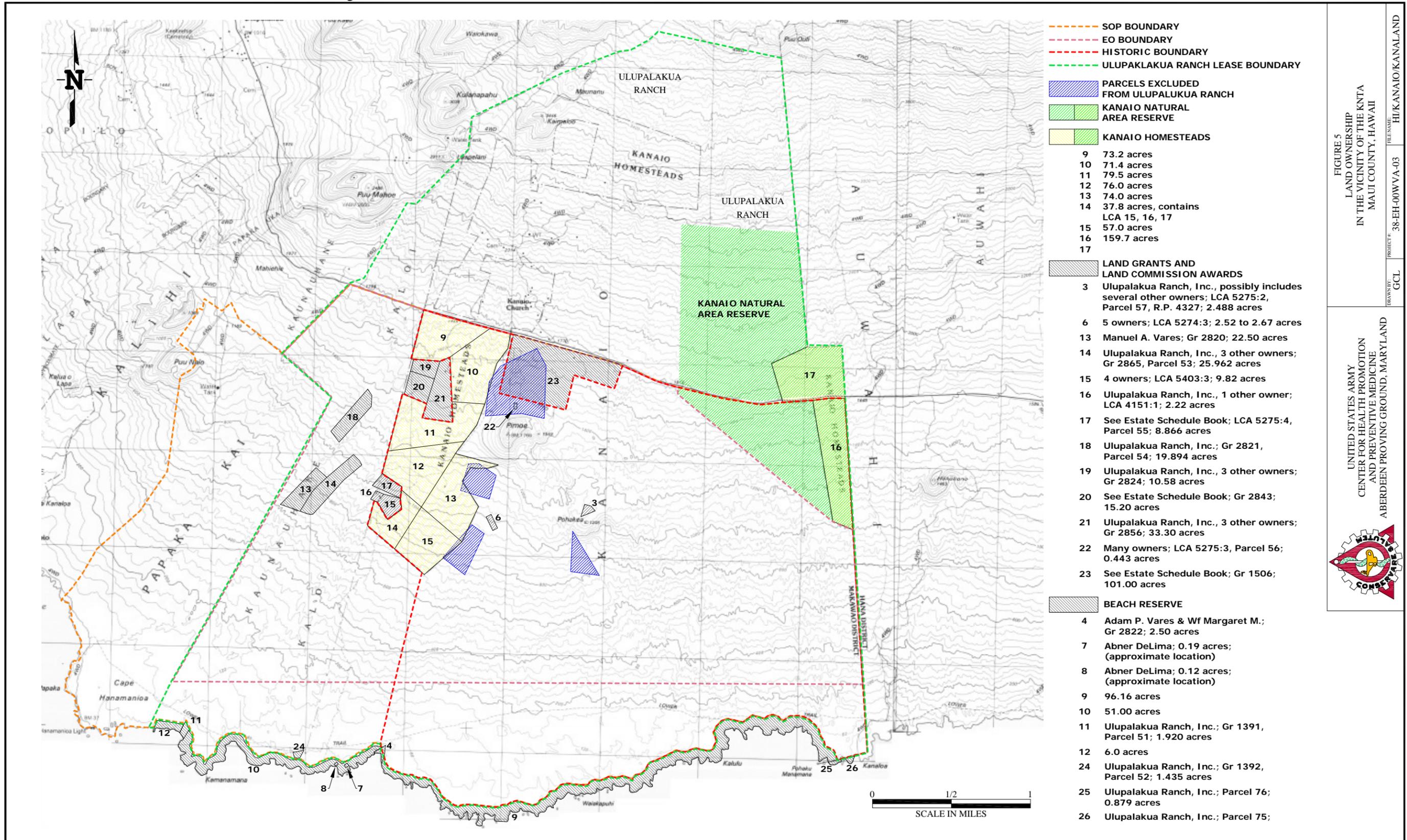
the Kings Trail (reference 31). Use of established firing ranges, including routine maintenance of existing roads and features, was determined to not have an effect on archaeological resources at the Kanaio Training Area (reference 31).

### 3. OPERATIONAL HISTORY AND WASTE CHARACTERISTICS.

#### a. General Site History and Current Operations.

(1) Pre-Ranch History. The name “Kanaio” refers to the naio, or bastard sandalwood tree (*Myoporum sandwicense*) (reference 30). The Kanaio Training Area is situated upon former Crown Lands of Hawaii (reference 32). Early Hawaiian land use in the Kanaio vicinity was for dryland agriculture, such as raising sweet and Irish potatoes, sugar cane, taro, pumpkins, gourds, and bananas (references 23 and 31). Nineteenth-century subsistence farmers may have raised cattle, goats, and pigs at the Kanaio Training Area, and locals are known to have collected sea salt and fished in the ocean, using footpaths that traverse the Kanaio Training Area. Many of the southern coastline villages were abandoned by at least 1879 (arch, 1996). The Kings Trail is one of the most conspicuous historic features of the Kanaio Training Area. The trail trends east to west through the coastal area of the Kanaio Training Area, and originally was constructed as a foot and horse path connecting the villages.

(2) Ranch Lease History. Ulupalakua Ranch, purchased by present owner C. Pardee Erdman, Jr in 1962 or 1963, is an important historic ranching operation on Maui (reference 31). The State of Hawaii leased two Tax Map Key parcels of land totaling 8,370 acres to Ulupalakua Ranch, Inc. under General Lease S-3700 starting in 1912 for the purpose of cattle grazing (reference 31). Tax Map Key parcel 2-1-02:01, located south of Piilani Highway as shown in Figure 5, contained 6229.00 acres. Tax Map Key parcel 2-1-03:50 contained 2141 acres north of Piilani Highway. Ulupalakua Ranch subleased 4177.29 acres of land within Tax Map Key 2-1-02:01 to the HIARNG for exercise and training purposes on the Kanaio Training Area, renewing yearly leases starting on 25 March 1965 (reference 33). In 1983, Ulupalakua Ranch negotiated a new lease with the State of Hawaii that excluded four surveyed the Kanaio Training Area impact areas (references 34, 35, 36, 37, and 38). The terms of Revocable Permit No. S-6001, signed on 19 March 1983, allowed Ulupalakua Ranch use of about 8,281 acres of government land within the two original Tax Key Map parcels, excluding about 88 acres used as impact areas by HIARNG (reference 38). On September 14, 1990, 876 acres within parcels 2-1-02:01 and 2-1-03:50 were set aside from the Ulupalakua Ranch lease as the Kanaio NAR (reference 39). The Kanaio NAR set-aside included 281 acres of Tax Map Key 2-1-02:1 that was previously included as the northeast corner of the Kanaio Training Area. On 12 March 1997, Ulupalakua Ranch terminated its contract with the State of Hawaii for Revocable Permit No. S-6001, including the parcel containing the Kanaio Training Area (reference 40).



(3) Non- Kanaio Training Area Military Use. C. Pardee Erdman reported that live fire practice was conducted by the Army and/or Marines at Pu'u Pimoe during WWII, and that the Kings Trail was used for Jeep traffic and reconnaissance along the coastline. Other sources also reported that Marine training activities occurred in the Kanaio Training Area vicinity during WWII and into the 1950s and 1960s (references 4 and 41). C. Pardee Erdman indicated that ranch land north of the range was never used for military training purposes, and that live fire was never conducted from ships onto the Kanaio Training Area (reference 7). He stated that historic live fire exercises at Pu'u Pimoe set a precedent for military training at the site under which he negotiated the original lease with the HIARNG (reference 7). Evidence of 155mm artillery rounds found throughout the Kanaio Training Area during ordnance removal operations suggests use of the land by branches of the military service other than the Army (reference 4). The Ranch reported that Marines conducted dismounted maneuvers and blank firing practice at the Kanaio Training Area in the 1980s (reference 7).

(4) Army National Guard Lease History. In 1964, the HIARNG began inquiries with Ulupalakua Ranch regarding establishing a firing range (reference 42). The HIARNG had been forced to close the Paukukalo Range for safety reasons, and needed to establish a replacement rifle and weapons range, preferably on Maui. In March 1965, HIARNG entered into Land License No. 1-65 with Ulupalakua Ranch for the use of 4771.29 acres of the land that the ranch leased from the State of Hawaii under General Lease No. S-3700 within Tax Map Key parcel 2-1-02:01. Use of the Kanaio Training Area was originally authorized for up to 6 weekends per calendar year to locate firing points and for firing of heavy-caliber infantry support-type weapons (reference 33). The terms of the license were amended in 1966 to allow HIARNG use of the Kanaio Training Area for up to 12 weekends per calendar year (reference 43). In 1997, Ulupalakua Ranch terminated its contract with the State of Hawaii for the permit containing the Kanaio Training Area parcel. Since that time, the HIARNG seeks temporary Right of Way by submitting memoranda to DLNR for specified weekend training periods at the Kanaio Training Area, and the land has remained unencumbered. The HIARNG is presently seeking an Executive Order (EO) for land transfer of 4707 acres actively used by the HIARNG from the State of Hawaii, validating the Kanaio Training Area as a mission-essential training area available for use by all units of the guard (reference 44).

(5) Property Legal Description. Figure 5 shows land ownership and use in the vicinity of the Kanaio Training Area from 1965 to the present. The legal description describes the Kanaio Training Area as being located at Kanaio, Honualula, Makawao, Maui, Hawaii (reference 36).

(a) Great Mahele Land Commission Awards (LCA) and Grants. In 1848, when Hawaii changed from a feudal land system to private land ownership under the Great Mahele, or land division, individuals lobbied for title of the land (reference 45). Several LCA along the western boundary of the Kanaio Training Area and grants north of Pu'u Pimoe along Piilani Highway are consistently excluded from the Kanaio Training Area in site sketches from 1965 to the present.

Three LCA consistently included within the Kanaio Training Area boundaries are listed in Table 1. Most of the Kanaio Training Area is situated within Government Lands of Kanaio.

(b) Kanaio Homestead Lands. Kanaio Homestead Lands along the northwest edge and in the northeast corner of the Kanaio Training Area are listed in Table 1. Ownership of Kanaio Homestead Lands is unclear. It appears that the Homestead Lands may be privately used for farming and residential use within the Kanaio Training Area boundaries.

(c) 1983 Impact Area Parcels. In 1981 or 1982, HIARNG requested unspecified conditions for its future leases as a temporary measure to ensure continued Federal support at the Kanaio Training Area (reference 36). Accordingly, Ulupalakua Ranch indicated that it wished to reduce the area leased from the DLNR with a commensurate reduction in rental fees under its new permit (reference 46). In 1982, DLNR requested that HIARNG provide a more detailed map showing Areas A, B, C, and D to resolve issues surrounding the terms of the Ulupalakua Ranch's lease renewal (reference 35). In response, HIARNG submitted Parcels 1, 2, 3, and 4 as surveyed by R.T. Tanaka Engineers, Inc. on July 8, 1982 (reference 36). The parcels were subsequently excluded from the Ulupalakua Ranch, Inc., Revocable Permit No. S-6001 with the State of Hawaii DLNR. There is no further documentation regarding encumbrances for these parcels, although the HIARNG continued to use at least Parcels 1 and 2 for training and maneuvers from 1983 to 1997, apparently without requesting use of these areas directly from DLNR.

i. Parcel 1. Parcel 1 corresponds to Impact Area 3B plus part of the "All Other" areas north of Pu'u Pimoe. Parcel 1 was surveyed as 80.014 acres in size, and included the small arms range. Parcel 1 as surveyed in 1982 included a corral, two latrines, the concrete "kitchen pads," cinder pit, and three target rails (M16, M60, and 45-caliber) (reference 36). Parcel 1 contains LCA 5275:3 and is situated within portions of Kanaio Homestead Lands and Grant 1506 to Kuihelani (Table 1).

ii. Parcel 2. Parcel 2 corresponds to Impact Area 3A southwest of Pu'u Pimoe. Parcel 2 is 21.710 acres in size, and was fenced along the west and northwest edges, with a rock wall along the south edge in 1982 (reference 36). Parcel 2 is situated within government lands at Kanaio.

iii. Parcel 3. Parcel 3 is a restricted area due to UXO, corresponding with Impact Area 1; the parcel was fenced and posted with signs in 1981. Parcel 3 has an area of 24.441 acres and is located southwest of Pu'u Pimoe (reference 36). Kanaio Homestead Lands Parcels 13 and 15 are located west of and partly within the west edge of Parcel 3 (Table 1).

**TABLE 1. LAND COMMISSION AWARDS, GRANTS, AND KANAIO HOMESTEAD LANDS PERTAINING TO THE KANAIO TRAINING AREA**

<b>Parcel Identification</b>	<b>Owner</b>	<b>Grant Identification</b>	<b>Acreage</b>	<b>Description</b>
3 (also parcel 57)	Ulupalakua Ranch plus multiple owners	LCA 5275:2 RP 4327	2.488	Southwest of Pu'u Pimoe within Kanaio Training Area.
6	Multiple owners	LCA 5274:3	2.52	South of Pu'u Pimoe within Kanaio Training Area. Not shown on all tax maps, and "approximate location" used when it is.
22 (also parcel 56)	Multiple owners	LCA 5275:3 RP 4327	0.443	North of Pu'u Pimoe within Kanaio Training Area, wholly located within 1982 surveyed Parcel 1 maneuver area.
9	Kanaio Homestead Lands		73.2	Northwest corner within Kanaio Training Area
10	Kanaio Homestead Lands		71.4	Northwest corner within Kanaio Training Area
11	Kanaio Homestead Lands		79.5	Northwest corner within Kanaio Training Area
12	Kanaio Homestead Lands		76.0	Northwest corner within Kanaio Training Area
13	Kanaio Homestead Lands		74.0	Northwest corner within Kanaio Training Area, partly included within 1982 surveyed Parcel 3.
14	Kanaio Homestead Lands		37.8	Northwest corner within KA Kanaio Training Area
15	Kanaio Homestead Lands		57.0	Northwest corner within Kanaio Training Area, partly included within 1982 surveyed Parcel 3.
16	Kanaio Homestead Lands		159.7	Northeast corner inside/outside Kanaio Training Area, now within Kanaio NAR.
23	Multiple?	Grant 1506 to Kuihelani	101.00	North of Pu'u Pimoe along Piilani Highway, generally excluded from Kanaio Training Area boundaries but included within 1982 surveyed Parcel 1.
61	Multiple?	Grant 2338 to Kekuhaulua	85.731 acres	Approximately 1/3 of parcel is south of Piilani Highway, generally excluded from Kanaio Training Area boundaries but included within 1982 surveyed Parcel 1.

iv. Parcel 4. Parcel 4 is a restricted area due to UXO, corresponding with Impact Area 2; the parcel was fenced and posted with signs in 1981. Parcel 4 has an area of 14.983 acres and is a triangular-shaped piece of land southeast of Pu'u Pimoe. Parcel 3 is located within government lands at Kanaio.

(d) Kanaio NAR. Portions of Ulupalakua Ranch, including 281 acres in the northeast corner of the Kanaio Training Area, were set aside as the Kanaio NAR under the DLNR Division of Forestry and Wildlife in 1990 (reference 39). It is not clear as to whether the set-aside involved removal of this parcel from the Land License 1-65. The Kanaio NAR is not included in the EO package for inclusion in the Kanaio Training Area. Several of the HIARNG firing

points, including those used for firing 4.2-inch mortars toward Area D, were located within the present-day Kanaio NAR.

(e) Beach Reserve. Tax Map Keys indicate Beach Reserves and private land holdings along the coastal area of the Kanaio Training Area as shown in Figure 5. The beach reserve is not shown on all site sketches and maps.

(f) Standard Operating Procedure (SOP) Boundaries. The 299<sup>th</sup> Bn field map for the Kanaio Training Area indicates that areas west of the historic and EO boundaries are included as field training areas. It appears that an access road along the western edge of the SOP boundary may be important for HIARNG use of the Kanaio Training Area.

(6) Construction Activities. There are no permanent structures at the Kanaio Training Area for troop housing, support, or supply, though structures and elements of the firing range have been maintained at the Kanaio Training Area (reference 4). A shed with no utilities connections reportedly exists at the base of Pu'u Pimoe along with field latrines and two kitchen slabs. An access road, also known as Kanaio Prison Road, connects Piilani Highway to Pu'u Pimoe. In 1989, site improvements including temporary construction of unnamed features were suggested by the 1<sup>st</sup> Bn 299<sup>th</sup> (reference 47). It is not known whether any of these site improvements were made, but the SOP indicates that no construction of any type is authorized under the lease agreement (reference 48).

(7) Site Mission and Use. The Kanaio Training Area has been referred to as a Range and Weekend Training Site (WETS), Kanaio Firing Range, Kanaio Training Area and Range, and Kanaio Impact Range. The mission is to operate and maintain a safe training area for HIARNG personnel on up to 12 weekends per calendar year. The Kanaio Training Area was primarily utilized by the HIARNG 1<sup>st</sup> Battalion, 299<sup>th</sup> Infantry, C Company (-Det 1), and Det 1, and is administered by the Commanding Officer, 1<sup>st</sup> Bn 299<sup>th</sup> Infantry (reference 32). Other units who have trained at the Kanaio Training Area include the HI Air National Guard, US Army Reserve, components of the Armed Forces, and law enforcement agencies. The HCC has been disbanded, and HIARNG's 1<sup>st</sup> Bn and C Company combined presently train up to 130 troops quarterly at the Kanaio Training Area (reference 2). Infantry training activities at the Kanaio Training Area presently include limited cross-country dismounted infantry squad training and small weapons training and qualifying using blank and live fire in the vicinity of Pu'u Pimoe (reference 49). Small weapons training includes pistol and M60 rifle training using blanks, with live fire limited to annual qualification (reference 49). Areas makai, or ocean-side, of Pu'u Pimoe were used for training with larger weaponry including rockets, grenades, and mortars of various types prior to 1979 (reference 50). A small arms range north of Pu'u Pimoe was closed in December 1998.

(8) Public Use of the Kanaio Training Area. The SOP states that hunting is not permitted within the boundaries of the Kanaio Training Area, and that travel through the Kanaio Training Area to surrounding ocean areas is permitted with the approval of the Commanding

Officer, 1<sup>st</sup> Bn 299<sup>th</sup> Infantry. In general, though, public use of the Kanaio Training Area is authorized for recreational purposes unless guards are posted during active training (reference 2). Civilians use footpaths and 4-wheel drive roads to access the coastline, traverse the Kings Trail, and for recreational camping and hiking. Recreational and subsistence hunting, fishing, and non-authorized shooting and target practice take place on the Kanaio Training Area; numerous non-military firearm cartridges have been found near Pu'u Pimoe (references 2, 7, and 41). Locals have used lava tubes for refuse disposal without HIARNG authorization (reference 2). Civilians visit the Kanaio Training Area, particularly along the coastline area south of Kings Trail, for artifact collection, scenic viewing, photography, participation in religious activities, or study and worship of Hawaiian archaeological, cultural, and religious sites (reference 2). Private residences border the Kanaio Training Area along the east, north, and west boundaries; some residences appear to be located within the Kanaio Training Area boundaries. These nearby landowners engage in small-scale livestock raising and agriculture (references 2 and 45). Interagency biological and archaeological research is conducted on the Kanaio Training Area (references 2 and 5).

b. Regulatory Activities. No underground storage tanks have been registered at the Kanaio Training Area. An EO for the purpose of obtaining full ownership of the Kanaio Training Area from the State of Hawaii has been in-process since 1999. The HIARNG is involved in interagency management of endangered species and habitats on the Kanaio Training Area. At least two UXO removal operations have been conducted at the Kanaio Training Area in 1981 and again in 1998. A UXO removal operation was reportedly planned in 1988, but no confirmation could be found to determine whether the operation actually occurred. Archaeological sites on the Kanaio Training Area have been recommended for listing on the National Register of Historic Places. A small arms range was removed and the soil was tested for lead. Solid waste produced at the Kanaio Training Area is typically removed after training, but a lava tube was filled with refuse and was cleaned out during the 1998 UXO removal operation. No field refueling or rifle cleaning is conducted at the Kanaio Training Area. Extra rounds of ammunition remaining after practice or qualification is turned-in. No hazardous waste disposal areas have been identified at the Kanaio Training Area.

(1) Executive Order (EO).

(a) History and Rationale. The NGB requires the HIARNG acquire the Kanaio Training Area under State EO to obtain full stewardship control of the site and subsequent Federal funding (reference 5). The HIARNG sought acquisition of the EO for 4707 acres at the Kanaio Training Area A starting in March 1999 (Figure 5) (reference 5). The Land Division of the Hawaii DLNR agreed with the request of an EO for the unencumbered state lands, and approved a Conservation District Use Permit for the set-aside in October 1999 (reference 5). The DLNR requires the HIARNG to produce a State and County certified parcel map to include with the EO package for the Governor's signature. In September 2000, HIARNG contracted a surveyor to revise the existing plat maps, and several draft maps were reviewed by the Maui County

Planning Office (reference 5). The Maui County Land Use and Codes Division provided requirements for editing the maps, but the final subdivision maps have not yet been produced by the HIARNG (reference 5). Until the maps are produced, the EO package cannot be submitted for the Governor's signature.

(b) Land Use Changes Under EO. The coastal area of the Kanaio Training Area, previously situated within Area C, will no longer be included in the Kanaio Training Area under the EO. The proposed Kanaio Training Area boundaries for the EO encompass over 1,000 acres of land along the west edge of the Kanaio Training Area previously excluded from Kanaio Training Area site sketches and maps from 1965 to the present. It appears that the proposed Kanaio Training Area boundaries coincide with the historical Ulupalakua Ranch lease boundaries south of Piilani Highway excluding the coastal area. It should be noted that the proposed Kanaio Training Area boundaries encompass at least 13 LCA parcels that are privately owned, many of them by more than one owner apiece, plus a suite of Kanaio Homestead Lands lots. A brief note in one of the EO package figures indicates that the proposed boundary does not include homestead lots, grants, or LCA within the perimeter.

(2) Environmental Stewardship. The Kanaio Training Area is considered to be one of the HIARNG's most biologically rich ecosystems, and is a focus of HIARNG's resource conservation efforts (reference 9). Several biological surveys have confirmed that the Kanaio Training Area supports five significant biological communities, as well as a number of endangered, threatened, and rare species (reference 5).

(a) 'Ohai and 'Aiea Hawkmoth Habitat. In 1997 and 2001, HIARNG evaluated the habitat and distribution of 'ohai and 'aiea hawkmoth at the Kanaio Training Area, and recommended that the USFWS designate a total of 322 acres as Critical Habitat due to their importance for the species' survival (reference 5). The potential for Critical Habitat to conflict with training exercises was evaluated, and training restrictions were issued for the Kanaio Training Area; no mission impact was anticipated due to Critical Habitat designation (references 5 and 51). Training restrictions render Pu'u Pimoe off-limits for any type of training; no smoking of any kind is allowed; fire and/or signal flares are prohibited; and clothing, boots, gear, and equipment should be inspected for seeds, eggs, and larvae prior to entry onto the Kanaio Training Area (reference 51). The HIARNG constructed three fenced exclosures protecting 21 acres of dryland and a'a lava flow habitat from ungulate trampling and grazing (reference 5). Two half-acre sites were fenced to protect outplanted 'ohai communities, and the third site, which is located near the Kanaio coast, consists of relatively weed-free *kipuka* containing other native species. The HIARNG, with assistance by individuals from the State of Hawaii, University of Hawaii, and Ulupalakua Ranch, planted donated 'ohai stock along with endemic wiliwili stock in the exclosures in November 2001 (reference 5). The HIARNG is now awaiting completion of the EO before proceeding with active stewardship of the site biological resources (reference 5).

(b) General Environmental Management. Following issuance of the EO, the HIARNG plans to protect and manage the 'a'ali'i shrubland, to proceed with out-planting native host plants for the 'aiea hawkmoth, and to take biological inventories of lava tubes at the Kanaio Training Area (reference 52). The Kanaio Training Area has been the ongoing focus of a management plan that was developed by the National Park Service in 1996, fountain grass and other invasive species eradication efforts, a pesticide quantity reduction program, HIARNG land condition trend analysis, experimentation with use of native fire-resistant plants for fire management purposes, and a Natural Resources Compliance Program (reference 5). The Kanaio Training Area has also been used for experimental habitat restoration methods and programs (reference 5).

(3) 1981 UXO Removal Operation. In the summer of 1981, unexploded mortar shells were identified inland of the Kings Trail during an aerial survey of the Kanaio Training Area, indicating that troops did not remove UXO after training per the lease agreement (references 50 and 53). The Ulupalakua Ranch was notified of plans to clear the area of UXO, and the Kings Trail through the Kanaio Training Area was closed for safety purposes on 9 July 1981 (references 51 and 54). The explosive ordnance disposal (EOD) team that conducted UXO removal in 1981 concluded that the normal 10% recovery rate for UXO was not achieved at the Kanaio Training Area because the brittle lava allowed high-angle steel-cased and delay-fuzed mortars to penetrate and detonate underground, resulting in a heaving effect that covered debris and UXO that would normally be found on the surface (reference 26). Upon completion of the range sweep, the EOD team researched the feasibility of electronically locating UXO under the surface of the lava, finding that the then state-of-the-art MK22 locator, as tested on Kahoolawe where the lava is similar, would not work at the Kanaio Training Area (reference 26). For this reason, the EOD team felt that it would not be possible to conduct 100% removal of UXO at the Kanaio Training Area.

(a) August 1981 Survey. On 3-6 August 1981 an EOD team cleared the Kings Trail, fishermen's paths to and from the ocean, the 3.5" rocket firing range, M79 40 mm grenade range, and 2 M72 LAW impact areas (reference 26). Search sweeps produced debris from approximately thirty 81mm illumination projectiles, five 81mm old-style practice projectiles, three 81mm white phosphorus projectiles, and one 81mm illumination UXO along the Kings Trail, and more than 200 pieces of practice rounds from the M72 LAW rocket range (reference 26). UXO at these locations was destroyed in place (reference 55). The M72 LAW rocket range and the M72 LAW rocket or 40mm grenade range were not swept by the EOD team due to the sensitivity of the UXO fuzes (reference 26). UXO was observed at the M72 LAW rocket range; no UXO was observed at the M72 LAW rocket and 40mm grenade range (reference 26). The general boundaries of the two impact areas were enclosed with barbed wire fencing, marked with warning signs, and permanently restricted from entry (reference 26). The Kings Trail and fishermen's trails were reopened for public use on August 6, 1981 (reference 55). Future use of the Kanaio Training Area was restricted to small-caliber weapons, and mortar firing was discontinued.

(b) September 1981 Follow-Up Survey. On August 17, 1981, HIARNG received confirmation that 4.2-inch mortar firing was conducted at the Kanaio Training Area, requiring further sweeps from firing points 1 through 4 to Area D (reference 56). The follow-up sweeps were conducted on 14-18 September 1981 (reference 55).

(4) 1988 UXO Consolidation Plan. The HIARNG planned to conduct a UXO removal action during August through September 1988 using EOD and HIARNG personnel (reference 57). Plans included onsite detonation of UXO and consolidation of inert ordnance and other scrap metal into a single location for abandonment. There was no direct follow-up to this memorandum in the record. However, prior to the 1998 UXO removal operation, practice and illumination rounds were located in a pile within a ravine at the northern apex of Impact Area 2, and EOD experts concluded that the material was carried there in sandbags to be detonated during a previous consolidation effort (reference 4). The 1998 findings seem to confirm that the 1988 UXO consolidation operation may have been carried out as planned.

(5) 1998 UXO Removal Operation. The UXO operation was conducted between 27 November and 18 December 1998 (reference 58). The access road from Piilani Highway to Pu'u Pimoe was reconstructed, and four abandoned cars and a large dumpster were recovered and disposed-of offsite. The small arms range was closed, and a lava tube was cleaned out and barricaded to prevent subsequent dumping. Impact areas 1, 2, 3A, 3B, and an "all other" area, were cleared of live and practice ordnance. A 100% surface inspection was conducted of the ranges by teams moving at 5-foot separation intervals, and recovered scrap material was placed in small plastic tubs for subsequent inspection, sorting, and demolition if needed (reference 58). A total of 10 explosive ordnance items were disposed of by detonation, and 15 practice 81mm mortar rounds with inert filler were demilitarized using explosives (reference 58). Demolition was conducted in three tightly controlled, electronically initiated demolition shots in an undisclosed location (reference 58). All live ordnance items were completely destroyed, and damaged or distorted practice rounds were recovered and disposed of as scrap. A total of 886 lb of combined ordnance-related scrap metal was turned-in to Maui Scrap Metal Recycling (reference 58).

(6) Management of Archaeological Resources. Many historic and prehistoric (prior to 1778) archaeological sites have been identified at the Kanaio Training Area (reference 2). Archaeological sites are concentrated south of the Kings Trail along the coast; though some sites are found elsewhere on the Kanaio Training Area (reference 2). The area south of the 200 msl topographic line along the coast could qualify as a Historic District, based on the concentration of sites and features of archeological significance (reference 2). Seven sites at the Kanaio Training Area are protected by the State of Hawaii Historic Preservation Division; five of these sites meet the criteria for the National Register of Historic Places (reference 4). Sites within or near identified impact areas have been surveyed for archaeological resources. As further surveys are conducted, additional sites or features may be discovered that meet criteria for protection (reference 4). Guidelines for protecting archaeological resources at the Kanaio Training Area

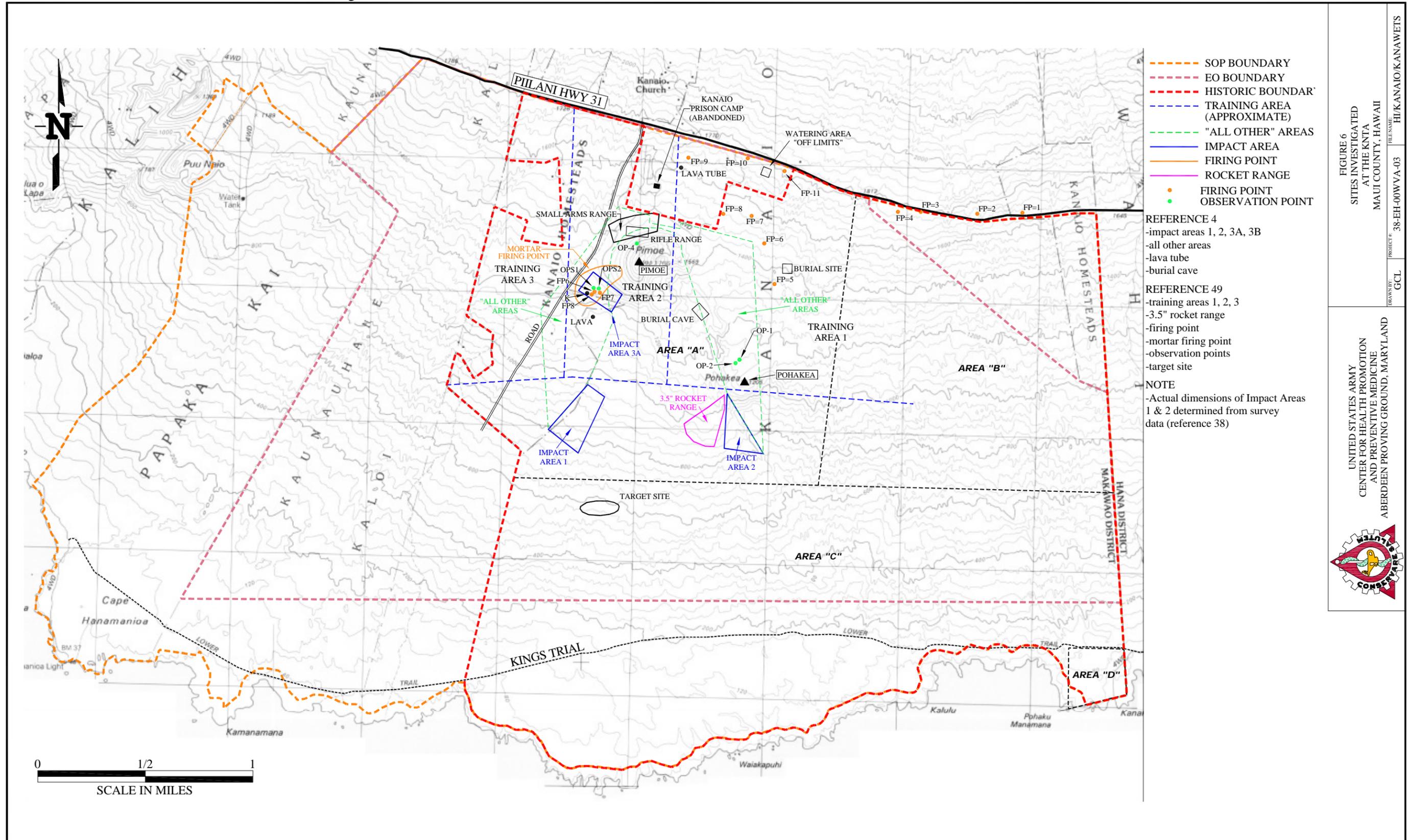
include restricted military training outside of designated firing ranges near Pu'u Pimoe, restricted new development of military training facilities and infrastructure, oversight of environmental programs that might disturb archaeological sites in caves or other settings, and restricted public access to areas of known or expected archaeological sites (reference 31). No memorandum containing guidelines for protection of archaeological resources was found in 1<sup>st</sup> Bn HQ files for the Kanaio Training Area, so they may not yet have been implemented.

(7) Small Arms Range Remediation. Impact Area 3B is a small arms range located north of Pu'u Pimoe that was cleared for UXO and removed in 1998. The site was visually cleared of ammunition on 30 November and 4 December 1998 (reference 58). Three biased soil samples were collected in areas expected to have heaviest range use from 0-15 inches deep within Impact Area 3B after bulldozing the berms. One sample contained 38 mg/Kg lead, and the other two were non-detect, so results were below state and Federal cleanup requirements (reference 58). The EOD contractor recommended that Impact Area 3B be closed (reference 58).

(8) Solid Waste. The Kanaio Training Area SOP states that liquid kitchen wastes, garbage, and rubbish will be disposed of as indicated in FM 21-10 (Field Hygiene and Sanitation), as amended, or will be properly closed upon departure from the Kanaio Training Area (reference 48). The 1<sup>st</sup> Bn reportedly keeps training simple to minimize clean-up upon completion of exercises; rubbish and scrap metal are picked up and transported from the Kanaio Training Area after training (reference 49). A lava tube filled with rubbish was cleaned out using an excavator during the 1998 ordnance removal operation, and a soil sample was taken from the bottom of the lava tube for volatile organic compound (VOC) analysis (reference 58). Sample results were non-detect (reference 58). Steel plates were welded in place to prevent future unauthorized solid waste disposal in the lava tube (reference 58).

(9) Aerial Reconnaissance Surveys. Aerial reconnaissance surveys are conducted to support the lease agreement, originally with Ulupalakua Ranch and now with the State of Hawaii DLNR. The surveys are reportedly conducted annually, though continuous documentation of annual surveys was not readily available in HIARNG records. Typical annual aerial survey results indicate that fencing and signs are damaged, removed, and/or vandalized. Recommendations are generally made to replace/restore fencing and signage (references 59, 60, 61, and 62).

c. Site-Specific Operational History and Waste Characteristics Analysis. Site locations are depicted in Figure 6. Table 2 compares ranges listed on the NGB website for Kanaio WETS and the Kanaio Training Area with range documentation found during this assessment. The following paragraphs describe sites investigated during this assessment.



**FIGURE 6**  
SITES INVESTIGATED  
AT THE KNTA  
MAUI COUNTY, HAWAII

FILE NAME: HI/KANAIO/KANAWETS  
PROJECT #: 38-EH-00WVA-03  
DRAWN BY: GCL

UNITED STATES ARMY  
CENTER FOR HEALTH PROMOTION  
AND PREVENTIVE MEDICINE  
ABERDEEN PROVING GROUND, MARYLAND

- SOP BOUNDARY
- EO BOUNDARY
- HISTORIC BOUNDARY
- TRAINING AREA (APPROXIMATE)
- "ALL OTHER" AREAS
- IMPACT AREA
- FIRING POINT
- ROCKET RANGE
- FIRING POINT
- OBSERVATION POINT

**REFERENCE 4**  
-impact areas 1, 2, 3A, 3B  
-all other areas  
-lava tube  
-burial cave

**REFERENCE 49**  
-training areas 1, 2, 3  
-3.5" rocket range  
-firing point  
-mortar firing point  
-observation points  
-target site

**NOTE**  
-Actual dimensions of Impact Areas 1 & 2 determined from survey data (reference 38)



TABLE 2. KANAIO WETS AND KANAIO TRAINING AREA RANGES, NGB WEBSITE.

Range ID	Range Name	Type	Primary Munitions	Status	Inferred Comparison to Documented Training Areas
15A85-01	TSC Area	Heavy Maneuver Area	None Given	Currently Active	TA 1/2/3
15X07-01	Kanaio Light Maneuver Area	Light Maneuver Area	Pyrotechnics	Currently Active	TA 1/2/3
15X07-02	UXO Area-Non Standard Small Arms Range	Combined Non Standard Small Arms Range	Small Arms (Historic Use: Dudded Impact Area)	Currently Active	Impact Area 3A
15A85-02	NS Small Arms Range	Non-Standard Small Arms Range	Small Arms	Closed	Impact Area 3B
15A85-03	KD Range	Known-Distance Range-Single Purpose Small Arms	Small Arms	Closed	Impact Area 3B
15A85-04	KD Range	Known-Distance Range-Single Purpose Small Arms	Small Arms	Closed	Impact Area 3B
15A85-05	Core Impact Area	Impact Areas-Combined	None Given	Closed	Impact Area 1 or 2
15A85-06	Core Impact Area	Impact Areas-Combined	None Given	Closed	Impact Area 1 or 2
15A85-07	KD Range	Known-Distance Range-Single Purpose Small Arms	Small Arms	Closed	Impact Area 3B

(1) Areas A, B, C, and D. Areas designated as A, B, C, and D reflect the original plan for training use of the Kanaio Training Area. No environmental contamination is expected to be associated with historical small arms fire or maneuver training within Areas A, B, C, or D. Environmental contamination may be associated with buried explosives and/or pyrotechnics associated with high explosives training, particularly within Areas A, C, and D.

(a) Area A. Area A includes the western approximately 1-mile wide strip of the Kanaio Training Area plus the area surrounding both cinder cones. Area A was originally established for maneuver and bivouac training with live fire permitted only at the small arms range at the base of Pu'u Pimoe (reference 33). No construction of permanent structures was allowed under the original Land License. In 1966, the Land License was amended to allow use of Area A for location of firing points and for firing of heavy caliber infantry support-type weapons (reference 43). In 1982, the Land License was amended to allow construction of permanent structures incident to the operation of the small arms range or training of personnel at the range (reference 63). A Hawaiian burial cave located in Area A was declared off-limits to all HIARNG personnel, and no entrance into, maneuver over, or firing into this area was permitted under the Land License No. 1-65 (reference 33).

(b) Area B. Area B is located in the northeast corner of the Kanaio Training Area. Area B was established under the original Land License No. 1-65 for conducting live firing of heavy caliber support-type weapons from firing positions established along Piilani Highway (reference 33). On a 1981 map, firing points 1-4 are located along Piilani Highway, northeast of Pu'u Pimoe. Firing points 1 and 2 appear to be north of the Piilani Highway. It is likely that these

firing points were the source of reports that soldiers fired across Piilani Highway to the range (reference 41). The impact area for projectiles fired from Area B was limited to Area C under the original land license (reference 33). However, in 1981 the HIARNG determined that 4.2-inch mortars were fired from firing points 1-4 toward Area D (reference 56).

(c) Area C. Area C, which comprises most of the coastal portion of the Kanaio Training Area south of Areas A and B, was designated as an impact area for projectiles fired from Area B (reference 33). When the Land License was amended in 1982, live fire of small arms or heavy caliber infantry support-type weapons was authorized from Areas A, B, and C from firing positions established in accordance with standard safety requirements and procedures for range operations (reference 63). Early documentation indicated that Area C was designated as an impact area because the HIARNG considered it to be an impassible wasteland except by means of designated trails (reference 64). Ulupalakua Ranch designated *kipuka* within Area C as “no fire” areas in the use permit agreement because cattle find their way into the *kipuka* during extremely dry periods (reference 64).

(d) Area D. Area D, which is located along the coast in the far southeast corner of the Kanaio Training Area, contained a livestock watering area belonging to Ulupalakua Ranch and was considered to be outside of the licensed area prior to issuing the original Land License (reference 65). Area D was included in the final Land License No. 1-65 and in later revisions of the license, under the terms that it be declared off-limits to all HIARNG personnel (reference 33 and 63). However, Area D was later determined to have been the impact area for 4.2-inch mortars fired from firing points 1-4 along Piilani Highway prior to 1979 (reference 56). Although surface sweeps along the firing path from firing points 1-4 to Area D were recommended, available documentation did not indicate whether these particular sweeps were conducted (reference 55).

(2) Impact Areas 1, 2, 3A and 3B, and “All Other” Area. These sites are all located within Area A. Impact Areas 1, 2, 3A and 3B were so named for the purpose of the 1998 UXO removal operation. It should be noted, however, that although the sites were labeled as impact areas, they were in fact a combination of small arms ranges, high explosives firing points, and high explosives targets. Impact Areas 1, 2, and 3A, used for high explosives training, were first documented during the 1981 UXO removal operation. The last high explosive rounds training at the Kanaio Training Area occurred during July 1979 (reference 50). Access to Impact Areas 1 and 2 was restricted for safety reasons following the 1981 UXO removal operation, and Impact Area 3A was cleared during the 1998 UXO removal operation. Impact Area 3B, a small arms range, was removed and closed during the 1998 UXO removal operation. The only remaining active range at the Kanaio Training Area, a 25-meter rifle qualifying range, is reportedly located at Impact Area 3A. The “all other” area defined for the 1998 UXO removal operation consists of land used for training and maneuver, excluding live fire areas, surrounding Pu’u Pimoe. Site descriptions and applicable UXO removal operations are described in detail in the following paragraphs. No environmental contamination is expected to be associated with small arms and

maneuver training within the impact areas or “all other” area. Environmental contamination may be associated with explosives and/or pyrotechnics residues or buried UXO associated with high-explosives training, particularly in Impact Areas 1, 2, and 3A.

(a) Impact Area 1 (M72 LAW Missile and M79 40mm Grenade Range). This site is situated south-southwest of Pu’u Pimoe, and was described in 1996 as a 25-acre rectangular-shaped piece of land enclosed within a 2-strand barbed-wire fence that was used as an M79 grenade and LAW firing range (reference 4). Impact Area 1 was surveyed in 1982 for lease purposes as Parcel 3 (reference 36). The impact area is largely unvegetated, though some non-native scrub habitat exists along the western edge of the site (reference 4). No protected species or habitats were identified or are expected to occur within Impact Area 1 (reference 4). One archaeological site, a stone enclosure and stacked rock cairns probably related to 19<sup>th</sup> or early 20<sup>th</sup> century ranching activities, is present in the northeastern part of Impact Area 1 (reference 4). Abandoned cars were helicoptered into the mortar fire area for target practice (reference 7). Local ranchers observed white-painted mortar shells at the vehicle target sites (reference 7).

i. 1981 UXO Removal Operation. During the 1981 UXO removal operation, this site was deemed unclearable due to the sensitivity of the fuzing on both the LAW missiles and 40mm grenades, though UXO was not observed (reference 26). The M79 40mm grenade contains an impact/anti-graze fuze, which is designed such that changing the orientation of the grenade causes the main charge to detonate (reference 26). The area was enclosed with barbed wire fencing and warning signs in 1981, and was permanently restricted from use (references 55 and 66). A target site including two vehicle targets located 30 meters apart from one another was visually examined, and fin sections of detonated 81mm mortars were observed (reference 26). Several automobile chassis used for targets were removed from the range (reference 55).

ii. 1998 UXO Removal Operation. EOD personnel performed a surface sweep of Impact Area 1 on 2 December 1998, collecting 87.5 lb of ordnance-related scrap and 18.5 lb of non-ordnance related scrap (reference 58). Ordnance items found included live and practice 40mm rounds, M74 sub-caliber rounds, LAW rocket motor tubes, signaling flare tubes, and tail booms to recoilless rifle rounds (reference 58). Live ordnance items found included one 40mm practice round, one LAW rocket warhead with fuze, 2 LAW rocket warheads without fuze, and one 40mm HE round (reference 58). Target debris, including a 1958 Town and Country Station Wagon, was located in the center of Impact Area 1.

iii. Present Day Status. Impact Area 1 is restricted from use. Annual aerial surveys are conducted by HIARNG to confirm that signage and fencing is maintained to prevent unsafe entry by troops or civilians.

(b) Impact Area 2 (M72 LAW Rocket Range). The site is a 15-acre triangular-shaped parcel southeast of the Pu’u Pimoe cinder cone that was used for LAW rocket training. Impact Area 2 was surveyed in 1982 for lease purposes (reference 36). The eastern and western

boundaries of Impact Area 2 run along ridgelines, and the boundaries are marked by a 2-strand barbed-wire fence. One archaeological site, a rock enclosure cleared of large rocks that is typical of Pre-Contact temporary shelters common in Hawai'i, was identified in the northeastern portion of Impact Area 2 (reference 4). Impact Area 2 terrain consists largely of barren and undulating a'a fields. Sparse non-native scrub habitat at the site includes some native plants, though no rare or endangered plant or wildlife species or habitats were observed (reference 4).

i. 1981 UXO Removal Operation. In 1981, the M72 LAW rocket range was not swept due to the likelihood of fuzing; UXO were observed by the EOD team (reference 26). The M72 LAW utilizes two fuzes, which are so sensitive that the slightest action upon them can result in a detonation. The nose fuze contains a piezo-electric crystal that generates an electrical pulse upon minimal stress, movement, or temperature change; the detonator can also be functioned by electromagnetic radiation. The base fuze contains an anti-graze element; any action producing a sensation of deceleration allows the striker to detonate the main charge of explosives (reference 26). Impact Area 2 was enclosed with barbed wire fencing and warning signs, and was permanently restricted from access (references 55 and 66).

ii. 1998 UXO Removal Operation. An EOD surface ordnance sweep was performed at Impact Area 2 on 3 December 1998, collecting 424 lb of ordnance-related scrap and 3 lb of non-ordnance related scrap (reference 58). Ordnance items found included practice 3.5-inch rockets, practice 81mm mortar rounds, LAW rocket motor tubes and 81mm sub-caliber rounds (reference 58). Live ordnance items found were one practice 81mm mortar with live fuze, two LAW rocket warheads with fuzes, one LAW rocket warhead without fuze, and one 40mm HE round (reference 58). During initial reconnaissance, indications of 3.5 inch High-Explosive Anti-Tank (HEAT) and practice rockets, M73 LAAW subcaliber rounds, 81mm practice and illumination rounds, and 155mm artillery rounds were found (reference 4). Most of the practice and illumination rounds were located in a pile at the northern apex of the triangle in a ravine, appearing to have been carried there in sandbags to be detonated during a previous clearance effort (reference 4).

iii. Present Day Status. Impact Area 2 is restricted from use. Annual aerial surveys are conducted by HIARNG to confirm that signage and fencing is maintained to prevent unsafe entry by troops or civilians.

(c) Impact Area 3A (Sub-Caliber Range, SABOT, or 81mm Mortar Firing Point and Targets, Possible 25-Meter Rifle Range). This site is situated north of Impact Area 1 and southwest of Pu'u Pimoe as shown on sketches made in 1980, 1981, and 1987. Impact Area 3A was included within Parcel 2 during surveying for lease purposes in 1982 (reference 36). The boundary of the 10-acre site is indistinctly marked with white paint on the a'a lava surface (reference 4). The Impact Area 3A surface is mostly barren a'a lava with non-native scrub habitat and a few cinder patches near the access road (reference 4). Some native species were observed, but no rare or endangered plants or archaeological sites were identified or are expected

to exist at Impact Area 3A (reference 4). Impact Area 3A was a sub-caliber range for 81mm mortar, the position occupied by the center of a weapon during firing of the 81mm mortar was within 25 meters of the firing point marker (references 48 and 58). The SOP states that road guards were required during firing, indicating either that firing of mortar may have occurred from Impact Area 3A to targets farther south on the Kanaio Training Area, or from firing points north of Piilani Highway toward Impact Area 3A (reference 48).

i. 1998 UXO Removal Operation. An EOD team conducted a surface sweep at Impact Area 3A on 1 December 1998, collecting 171 lb of ordnance-related scrap along with 10.5 lb of non-ordnance scrap. Ordnance items found included 81mm mortar sub-caliber rounds and signaling flare tubes; no live ordnance items were found. Evidence of 155mm artillery rounds was found in Impact Area 3A (reference 4).

ii. 25-Meter Qualifying Rifle Range. Impact Area 3A is reportedly the present-day location of the 25-meter qualifying rifle range actively used by the HIARNG. Charlie Company and the 1<sup>st</sup> Bn reportedly use the 25-meter rifle range for live fire qualification and practice approximately once per quarter. A total of approximately 130 individuals practice quarterly using about 60 rounds per person per practice. During yearly qualifying, each individual may use up to 90 live rounds (reference 49).

(d) Impact Area 3B (Small Arms Firing Range, or Rifle, Pistol, and Machine Gun Range). This site is a 3.8-acre small arms range situated along the north flank of Pu'u Pimoe as shown in a 1987 sketch (reference 58). The small arms range was established under the original Land License No. 1-65 with firing points along the foot of Pu'u Pimoe with firing directed into the Pu'u (reference 33). Impact Area 3B was included within Parcel 1 during surveying for the lease agreement in 1982 (reference 36). Under the original license, firing was limited to a range of 25 meters and was not allowed to involve the construction of any permanent structures (reference 33). An undated plat map that appeared to be from the 1960s showed a range sketched along the east flank of Pu'u Pimoe. In 1996, the range was described as a flat area approximately 1060 feet east to west, extending 165 feet north from the base of Pu'u Pimoe. Five earthen berms extended perpendicular from the north base of Pu'u Pimoe, with the western and eastern berms forming the west and east boundaries of the range. The berms were spaced over 30 meters apart, and the space between each pair of berms was used as a small arms firing range. The four ranges appear to coincide with the NGB's list of closed small arms and known distance ranges at the Kanaio Training Area. The small arms range was entirely vegetated with non-native scrub habitat prior to the 1998 UXO removal operation. No rare or endangered plant or wildlife species or archeological sites were identified at the small arms range (reference 4). The County of Maui had a cinder quarrying operation west of the small arms range (reference 67).

i. Small Arms Firing Range. The small arms range was located north of Pu'u Pimoe and was apparently established in 1965 or soon thereafter. After mortar fire practice at the Kanaio

Training Area was suspended in 1981, the HIARNG indicated that the small arms range at the base of Pu'u Pimoe would continue to be used (reference 53). The small arms range may have been used until 1998.

ii. 1998 UXO Removal Operation. In December 1998, the surface berms were bulldozed toward the Pu'u Pimoe, restoring the original cone slope (reference 58). The EOD team conducted surface sweeps of Impact Area 3B on 30 November and 4 December 1998, collecting at least 10.5 lb of ordnance-related scrap along with 8.5 lb of non-ordnance related scrap metal (reference 58). Ordnance items found included small arms ammunition and brass, shotgun shells, and practice grenades (reference 58). The EOD contractor recommended that Impact Area 3B be closed (reference 58).

iii. Present-Day Status. Because of the area's wind and comparatively arid climate, small arms cartridge casings will probably continue to be revealed at Impact Area 3B (reference 58). Additionally, because access to the Kanaio Training Area is not restricted, civilians continue to use the area for recreational purposes introducing cartridge casings and other scrap metal to the area (reference 58).

(e) "All Other" Area. The "all other" area described for the 1998 UXO removal operation consists of the training and maneuver area surrounding Pu'u Pimoe, excluding areas used for live fire (reference 4). No live high explosive items were found in the "all other" area but considerable live, blank small arms cartridges were recovered (reference 58). During the 1998 UXO removal operation, four abandoned cars and a large dumpster were recovered from the "all other" area and disposed of offsite (reference 58). During 4-8 December 1998, 168.5 lb of ordnance-related and 100 lb of non-ordnance related scrap metal was collected from the "all other" area (reference 58). Ordnance items found included small arms brass, practice grenades, 155mm projectile scrap, sub-caliber LAW rocket motor tubes, and flare tubes (reference 58). The "all other" area may include rare and endangered species habitat and unrecorded archaeological sites (reference 4). No environmental contamination is expected to result from historic training and maneuver activities within the "all other" area.

(3) Training Areas 1, 2, and 3. The SOP divides the Kanaio Training Area into three active Training Areas (TA), all of which are situated between Piilani Highway and the south edge of Pu'u Pimoe and Pu'u Pohakea, and appear to wholly encompass Areas A and B as shown on many site sketches. TA 1 encompasses all of Area "B" and part of Area "A" east of Pu'u Pimoe (reference 48). The SOP indicates that all types of blank ammunition could be fired within TA 1, and that live fire was permitted only in the direction of the ocean. TA 2 encompasses Pu'u Pimoe, and TA 3 extends from the access road to the west edge of the Kanaio Training Area. TA 2 and TA 3 are wholly located within Area "A." Only blank ammunition is permitted in TA 2 and TA 3. TA 1, 2, and 3 appear to be the only active training areas used by HIARNG at this time. The "all other" area investigated during the 1998 UXO removal operation

seems to include most of TA 2. No environmental contamination is expected to be associated with maneuver and live small-arms fire within TA 1, 2, and 3.

(4) 3.5" Rocket Range. The 3.5" rocket range may have been located south of Pu'u Pimoe. The 3.5" rocket range was visually inspected for UXO during the 1981 UXO removal operation. Practice rounds containing no explosives hazards were found; over 200 items were removed (reference 26).

(5) Cinder Quarry and Prison Camp. Pu'u Pimoe and a nearby cinder quarry were used to supply cinders for local roadbuilding and landfill projects between the 1930s and 1950s. The Kanaio Prison Camp was constructed to temporarily house prisoners while they were building local roadways using the cinders (references 7, 68, and 69). The prison campsite may originally have been a WWII encampment site (reference 7). The access road connecting Pu'u Pimoe to Piilani Highway, originally called Kanaio Prison Road, was constructed by the prisoners so the county could transport cinders from the quarry to worksites (references 68 and 69). In the late 1950s the prison was abandoned. C Pardee Erdman, the Ulupalakua Ranch owner, indicated that the Pu'u Pimoe crater was used for live fire during WWII. He didn't remember which branch(es) of the armed forces conducted the live fire exercises at the site (reference 7). The cinder quarry, Pu'u Pimoe, and the prison camp are not expected to be contaminated by historic use.

(6) Lava Tubes. Three lava tubes are located at the Kanaio Training Area. A lava tube located near the access road was filled with garbage and debris, apparently by local residents. The lava tube was cleaned out using a mechanical excavator on 10 and 11 December 1998 (reference 58). Garbage and scrap metal were removed from the lava tube; no ordnance-related materials or hazardous materials were found within the lava tube (reference 58). A soil sample taken from the bottom of the lava tube did not contain any VOCs upon analysis (reference 58). The tube was sealed with welded steel plates and camouflaged with soil and boulders to prevent illegal dumping (reference 58). Two fence posts were welded onto the steel plates and a barbed-wire fence was replaced across the opening of the tube to prevent unauthorized entry (reference 58). The other two lava tubes did not appear to have been investigated during historic UXO removal operations. No environmental contamination is expected to be associated with the lava tubes.

#### 4. GROUND-WATER PATHWAYS AND TARGETS.

a. General Ground-Water Pathway Analysis. If large quantities of contaminants were placed on the ground surface or disposed of beneath the ground surface at the Kanaio Training Area, ground water could potentially be impacted. A'a lava that covers about 60% of the Kanaio Training Area is highly permeable and brittle. Where soils are present at the Kanaio Training Area, permeability is moderate to rapid (reference 22). The Kanaio Training Area is arid, with less than 30 inches of rain per year. Pan evaporation may be as high as 100 inches per year

(reference 70). Precipitation is likely to evaporate rather than infiltrate to the subsurface under these conditions. Where the Kula or unfractured layers within the Hana act as aquitards, the underlying Honomanu aquifer is confined, and potential contamination is limited to shallow perched lenses of ground water impounded behind vertical dikes. In places where the Kula acts as an aquifer, direct infiltration of water from the surface to the regional aquifer may occur. The regional ground-water flow direction within the Lualailua aquifer system (which includes the Hana, Kula, and Honomanu formations) is toward the coast. Lava tubes and highly fractured and permeable a'a may mimic karst features at the Kanaio Training Area.

b. General Ground-Water Target Analysis. No primary human ground-water targets were identified during this assessment. Ground water is not a major resource in the vicinity of the Kanaio Training Area. Twenty-five wells are registered with the State of Hawaii within a 4-mile radius of the Kanaio Training Area as shown in Figure 2 (reference 28). Most of these wells are located north of, and therefore upgradient, of the Kanaio Training Area. There are no wells within the Kanaio Training Area boundaries. The nearest well, located 1.42 miles crossgradient of the western boundary of the Kanaio Training Area near La Perouse Bay, is an 8-foot hand-dug well used for irrigation. None of the wells within the 4-mile radius are used for domestic or municipal water supply (reference 28). There is no Wellhead Protection Plan (WPP) in place for the Kanaio Training Area vicinity (reference 20). The nearest WPP area is found in Makawao, approximately 17 miles north of the Kanaio Training Area. The only potential ground-water target identified at the Kanaio Training Area are the anchialine pools containing the candidate endangered anchialine pool shrimp. The ground-water source for these pools is most likely the Honomanu formation, though it is possible for the Hana formation to contain basal ground water near the coast.

c. Site-Specific Ground-Water Pathways. Explosives and/or pyrotechnic residues that may remain on or beneath the ground surface could be a potential ground-water source area at the Kanaio Training Area. Evaporation greatly exceeds precipitation in the Kanaio Training Area vicinity, but highly fractured surface rocks may allow rapid infiltration of precipitation that does not evaporate. Although ground water at and downgradient of the Kanaio Training Area is not presently a human drinking water source, the Lualailua aquifer has been identified as a potential future ground-water resource for east Maui. If ground-water quality within the Hana and/or Honomanu formations was affected by training activities at the Kanaio Training Area, it is possible that spring-fed anchialine pools situated along the southern Maui coast could be impacted. The likelihood that the ground-water pathway would be completed at the Kanaio Training Area is very low.

## 5. SURFACE WATER PATHWAYS AND TARGETS.

a. General Surface Water Pathway and Target Analysis. If contaminants are deposited on the ground surface in sufficient quantities, water passing over the ground surface could be affected. Because of the high evaporation rate and relatively high permeability of the a'a and

surface soils, most precipitation rapidly either evaporates or infiltrates into the subsurface so there are no recognizable surface water channels at the site. The nearest surface water bodies include the coastal anchialine pools and the Pacific Ocean. Neither water body is expected to receive surface runoff from the Kanaio Training Area, but may receive ground-water discharge from beneath the Kanaio Training Area. No primary surface water targets were identified for the Kanaio Training Area. Both the anchialine pools and the Pacific Ocean provide habitat for rare, protected, or endangered species.

b. Site-Specific Surface Water Pathways. No potential surface water source areas were identified during the assessment. It is unlikely that the surface water pathway would be completed for the Kanaio Training Area.

## 6. SOIL AND AIR EXPOSURE PATHWAYS AND TARGETS.

a. General Soil and Air Exposure Pathway and Target Analysis. Contaminants deposited on the ground surface could affect soils at the Kanaio Training Area. If loose soils were blown into the air, air quality could be affected. Most of the property is bare rock with thin soil cover in places. The small arms range was recently bulldozed, so exposed soils at that site could become entrained into the air column (reference 58). There are no full-time employees at the Kanaio Training Area. Up to 400 individuals train at the Kanaio Training Area for up to 12 weekends per year. The Kanaio Training Area is surrounded by widely spaced rural homesteads, and several homes may be located within 200 feet of the Kanaio Training Area. The nearest residences appear to be located within the Kanaio Training Area boundaries on Kanaio Homestead Lands. Overall, no more than 60 individuals are estimated to reside upon or within 200 feet of the Kanaio Training Area. The nearest schools are 9 miles from the Kanaio Training Area in Kula. The Kanaio Training Area contains communities of several endangered and rare plants and animals, including rare lowland shrub communities and anchialine pools. The Kanaio NAR is a protected sensitive habitat near the northeast Kanaio Training Area border. The 'Ahihi-Kina'u Natural Area Reserve contains extremely rare plant communities along the western Kanaio Training Area boundary.

b. Site-Specific Soil and Air Exposure Pathways. Soils at the Kanaio Training Area may contain low levels of explosives, pyrotechnics, and/or metals residues due to training exercises primarily at ranges. Most of the impact areas are a'a lava, with a low potential for contaminants to be entrained into the air. Although there are isolated areas at the Kanaio Training Area having thin soil cover, the levels of contamination that might be associated with those soils are not expected to present a threat to human or environmental targets. It is unlikely that the soil and air pathway could be completed for the Kanaio Training Area.

## 7. CONCLUSIONS.

a. The HIARNG presently uses active TA 1, 2, and 3 within the northern half of the Kanaio Training Area for maneuver and blank fire training. The active training area may extend outside of the historic property boundaries to the west. HIARNG personnel reported that an active rifle range is situated in the vicinity of Impact Area 3A southwest of Pu'u Pimoe. Area D and most of Area C south of Pu'u Pimoe are considered to be closed.

b. Historic boundaries at the Kanaio Training Area generally appear to include Kanaio Homestead Lands 9 through 16, but to exclude all land grants and LCA except for the three small LCA 3, 6, and 22 north of Pu'u Pimoe. Although it is possible that land outside of the historic boundaries was used for HIARNG training, it appears that the original intent was to restrict activities to within the historic boundaries shown on Figure 5.

c. The coastal area of the Kanaio Training Area, previously situated within Area C, will no longer be included in the Kanaio Training Area under the EO. The HIARNG also wishes to acquire additional land under the EO. Both of these conditions may lead to a need for an Environmental Baseline Study at the Kanaio Training Area for land transfer.

d. Ordnance-related scrap found during UXO sweeps in 1981 and 1998 at the Kanaio Training Area include 81mm illumination projectiles, practice projectiles, and live mortars; signaling flare tubes; 3.5-inch rockets and 4.2-inch rockets, M72 LAW rockets and motor tubes; 40mm grenades, practice grenades, and high explosive rounds; and small arms ammunition, small arms brass, M73 sub-caliber rounds, tail booms to recoilless rifle rounds, and 155mm projectile scrap. It is likely that high-explosives and/or pyrotechnics-containing duds exist below the ground surface at the Kanaio Training Area. The majority of the land surface at the Kanaio Training Area was not included in these UXO sweeps.

e. Impact Areas 1 and 2 are fenced and restricted from entry due to UXO concerns. The boundaries of Impact Areas 1 and 2 were established during initial UXO removal operations conducted in 1981, soon after high-explosives exercises were permanently suspended at the Kanaio Training Area. Therefore, it is likely that the fenced boundaries of Impact Areas 1 and 2 adequately delineate firing ranges and impact areas that should be restricted for safety purposes.

f. Previous UXO removal operations and the characteristics of high explosives and pyrotechnics-containing ammunition commonly used at the Kanaio Training Area (including rockets and mortars) indicate that it is likely that duds exist on or beneath the ground surface at impact areas within the Kanaio Training Area. Explosives and pyrotechnics residues associated with the duds may have been released to the surrounding soil and rock material within the impact areas.

g. Low precipitation rates, combined with high evaporation rates reduce the potential for ground water beneath the site to be impacted by explosives and/or pyrotechnics associated with duds. If ground water is impacted, the only ground-water target(s) identified during the assessment were coastal spring-fed anchialine pools and the candidate endangered anchialine pool shrimp that reside within the pools. The pools found in the southwest Kanaio Training Area contain thriving communities of native plants and animals, indicating that it is unlikely that they have been affected by Kanaio Training Area activities. It is possible, though unlikely, that the ground-water pathway would be completed for the Kanaio Training Area.

h. The Kanaio Training Area has low precipitation rates, high evaporation rates, and highly fractured and permeable surface lava. For these reasons, no surface water drainage features exist at the Kanaio Training Area, and it is unlikely that the surface water pathway would be completed for the site.

i. Most of the Kanaio Training Area is covered by a'a lava without any soil development. Although there are isolated areas of the Kanaio Training Area having thin soil cover, levels of explosives, pyrotechnics, and/or metals contamination that might be associated with those soils are not expected to present a threat to human or environmental targets. It is unlikely that the soil and air pathways could be completed for the Kanaio Training Area.

8. RECOMMENDATION. None.



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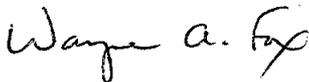
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APPENDIX A

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RA No. 38-EH-00WVa-03, HIARNG Kanaio Training Area, 20-28 Feb 03

APPENDIX B  
SUPPORTING DOCUMENTATION

HEADQUARTERS  
1ST BATTALION 299TH INFANTRY  
HAWAII ARMY NATIONAL GUARD  
Wailuku, Hawaii 96793

15 January 1987

STANDING OPERATING PROCEDURES

KANAIO TRAINING AREA AND RANGE

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Fires .....	10
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1. PURPOSE.

a. This SOP provides instructions and establishes procedures that will permit maximum utilization of the training facilities available at Kanaio Training Area within the scope of the pertinent Hawaii Army National Guard Regulations and procedures and to insure that these training facilities are maintained in a state of police that will reflect credit on this command and the Hawaii Army National Guard.

b. This SOP amplifies announced safety precautions and prescribes local regulations for the operation of firing ranges, mortar firing points and training areas at Kanaio Training Area.

c. The general SOP and safety precautions that apply to all ranges and training areas contained herein are presented in paragraph 2 thru 13 inclusive.

2. GENERAL.

a. The Kanaio Training Area is utilized by the Hawaii Army National Guard, Hawaii Air National Guard, US Army Reserve, components of the Armed Forces, and law enforcement agencies. Under no circumstances will authority be granted to anyone firing alone. For other than National Guard, the Indemnifying Statement at Appendix VII will be completed by the OIC prior to using the range.

b. The senior officer, regardless of service or component, whose unit has been allocated the use of the Kanaio Training Area by this headquarters, is responsible to insure that the instructions contained herein are complied with.

c. The commanding officer, 1st Bn 299th Infantry is in charge of all matters pertaining to the Kanaio Training Area.

### 3. FIRING NOTICES.

a. This headquarters will publish a notice in the local newspaper, Maui News, 7 days prior to dates firing is to be conducted, giving the time, place and type of firing and cautioning civilians to stay out of that and all surrounding areas. (See Appendix V, Live Fire Announcement).

b. The Ulupalakua Ranch Co. will be notified in writing, 3 weeks prior to the firing date by this headquarters.

4. MAPS REFERENCES. All map references are: Makena and Lualailua Hills, 1:25,000, unless otherwise specified.

### 5. SAFETY REGULATIONS AND REFERENCES.

a. The provisions of AR 385-63 (Safety Regulations for Firing Ammunition for Training, Target Practice, and Combat), and appropriate field manuals, technical manuals, and circulars will be complied with.

b. There will be an officer-in-charge (OIC) of and responsible for each range in use. Safety in firing is the responsibility of the officer-in-charge.

c. There will be a Range Safety Officer (RSO) or Range Safety NCO IAW AR 385-63 para 4-2, 4-3.

d. Any individual who observes any condition which makes firing dangerous will immediately command "CEASE FIRING".

### 6. INCIDENT REPORT.

a. When accidents or malfunction involving the violation of airspace or impact area or the use of ammunition and weapons occur, the senior responsible individual present at the time of the incident will report the occurrence and all available facts as outlined below to the commanding officer, 1st Bn 299th Infantry.

(1) Identification of unit.

(2) Individual making report.

(3) Location and time of incident.

(4) Nature of violation: airplane or vehicle (see Appendix VI, Airspace Violation Report).

- (5) Caliber, type and model of weapon involved.
- (6) Type of malfunction (ammunition and/or weapon).
- (7) Extent of injuries to personnel and/or damage to property.
- (8) Action taken regarding withdrawal of ammunition from use.
- (9) Lot number of ammunition/fuze.

b. Duds (SABOT Range). Careful control will be exercised on the location and reporting of actual and suspected duds. Upon completion of firing, range officers will submit a report to this headquarters, ATTN: S3, as follows:

- (1) Location by coordinates.
- (2) Date and time fired.
- (3) Lot and type of ammunition fired.
- (4) Unit and responsible officer (range officer).

#### 7. HANDLING OF AMMUNITION ON RANGES.

a. All ammunition and pyrotechnics will be located so as to eliminate the possibility of accidental ignition, explosion or detonation and kept in a dry place, protected from the direct rays of the sun. No smoking will be allowed within 50 feet of ammunition that is stored, handled or on the firing line.

b. Tampering with, experimenting, inerting, or altering ammunition and pyrotechnics, or any explosive components are prohibited.

c. Ammunition containers will be inspected prior to disposal to insure that they do not contain any live rounds, powder increments, and/or brass.

8. IMPACT AREA. Entry into the Kanaio Impact Area is forbidden.

9. EXPLOSIVE ORDNANCE DISPOSAL. Unexploded ordnance, duds and misfires will be cleared from training and impact areas as prescribed in AR 385-63 Chap 3. Report as outlined in paragraph 6b above will be submitted by responsible individuals.

#### 10. FIRES.

a. Fire prevention is the direct responsibility of the officer-in-charge. He will insure that all personnel are properly instructed in the handling of all types of ammunition, simulators, pyrotechnics, explosives and other potential fire hazards to minimize the danger of range and/or training area fires.

b. Range or training area fires will be reported immediately to the Makawao Fire Department (Telephone: 572-9151).

c. The using unit will extinguish all fires within its assigned area, if within its capability.

11. INSTRUCTIONS APPLICABLE TO ALL RANGES AND/OR TRAINING AREAS.

a. The OIC of firing on each range and in each area is responsible for the operation of the range in accordance with this regulations. For reference purposes, a copy of this regulation and appropriate field manuals will be in his possession during the conduct of firing. He will remain in the area at all times when live firing is in progress.

b. The OIC will:

(1) Coordinate with the Bn S3 at least two weeks prior to scheduled firing.

(2) Obtain range flags from the S3 and display flags for the duration of firing. Flags will be returned upon completion of firing. (See Annex A to Appendix III for placement of range flags). Range flags will be placed at guard post 2 only when ranges 1 to 3 are in use.

(3) Remain on the range at all times while firing is in progress.

(4) Obtain necessary maps and surface danger area diagrams (range fans). (See Appendix I).

(5) Obtain necessary target materials from the S3.

(6) Coordinate with the S4 for ammunition requirements, methods of delivery, and other instructions, 2 weeks prior to schedule firing. Upon completion of firing, unexpended rounds will be segregated in separate containers from expended rounds and returned to the Bn S4 or his representative.

(7) Insure that all ammunition, to include brass and ammunition components, are removed from the range areas upon completion of firing. Brass and ammunition components will be inspected and returned to the packing containers for turn-in. On the inside and attached to the outside of each will be the following certification: "I" certify that there are no live rounds, ignitors, primers, or other extraneous material in this packing container". This certificate will be signed by a commissioned officer.

(8) Insure that a qualified medical aidman with necessary first aid equipment and a minimum of one vehicle (of any type) be present during the conduct of firing. (An aid station will be located in the vicinity of Range Central.)

(9) Responsible for the placement of range guards. See Annex A to Appendix III, for guard posts and instructions.

(10) Obtain permission from range central before firing commences. Range central will be notified as soon as the unit has completed firing for the day. A communications check will be initiated every hour.

(11) Insure that communication is established with range central. If at any time contact is lost, a cease fire will be called until contact has again been established.

(12) Insure that prior to firing, all persons participating are instructed on specific safety regulations pertaining to the range in use and that no ammunition or explosives remain in the personal possession of any individual leaving the area.

(13) Insure that all weapons are physically cleared by safety personnel upon completion of firing.

(14) Insure that safety limits established by range fans for individual ranges are observed. No firing will be conducted which permits any type projectile to impact beyond the prescribed danger area as outlined in this regulation.

(15) Insure that a constant police of the area is maintained. No trash or garbage will be buried on any range. Rubbish will be removed to the sanitary fill by the using unit.

c. No hunting is permitted within the boundaries of the Kanaio Training Area.

d. Travel through Kanaio Training Area to surrounding ocean areas is permitted with the approval of the Commanding officer, 1st Bn 299th Infantry.

e. No construction of any type is authorized.

f. Trees and undergrowth will not be cut, mutilated, or used for camouflage at any time.

g. In the event that roads, gates, or fences are damaged, units will take steps to effect immediate repair or will post guards at the site until repairs can be accomplished. Gates opened for the passage of troops or vehicles will be guarded to prevent the escape of livestock and will be closed when the column clears.

h. Deficiencies noted while using the training area will be brought to the attention of the Commanding Officer, 1st Bn 299th Infantry, as soon as practicable.

i. Damage to property will be reported immediately to the Commanding Officer, 1st Bn 299th Infantry.

j. All personnel will remain within the boundary of the Kanaio Training Area. All areas outside of the boundary are "OFF LIMITS". However, all cattle water troughs and burial grounds within the area are also "OFF LIMITS".

k. Liquid kitchen wastes, garbage, and rubbish will be disposed of as indicated in FM 21-10, as amended, or will be properly closed upon departure from the training area.

12. SURFACE DANGER AREA ZONE (SDZ).

a. The term "Surface Danger Area Zone" is synonymous with "safety fans, firing fans, and range fans".

b. Appropriate SDZ and maps will be in the possession of the OIC of the training area. Upon completion of training, SDZ and maps will be returned to the S3.

c. The right and left limits of the ricochet area must fall within the boundaries of the appropriate SDZ.

d. Firing over the heads of any personnel is prohibited.

13. RANGE CENTRAL. Range Central will be established by the unit conducting training at Kanaio. Range Central can be a command post or range headquarters. All communications equipment and personal staffing required will be present to supervise training and to ensure compliance with this regulation.

14. REFERENCES.

a. AR 385-63 (Regulations for Firing Ammunition for Training, Target Practice, and Combat).

b. AR 500-60 (Disaster Relief).

c. FM 21-10 (Field Hygiene and Sanitation).

d. FM 23-9 (Rifle 5.56mm M161A).

e. FM 23-35 (Pistol and Revolvers).

f. FM 23-65 (Machinegun, Cal .50 HB, M2).

g. FM 23-67 (Machinegun, 7.62mm, M60).

i. FM 23-90 (81mm Mortar, M29).

j. HARNG SOP (Physical Security of Arms, Ammunition and explosives).

FOR THE COMMANDER:

  
ERNESTO RIBUCAN  
CPT, IN, HARNG  
Adjutant

APPENDICES:

- I - 81mm Mortar - SABOT
- II - Rifle, Pistol, & MG
- III - Range Guards and Flags
- IV - Training Areas 1, 2, and 3
- V - Live Fire Announcement
- VI - Air Space Violation Report
- VII - Indemnifying Statement

DISTRIBUTION:

AGO-HI  
Cdr, 29th Inf Bde (S)  
Cdr, 1-299 Inf  
Cdr, HHC 1-299 Inf  
Cdr, Co C 1-299 Inf

APPENDIX I (81mm Mortar - SABOT) to 1st Bn 299th Inf SOP (Kanaio Training Area and Range)

1. This appendix prescribes the firing of 81mm Mortar, SABOT ammunition in the Kanaio Training Area.

2. The location and identification of all authorized firing points are contained in Tab A, this appendix.

3. The officer-in-charge of firing is responsible for safety within the unit; he will insure that the existing firing point markers are not disturbed and he will perform the following functions.

a. Prior to Firing.

(1) Be familiar with safety regulations contained in AR 385-63.

(2) Insure that the position area occupied is as plotted on the overlay SDAD and map, and that the center of the weapon is within 25 meters of the firing point marker.

(3) Appoint a qualified safety officer/NCO for each firing position. This safety officer/NCO is responsible to insure that the laying of the piece will cause rounds to fall within the safety limits prescribed on the appropriate SDAD. The safety officer's/NCO's duties are prescribed in FM 23-90, and AR 385-63.

(4) Establish wire and/or radio communication with Range Central.

(5) Notify Range Central before firing commences.

(6) Insure that the impact area is clear and road and range guards are posted.

(7) Issue instructions to road and range guards.

b. During Firing.

(1) Maintain continuous communications with Range Central and Range Guards over telephone or radio net. Firing will cease when communication with Range Central or Range Guards is disrupted and will not resume until communication is reestablished.

(2) Maintain an hourly communication check with Range Central.

(3) Civilian traffic will not be hampered and units will be required to "Cease Fire" to permit continuous flow of traffic. Road guards will have direct communications (radio or wire) to the OIC or FDC, whichever is practicable.

Tab A (Kanaio Sabot Range) to Appendix I (81mm Mortar - Sabot) to 1st Bn 299th Inf SOP (Kanaio Training Area and Range)

<u>TARGETS</u>	<u>EASTING</u>	<u>NORTHING</u>	<u>HEIGHT</u>
1 White & Orange Triangle Orange, white	773 371.17	2281 170.65	351.14
2 Orange square Orange & white	773 369.11	2281 077.36	349.09
3 Triangle	773 363.55	2281 157.17	351.57
4 Orange Circle Orange, white	773 395.71	2281 068.69	347.58
5 Orange Triangle	773 374.14	2281 137.34	349.24
6 White Circle with Orange Dot	773 375.30	2281 114.51	348.39
7 Orange Triangle	773 433.50	2281 030.39	344.77
8 White Dot	773 378.23	2281 096.43	348.14
9 White & Orange square	773 388.36	2281 160.10	348.71
10	773 389.07	2281 171.71	348.61
11	773 415.85	2281 087.04	344.51
12 White Square	773 401.52	2281 181.84	348.13
13 3 White Dot	773 405.19	2281 142.23	247.18
14 White & Orange Rock White Verticle	773 421.36	2281 149.76	346.77
15 Line Orange Dot	773 399.82	2281 153.72	347.50
16 With White Line Red & White	773 415.78	2281 166.26	348.22
17 Striped Triangle	773 434.43	2281 129.53	347.60
18 White Dot	773 428.83	2281 172.15	348.08
19 Red & White Dots	773 454.72	2281 143.92	348.62
20 1 Gal White Paint Can	773 426.59	2281 154.77	347.70
21 Red & White Pyramid	773 476.63	2281 079.92	344.63
22 White Rock	773 438.95	2281 158.38	347.68

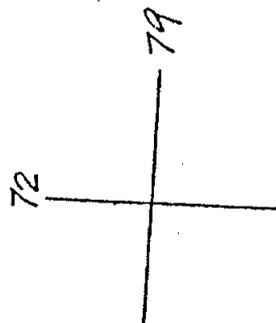
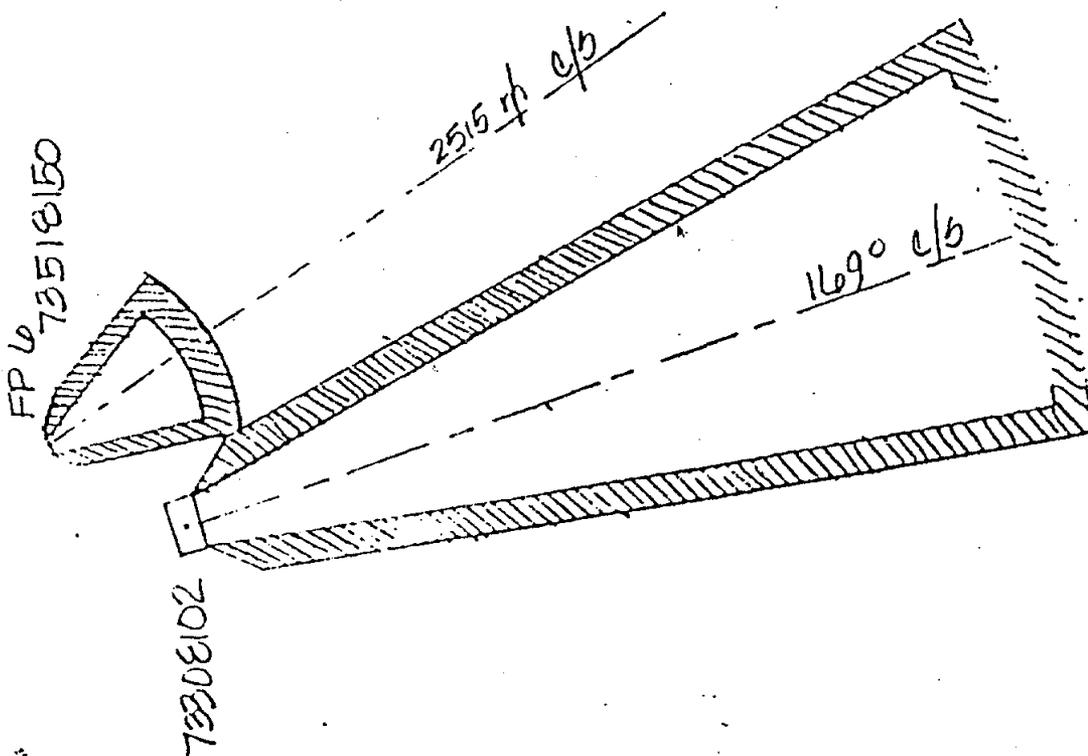
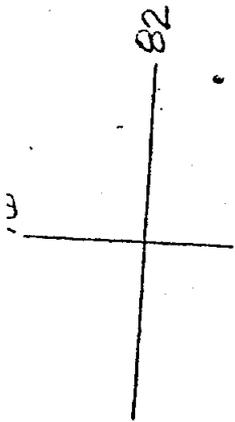
<u>TARGETS</u>	<u>EASTING</u>	<u>NORTHING</u>	<u>HEIGHT</u>
23 Red & White Circles	773 451.74	2281 066.30	345.63
24 White Square with Orange Dot	773 439.46	2281 074.34	346.28
25 Orange Square	773 446.99	2281 184.76	350.19
26	773 453.60	2281 174.89	348.35
27 White with Orange V	773 426.15	2281 186.85	347.32
28 Orange Rocks	773 413.43	2281 190.22	347.92
29 White with Orange Dot	773 486.93	2281 178.62	349.97
30 White Verticle line	773 471.75	2281 205.31	349.36
31 White Circle	773 501.71	2281 209.17	350.02
32 Orange Dot w/ White Line	773 524.92	2281 170.53	349.77
33 White Dot	773 533.29	2281 204.23	351.59
34 Orange Dot	773 563.13	2281 145.27	351.65
35 White Line	773 578.42	2281 162.40	350.70
36 Orange Line	773 590.00	2281 130.67	351.93
37 Orange Figure 9	773 647.57	2281 156.45	357.88
38 Orange Figure 8	773 675.87	2281 114.59	356.49

	<u>EASTING</u>	<u>NORTHING</u>	<u>HEIGHT</u>
KIMOE	773 704.47	2 281 630.11	538.40
	773 282.14	2 280 687.01	284.64
LAVA	773 382.24	2 281 044.47	347.68
OP S1	773 358.62	2 281 277.95	354.93
OP S2	773 410.60	2 281 263.66	356.63
FP #6	773 377.92	2 281 243.91	349.17
FP #7	773 428.14	2 281 234.05	349.21
FP #8	773 350.36	2 281 217.24	349.15
K	773 322.81	2 281 230.44	355.96
OP-1	774 478.76	2 280 738.07	360.59
OP-2	774 450.28	2 280 725.91	349.23
OP-3	774 65.20	2 280 613.27	343.38
OP-4	773 697.99	2 281 626.87	537.38

Tab B (Declination Station) to Appendix I (81mm - SABOT) to 1st Bn 299th Inf  
SOP (Kanaio Training Area and Range)

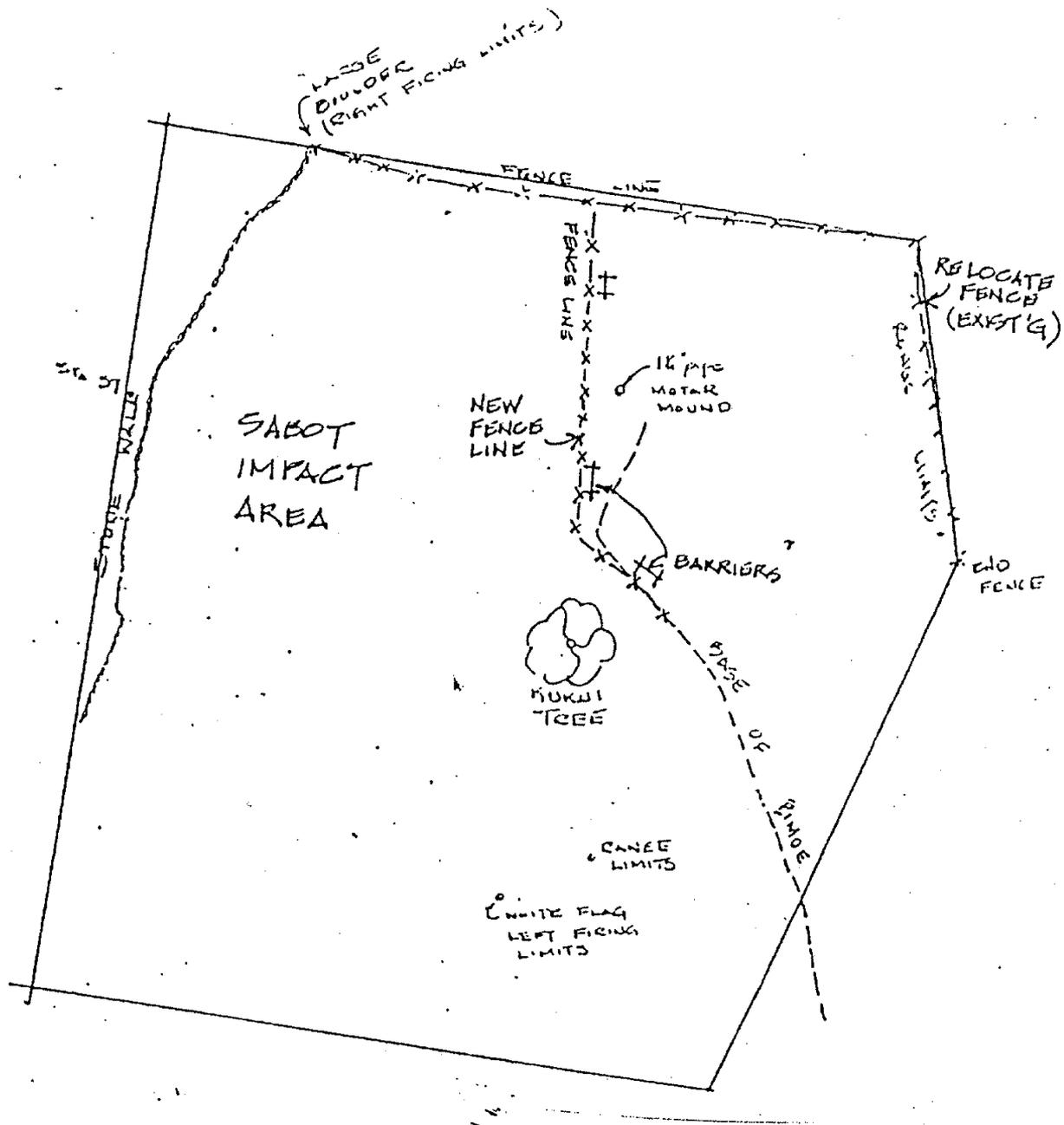
	<u>EASTING</u>	<u>NORTHING</u>
OP-S1 Master Station	773 358.62	2 281 277.95
OP-3 Reference Station	774 165.20	2 280 613.27
FP #8 Secondary Reference	773 350.36	2 281 217.24
OP-S2 Secondary Reference	773 410.60	2 281 263.66

SABOT KANGI - JAWA (SDAD)



TAB E & appendices

# SABOT. IMPACT AREA SKETCH.



APPENDIX II (Rifle, Pistol, and MG) to 1st Bn 299th Inf SOP (Kanaio Training Area and Range)

1. The officer-in-charge of firing will.

a. Rifle.

- (1) Comply with instructions contained in this regulation.
- (2) Permit firers to fire from numbered points to correspondingly numbered targets only.
- (3) Permit no diagonal firing.
- (4) Give the command to commence firing when the firing line is ready.
- (5) Permit weapons to be loaded on command only.
- (6) Permit weapons to be loaded and unloaded on the firing line only.
- (7) Insure that all weapons are cleared and each one inspected by an officer or NCO before permission is granted to move from the firing line.

b. Pistol.

- (1) Comply with instructions contained in this regulations.
- (2) Permit no diagonal firing.
- (3) Fire from numbered points to correspondingly numbered targets only.
- (4) Permit weapons to be loaded and unloaded only on firing line.
- (5) Permit weapons to be loaded and unloaded on command only.
- (6) Always hold the loaded pistol at the position of raise pistol or ready except while aiming.
- (7) When firing ceases temporarily, lock the piece and hold it at position of raise pistol ready.
- (8) Insure that all weapons are cleared and each one inspected by an officer or NCO before permission is granted to move from the firing line.

c. Machinegun.

- (1) Comply with instructions contained in this regulation.
- (2) Permit no diagonal firing.

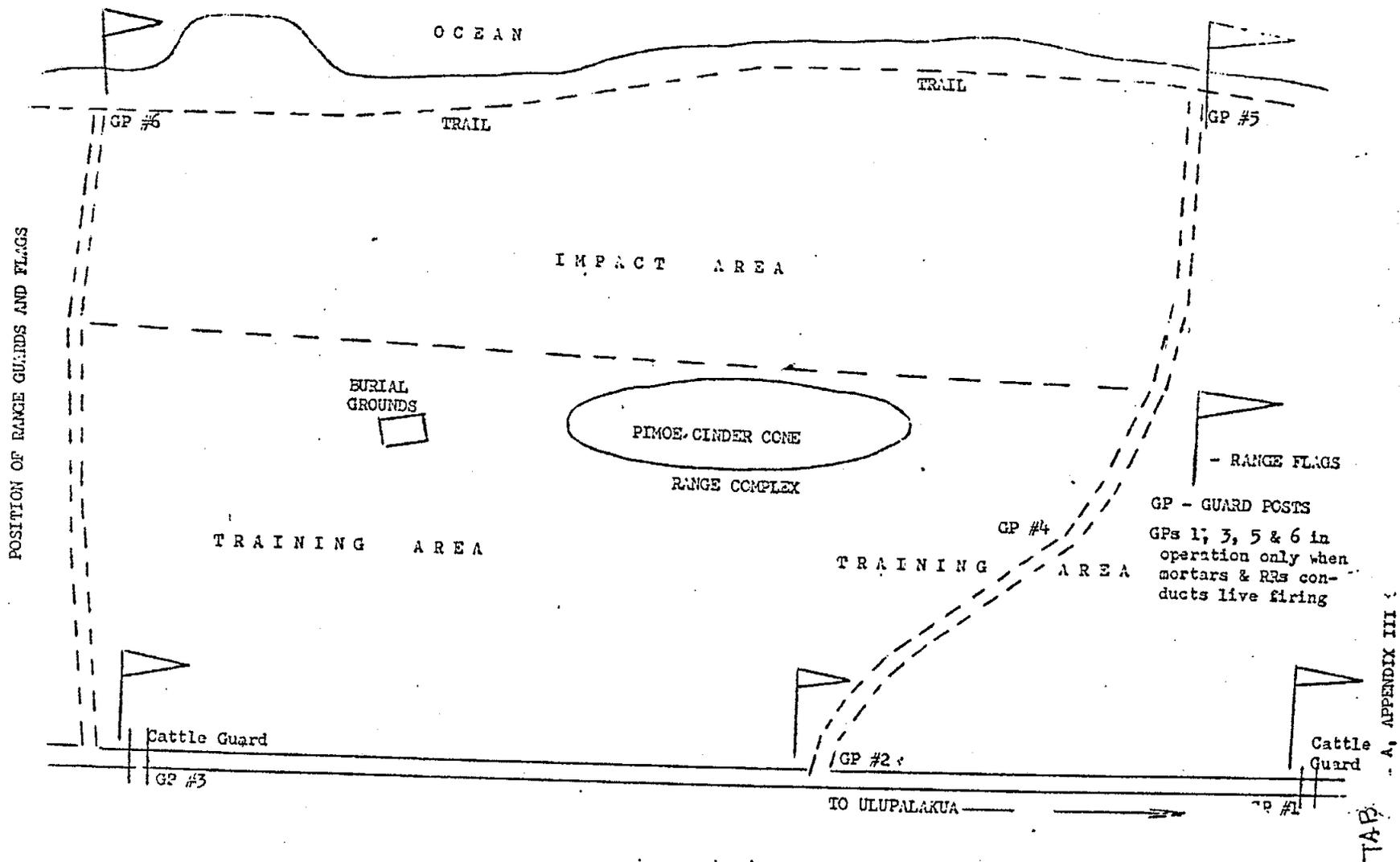
- (3) Issue ammunition on the firing line only.
- (4) Permit weapons to be loaded and unloaded on the firing line only.
- (5) Permit weapons to be loaded only on the command "Half Load".
- (6) Permit no firing beyond left and right limits.
- (7) Order all weapons to be cleared and checked by a safety officer or safety NCO before permission is granted to move from the firing line.

Tab A  
Sketch of Ranges

## RANGE GUARDS AND FLAGS

1. The officer-in-charge of the range and or training area will be responsible for establishment of range guards and range flags.
  2. Range guards and warning red flags will be posted in accordance with Annex A, this appendix and the following: Range flag will be placed at Guard Post 2 only when Ranges 1, 2, and 3 are in use.
  3. Range guards will have radio and/or wire communications with Range Central at all time. Hourly communication check will be made with Range Central.
  4. Range guards will prevent all unauthorized personnel from entering the Kanaio Training Area.
- 

Tab A  
Position of Range Guards and Flags



TRAINING AREAS 1, 2, AND 3

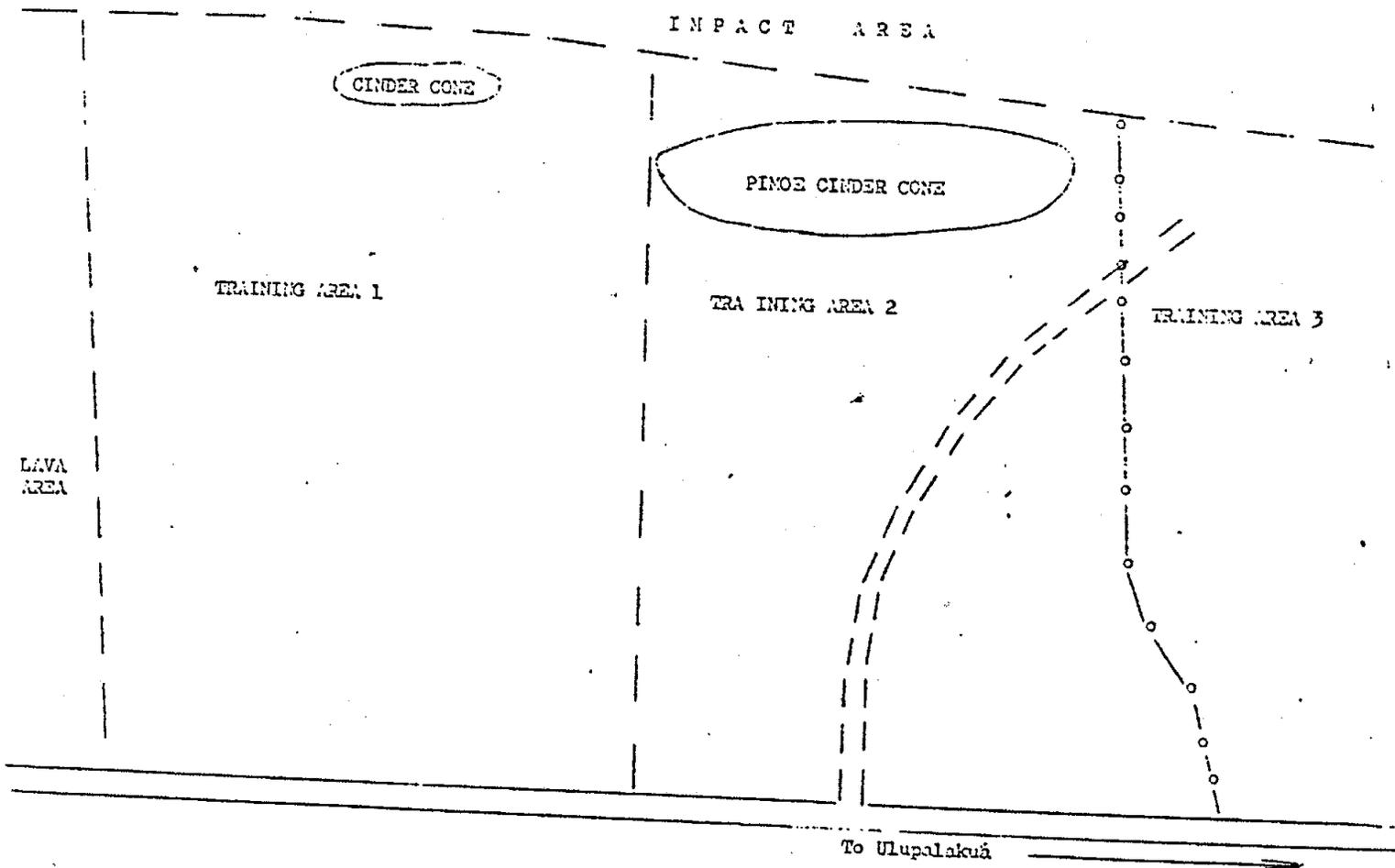
1. Training Area 1.

- a. All types of blank ammunition may be fired within this area.
- b. Live firing is permitted only in the direction of the ocean (South).

2. Training Area 2 and 3. Only blank ammunition is permitted.

Tab A  
Sketch of Training Area.

SKETCH OF TRAINING AREAS



TACX  
ANNEX A, APPENDIX IV

APPENDIX V (Air Space Violation Report) to 1st Bn 299th Inf SOP (Kanaio Range)

REPORTING UNIT/INDIVIDUAL: \_\_\_\_\_  
\_\_\_\_\_

DATE/TIME: \_\_\_\_\_

TYPE OF AIRCRAFT: \_\_\_\_\_

MILITARY: \_\_\_\_\_

CIVILIAN: \_\_\_\_\_

AIRCRAFT TAIL NUMBER: \_\_\_\_\_

COLOR: \_\_\_\_\_

DIRECTION OF FLIGHT: (Check One)

NORTH \_\_\_\_\_

SOUTH \_\_\_\_\_

NORTHEAST \_\_\_\_\_

SOUTHEAST \_\_\_\_\_

EAST \_\_\_\_\_

WEST \_\_\_\_\_

SOUTHEAST \_\_\_\_\_

NORTHWEST \_\_\_\_\_

APPENDIX VI (Live Fire Announcement Format) to 1st Bn 299th Inf SOP (Kanaio Range)

HEADQUARTERS  
1ST BATTALION 299TH INFANTRY  
HAWAII ARMY NATIONAL GUARD  
Wailuku, Hawaii 96793-2289

HIIB-XA-PT

DATE

SUBJECT: Live Firing Exercises

Dear Sir:

The 1st Battalion 299th Infantry, Hawaii Army National Guard, request your assistance in publicizing the following event:

LIVE FIRING EXERCISES

Live firing exercises will take place on \_\_\_\_\_

and \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_

daily at \_\_\_\_\_ Range.

For more information, call \_\_\_\_\_.

Yours truly,

VI-1

B-23

DEPARTMENT OF DEFENSE - STATE OF HAWAII  
STATEMENT INDEMNIFYING STATE AGAINST LIABILITY CLAIM  
(Application for Use of Armories, Facilities or Grounds)

Armory or Facility: \_\_\_\_\_

The undersigned individual(s) group and/or organization, his or their heirs, personal representative and assigns, or its officers, directors, members, agents, employees, successors and assigns, for and in consideration of the State of Hawaii Department of Defense permitting and allowing the use of the designated armory, buildings and /or facilities jointly and severally agree(s) to indemnify and save harmless the State of Hawaii Department of Defense against any and all loss, liability, demands, claims,

suits, actions or proceedings of every name, character and description which may be suffered or incurred by or brought against the State of Hawaii Department of Defense for or on account of any injuries or damages to any person or property received or sustained by any person, directly or indirectly, by or in consequence of any act or acts, or the omission thereof, of the undersigned individuals(s), group and/or organization.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Organization

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_

\_\_\_\_\_  
Notary Public, \_\_\_\_\_ Judicial Circuit  
State of Hawaii

My commission expires: \_\_\_\_\_

OR

\_\_\_\_\_  
Armory/Facility Administrator

\_\_\_\_\_  
Date

AFTER ACTION REPORT

ORDNANCE REMOVAL,  
HAWAII ARMY NATIONAL GUARD,  
KANAIO TRAINING AREA

ULUPALAKUA, MAUI

PREPARED BY  
GOODFELLOW BROS., INC  
381 HUKU LII PLACE, SUITE 202  
KIHEI, HAWAII 96753

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## INTRODUCTION

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### PROJECT AUTHORIZATION

Goodfellow Bros., Inc. (GBI), contracted by the Hawaii Army National Guard (HIARNG) conducted an Ordnance and Explosive (OE) and Unexploded Ordnance (UXO) Removal Action at the Kanaio Impact Range, Maui along with Donaldson Enterprises, Inc. (DEI).

### PURPOSE

The purpose of this After Action Report is to document the procedures and methods used by DEI and GBI to accomplish the tasks and objectives described in the Work Plan. Ken Gift, GBI Project Superintendent, has reviewed this After Action Report for completeness and determined that all actions proposed in the Work Plan have been completed (see attached letter).

### SUMMARY OF ACTIVITIES

#### *GBI Activities Covered by this After Action Report*

Field work began on November 27, 1998 and was completed on December 18, 1998. The following actions were completed

- Access into the project was restricted and reported
- Archaeological monitoring services were performed and a report was prepared
- The access road into the project was reconstructed and maintained
- A base camp was established and maintained
- Four abandoned cars and a large "dumpster" were recovered and disposed of off site
- A closure was performed on the small arms range

- The lave tube was cleared of garbage and temporarily closed to prevent subsequent dumping
- Proper implementation of the Quality Control Plan was confirmed and an after action Quality Control Report prepared

*DEI After Action Report*

For a discussion of DEI's actions and accomplishments during the field work phase please see DEI's After Action Report attached to this document. Byron Donaldson, DEI UXO Program Manager, certifies that all goals, milestones and actions proposed by DEI in their Work Plan have been successfully completed (see attached letter).

## ARCHAEOLOGICAL, HISTORICAL, CULTURAL, AND RELIGIOUS SITES

### *Archaeological Monitoring*

GBI selected Francis Eblé to serve as GBI's project archaeologist. Wendy Tolleson, the HIARNG CRM, coordinated monitoring activities between herself and Mr. Eblé to assure adequate coverage of all GBI and DEI on site actions. No human remains were inadvertently uncovered during any project action.

Site forms and maps for archaeological sites were recorded by Francis Eblé and Wendy Tolleson and made part of the historical record of journals and logs submitted weekly to the HIARNG COR. Attached please find a Post Field Summary Report prepared by Mr. Eblé.

## HEALTH AND SAFETY

GBI adopted the Site-Specific Health and Safety Plan (SSHSP) developed by DEI as the project SSHSP. For comments on project safety issues please see the GBI Quality Control Report section of this document.

## ENVIRONMENTAL PROTECTION

### *Erosion and sediment control Measures*

Erosion and sediment control measures outlined in the Work Plan were followed and no erosion problems developed during the project.

### *Pollution control measures*

Precautions were taken to minimize risk of pollution. No fuel-related spills occurred during the project.

---

## FIELD REPORT

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### PURPOSE

This Field Report outlines the personnel, procedures and precautions GBI used to perform work in support of OE/UXO removal operations at Kanaio Training Area located at Ulupalakua, Maui.

### PROJECT ACCESS

#### *Access Control Procedures*

Only personnel authorized by HIARNG CRM Wendy Tolleson were allowed to enter the project. The GBI Site Visitor Log was maintained by Glenn Hokama, the GBI Camp Manager, and submitted to the HIARNG COR on a weekly basis. Visitors from the National Park Service, East Maui Watershed Partnership, and Haleakala National Park entered the project to locate and measure a future fence line. The visit was coordinated through Mellisa Dumarand, the HIARNG Natural Resources Manager, and Wendy Tolleson. Visitors from the State Historical Preservation Office (SHPO) were invited by Wendy Tolleson to examine cultural sites discovered by Ms. Tolleson and Francis Eblé, GBI's Archaeologist. Harmon Slappy, the DEI SPM, conducted safety briefs for all visitors.

Visitors were not allowed to enter the project during non-working hours. Upcountry Security provided security services for the project. No incidents involving unauthorized visitors were noted by Upcountry Security.

## ARCHAEOLOGICAL, HISTORICAL, CULTURAL, AND RELIGIOUS SITES

### *Archaeological Monitoring*

GBI selected Francis Eblé to serve as GBI's project archaeologist. Wendy Tolleson, the HIARNG CRM, coordinated monitoring activities between herself and Mr. Eblé to assure adequate coverage of all GBI and DEI on site actions. No human remains were inadvertently uncovered during any project action.

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Erosion and sediment control measures outlined in the Work Plan were followed and no erosion problems developed during the project.

### *Pollution control measures*

Precautions were taken to minimize risk of pollution. No fuel-related spills occurred during the project.

## ACCESS ROAD

### *Access Road Reconstruction*

The work was limited to the portion of the access road on Triple-L Ranch property between the paved highway and the existing gate and was completed as per the GBI WP. Equipment used to accomplish the work included a Cat D-8R dozer, a Cat 938 loader, and an I.R. 10-ton roller. A total of 154.28 tons of crusher material from Ameron was placed on the road to improve the surface. Existing slopes and swales on the road were maintained. The portion of the road from the gate to the base camp area was lightly graded to allow all authorized vehicles, including two wheel drive pick up trucks, to pass.

The access road was inspected during the project to check for any deterioration of the crusher material surfacing and the existing cinders. No maintenance work was required.

## BASE CAMP

A base camp was provided to support project operations. The camp consisted of a field office, a storage container for tools, and portable toilet facilities. The field office supported data processing and communications activities. The base camp was demobilized after the field work portion of the project was completed and the base camp area restored to its original condition.

### *Equipment furnished for the duration of the project*

- 10' x 24' field office
- 8' x 20' metal storage container
- Portable generator
- Storage container
- Two desks and chairs
- 3' x 6' table
- Copier
- Cellular phone
- Four hand-held radios and a radio base station
- Drinking water
- Portable toilet facilities
- Pollution control spill kit
- Hard hats
- Health and safety equipment and supplies

*Equipment furnished as permanent property of HIARNG*

- Itronix X-C 6250 ruggedized notebook computer with onboard cellular fax/modem
- Pentax PocketJet II thermal printer

*Base Camp Set Up*

The base camp was established around one of two concrete slabs adjacent to Impact Area 3B. The area was graded prior to the placement of the field office and storage container. Two laborers and the Cat 938 loader were used to install the field office, storage container and furnishings.

*Cellular Communications Control*

Cellular telephone service was provided by GBI for official project communications. The GBI Site Phone Log was maintained by Glenn Hokama, GBI's Camp Manager, and submitted to the HIARNG COR on a weekly basis.

ABANDONED CAR RECOVERY AND DISPOSAL

*Alternate Recovery Method*

One abandoned car and the trash dumpster proved inaccessible to tracked equipment. Therefore, all four abandoned cars together with the trash dumpster were retrieved using the alternate recovery method described in the Work Plan. Pacific Helicopters used a Huey helicopter equipped with a logging grapple to pick and transport the cars and dumpster to a staging area approximately 150 feet east of the base camp. The staging area was approved in advance by Wendy Tolleson, HIARNG CRM. The Cat 325 excavator equipped with a thumb attachment then loaded the cars and dumpsters onto four tandem trucks for offsite disposal at Maui Scrap Metal.

## SMALL ARMS RANGE CLOSURE

### *Change Order 01 – Close the Small Arms Range next to Impact Area 3B*

DEI swept the area with a crew of seven. Wendy Tolleson, HIARNG CRM, monitored the bulldozing of the berms and removal of the visible metal tracks and posts. A Cat D8R was used to bulldoze the four berms toward the Pimoe Cinder Cone. The material was used to restore cone slopes disturbed by the original berm construction. The metal tracks and posts were removed using a Cat 938 loader. The scrap metal was stockpiled in an area near the office trailer and storage container and hauled to Maui Scrap Metal at the end of the project.

DEI took three random soil samples within Impact Area 3B. Test results were forwarded to the HIARNG COR and are included in DEI's After Action Report. Byron Donaldson, DEI UXO Program Manager, evaluated the results, determined that lead concentrations are below state and federal action levels, and recommended that the site for closure at this time. See Mr. Donaldson's attached letter.

## LAVA TUBE CLEAN UP

### *DOH Plan Approval*

The lava tube clean up plan was approved by John Harder of the State of Hawaii Department of Health (DOH). A copy of his approval letter was forwarded to the HIARNG COR.

### *Method of removal*

GBI furnished an operated Cat 325 excavator with thumb to assist Donaldson Enterprises, Inc. (DEI) in the lava tube clean up (See the DEI WORK PLAN, Section 7). The excavator removed material from the tube separating large pieces of scrap metal from the rubbish. Smaller pieces of scrap metal were separated by hand. Scrap metal was hauled to Maui Scrap Metal for disposal. Rubbish was hauled to Maui Central Landfill. A total of ten tandem truckloads of rubbish and scrap metal were removed from the lava tube. Wendy Tolleson, HIARNG CRM monitored clean up activities. No OE/UXO or other types of hazardous materials were found in the lava tube.

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## GBI QUALITY CONTROL REPORT

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### OVERVIEW

GOODFELLOW BROTHERS, INC. (GBI), contracted by the Hawaii Army National Guard (HIARNG), conducted an Ordnance and Explosive (OE) and Unexploded Ordnance (UXO) removal action at the Kanaio Impact Range, Maui. GBI subcontracted to Donaldson Enterprises, Inc. (DEI) for actual UXO location and removal actions.

The Kanaio Impact Range is located in the Makawao District on the island of Maui. The site cleared consisted of four impact areas estimated to encompass approximately fifty-four acres of the 6,000+ acre Kanaio Training Site. In addition to the four impact areas, a surface sweep was conducted of the "All Other" area as described in the DEI workplan.

### RESPONSIBILITIES OF THE GBI QUALITY CONTROL SPECIALIST (QCS)

#### *Responsibilities and Activities Performed*

- Reviewed and approved work plans
- Coordinated with HIARNG COR to ensure QC objectives were met and all relevant personnel were aware of these objectives
- Coordinated with the DEI QC Specialist to ensure QA/QC procedures were followed
- Conducted QC audits of site activities and recorded them in the GBI Quality Control Log
- Recommended and implemented actions to rectify QC failures
- Reported non-compliance with QC criteria to the GBI Project Superintendent, DEI Senior Project Manager and DEI QC Specialist
- Reviewed on-site worker qualifications and training
- Maintained a Daily Quality Control Log
- Ensured compliance with plans and safety precautions
- Ensured OE/UXO/Scrap clearance accuracy
- Ensured maintenance and accuracy of reports and records

*Change Order 02 – Lava Tube Closure*

Temporary closure of the lava tube was accomplished with steel road plates. The Cat 325 excavator set the plates across the lava tube opening. Four 6' x 12' steel plates were needed to completely cover the opening. The plates were spot-welded together to form a single surface. Boulders and a berm were used to secure and obscure the edges of the plates and the surface was covered with native materials. Two fence posts were welded onto the steel plates and the barbed wire fence was replaced across the opening of the lava tube. Wendy Tolleson, HIARNG CRM, inspected and approved the closure.

All compliance requirements listed above were met through a series of reviews or inspections performed on a daily basis and recorded in the GBI Quality Control Specialist Log.

## ACTIONS BY THE GBI QUALITY CONTROL SPECIALIST (QCS)

### *Critical Issues/Activities*

The following issues/activities were considered critical to the delivery of a quality product and were addressed in the following manner:

- Worker qualifications and training – All DEI worker records were reviewed to ensure that personnel were properly qualified and trained for the work performed.
- Compliance with plans and safety precautions – QC reviews indicated that there was a high degree of compliance with plans and safety procedures. Compliance with safety precautions was particularly notable in that daily safety meetings were held with all employees and visitors and consistent use of appropriate personal protective equipment was in evidence at all times. All work was performed safely and no significant accidents, injuries or near-misses occurred.
- OE/UXO/Scrap clearance accuracy – OE/UXO/Scrap clearance accuracy showed no discrepancies in the ten-percent inspection of Area 1 and Area 2 however, Area 3A and Area 3B both failed their initial inspections. Area 3A and Area 3B were re-swept and a re-inspection of ten percent performed; no discrepancies were noted. It is important to note here that Area 3B, due to its recent bulldozing, has loose soil. With the area's wind and comparatively arid climate, small arms cartridge cases will continue to be revealed over time. Additionally, because access to the Kanaio Training Area is not restricted, civilians will continue to use the area for recreational purposes introducing cartridge cases and, if what was recovered is any indication, other scrap to the area.
- Proper equipment performance – Limited electronic equipment was in use during these operations. Equipment was inspected for proper and current calibration, tested, and utilized as per manufacturers' instructions.
- Maintenance and accuracy of reports and records - Reports and records were periodically reviewed and were found to be maintained in an accurate and timely manner. The log maintained by the DEI SPM was particularly notable for its neatness and detail.

### *Summary of Quality Control*

The mutual cooperation of the personnel involved in this project was the key element in its safe completion. Much of what was accomplished is attributable to the high degree of teamwork exhibited by DEI and GBI workers. The environmental conditions (high winds and particularly arduous terrain) were an anticipated impediment and did impose a slower-than-average movement in the interest of safety and accuracy. Despite these impediments, the work was completed on time and without serious incident.

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## LIST OF ATTACHMENTS

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GBI NOTIFICATION OF COMPLETION LETTER

DEI NOTIFICATION OF COMPLETION LETTER

DEI AFTER ACTION REPORT

ARCHAEOLOGIST'S POST FIELD SUMMARY REPORT

DEI LETTER RECOMMENDING CLOSURE OF RANGE 3B



**GOODFELLOW BROS., INC. — GENERAL CONTRACTOR —**

P.O. BOX 220 ■ PHONE (808) 879-5205 ■ FAX (808) 879-3674 ■ KIHEI, MAUI, HI 96753-0220

January 25, 1999

Hawaii Army National Guard  
Attention: Ronald R. Swafford, LTC  
3949 Diamond Head Road  
Honolulu, HI 96816-4495

Re: Ordnance Removal, Hawaii Army National Guard  
Kanaio Training Area, Ulupalakua, Maui  
Job No. HI08592003

Ronald R. Swafford, LTC,

I have reviewed this After Action Report for completeness. All actions proposed in the work plan have been completed and no deficiencies were noted.

Sincerely,

Ken Gift  
Project Superintendent

**DONALDSON ENTERPRISES, INC.  
BOMB DISPOSAL SERVICES  
45-1055 Kamehameha Hwy. Suite 203  
Kaneohe, Hawaii 96744-3209  
Tele (808) 235-Bomb  
Fax (808) 235-Fuse  
E-Mail dei@aloha.net**

**18 January 1999**

**Goodfellow Bros., Inc.  
P.O. Box 220  
Kihei, Maui  
Attn: Ken Gift**

**Subject: After Action Report on Ordnance Removal Operations for the Hawaii Army National Guard at Kanaio Impact Range, Ulupalakua, Maui.**

**As the Donaldson Enterprises, Inc. UXO Program Manger I have reviewed the final report and have found that all goals, milestones and action that were proposed by DEI have been completed. All work was inspected by myself while in progress and upon completion and no deficiencies were noted.**

**Byron L Donaldson  
Vice President**

DONALDSON ENTERPRISES, INC.  
BOMB DISPOSAL SERVICES  
45-1055 Kamehameha Hwy. Suite 203  
Kaneohe, Hawaii 96744-3209  
Tele (808) 235-Bomb  
Fax (808) 235-Fuse  
E-Mail dei@aloha.net

RECEIVED

JAN 13 1999

GOODFELLOW BROS., INC.  
MAIN OFFICE

11 January 1999

Hawaii Army National Guard Environmental Office  
3949 Diamond Head Road  
Honolulu, HI. 96816

**Subject: After Action Report on Ordnance Removal Operations for the Hawaii Army National Guard at Kanaio Impact Range, Ulupalakua, Maui.**

**1. Background**

DONALDSON ENTERPRISES, INC., (DEI) a subcontractor for Goodfellow Brothers, Incorporated (GBI), contracted by the Hawaii Army National Guard (HIARNG) conducted a surface Ordnance and Explosive (OE) and Unexploded Ordnance (UXO) Removal Action at the Kanaio Impact Range, Maui.

The Kanaio Impact Range is located in the Makawao District on the island of Maui. The site cleared consisted of four impact areas estimated to encompass approximately 54 acres of the 6,000 + acre Kanaio Training Site. In addition to the four impact areas, a surface sweep was conducted of the "All Other" area as shown in Attachment 1.

**2. Site Background/History**

The Kanaio Impact Range is under the control of the Department of Land and Natural Resources (DLNR) on lease to the Ulupalakua Ranch, Inc. On March 25, 1965, the Hawaii Army National Guard (HIARNG) was granted access to Kanaio Impact Range for military training purposes. The range contains three (3) impact ranges and one small arms range. Impact ranges 1 and 2 contained mixes of both live and practice ordnance. Impact area 3A was strictly a sub-caliber range for the 81mm mortar. Impact area 3B appeared to be a small arms range only. The "All Other" area was primarily used as a training and maneuver area.

**3. Operations**

DEI performed surface OE/UXO removal operations at the Kanaio Impact Range in a safe, systematic manner using proven operating techniques and methods. A detailed schedule of operations performed is contained in Attachment 2. DEI executed this operation in the following nine phases:

Phase 1. Mobilization - This phase involved employee training and equipment preparation at the DEI home office as well as actual movement of personnel and equipment to the job site on Maui.

Phase 2. Site Training/Layout - While initial safety and archaeological training was conducted prior to the start of operations at Kanaio, training was a continuing process with daily safety meetings, frequent archaeological awareness classes, and "on-the-sweep" training whenever new ordnance items were encountered. Training included general topics as well as specific information on that day's taskings. Site Layout involved the locating and marking of area

boundaries to facilitate surface sweep operations. Site layout required one and one-half days and was conducted simultaneously with Phase 3 in that clearly defined areas could be swept while site layout of other areas was being conducted.

Phase 3, Impact Area Surface OE Marking/ Scrap Removal - Impact Area surface sweep operations were conducted over a four day period. A team of trained UXO Technicians and UXO Support personnel moved abreast separated by approximately five feet. Items that were positively identified as scrap metal were picked up and placed in a cloth bag. A UXO technician inspected all items that were not positively identified as scrap metal prior to picking up. Live ordnance items that could not be moved were marked with flagging tape and the coordinates recorded using DGPS. As the sweep team moved along the axis of the sweep, the outer flank was marked every five to six feet with paint or flagging tape. Once the sweep team reached the end of the sweep axis, they turned around and proceeded back down the sweep axis utilizing the previously marked flank as the inner flank and again marking the outer flank with paint or flagging tape. This operation was repeated until the entire surface area of each impact area was 100% covered. Recovered scrap metal was placed in a plastic tub and re-inspected by a UXO technician to ensure that no live ordnance items were intermixed with the scrap metal.

Phase 4, Other Area Surface OE/Scrap Removal - During this phase, DEI performed a visual OE/UXO surface clearance to locate, mark and remove surface OE/UXO and scrap metal. A team of trained UXO technicians and UXO Support personnel moved abreast separated by approximately five feet. The separation interval was extended in areas of clear visibility and reduced in areas of low visibility. Items that were positively identified as scrap metal were picked up and placed in a cloth bag. A UXO Technician inspected all unidentified scrap metal prior to picking up. As the sweep team moved along the axis of the sweep, the outer flank was marked every five to six feet with paint or flagging tape. Once the sweep team reached the end of the sweep axis, they turned around and proceeded back down the sweep axis utilizing the previously marked flank as the inner flank and again marking the outer flank with paint or flagging tape. This operation was repeated until the entire surface of the area was 100% covered. Recovered scrap metal was placed in a plastic tub and re-inspected by a UXO technician to ensure that no live ordnance items were intermixed with the scrap metal. No live high explosive items were found in the "All Other" area but considerable live, blank small arms cartridges were recovered.

During Phase 4 the cleanout of the trash pit lava tube was also conducted. This operation proved to be more difficult than anticipated due to the extremely large amount of waste accumulated in the lava tube and the limited room for extraction using the mechanical excavator. Originally planned as a one-day operation, the lava tube cleanout took twice as long, involved more manpower, and resulted in the removal of more trash than provided for in the initial workplan. A soil sample was taken from the bottom of the lava tube and forwarded for testing. Results of the soil test are contained in Attachment 6.

While the lava tube cleanout was in progress, DEI used a recording DGPS to record the perimeters of the four Impact Areas as well as the corner positions of the perimeter of the "All Other" area. Data files containing the positional information have been provided to HIARNG.

Phase 5, Surface OE Disposal - A total of ten explosive ordnance items were disposed of by detonation. In addition, fifteen practice 81mm mortar rounds with inert filler were demilitarized through the use of explosives. Disposal operations were conducted in three tightly controlled, electrically initiated demolition shots. All live explosive ordnance items were completely destroyed and all 81mm practice rounds were effectively damaged or distorted. The 81mm practice rounds were recovered and disposed of as scrap. A summary of ordnance items destroyed is contained in Attachment 3. Photographs of found ordnance items are in Attachment 4.

Phase 6, Collection of Scrap Material - Scrap metal and debris from each day's sweep activities was placed in plastic tub at the operating site for further inspection, segregation and weighing. Upon completion of sweep activities on an impact area, a UXO Technician separated the recovered metal into two separate piles, one for ordnance related scrap and the other for non-ordnance scrap, and each pile weighed separately and recorded. A summary of scrap metal recovered, by weight and location, is contained in Attachment 5. During the sweep of the "All

Other" areas, the segregation and weighing was conducted daily. After all sweep operations were completed, ordnance related items were further divided according to the type of ordnance item (small arms brass, 40mm practice, 3.5 inch rocket, 81mm mortar subcaliber, etc.) to facilitate demilitarization and final inspection. During the segregation process, items with live primers or spotting charges (small arms brass and 81mm mortar subcaliber) were separated and burned to remove live explosive contents. The DEI Quality Control Specialist (QCS) inspected each item of ordnance and non-ordnance related metal to ensure that no live explosive components were present.

Soil samples were taken of three locations within Impact Area 3B (Former Rifle Range) and forwarded for lead contamination testing. Test results are provided in Attachment 5.

Wipe tests for TNT and RDX contamination were made on ordnance related scrap items using EPA tests 4050 and 4051. Wipes were taken from each container of previously segregated ordnance items. Separate samples were collected for the TNT and RDX tests. Each test was conducted twice to ensure test consistency. Tests showed TNT and RDX levels of less than 3 parts per million for all tests. Detailed results of the TNT and RDX tests are found in Attachment 6.

Phase 7, Final Certification/Disposal Of Scrap Metal - DEI ensured that the collected scrap metal was properly inspected and classified. Our method included three distinct inspections that were performed by persons of increasing levels of responsibility. A qualified UXO Technician conducted the first inspection at the operating grid and during the segregation and weighing process. The QCS performed the second after all segregation, weighing and burning was completed. The SPM performed the final inspection upon conclusion of the QCS inspection and prior to material disposal.

Scrap metal was disposed of by turning the material over to Maui Scrap Metal Recycling.

Phase 8, Final Inspection, Certification, Report - This phase is pending final inspection by HIARNG.

Phase 9, Demobilization - DEI demobilized its personnel and equipment on 16 December 1998.

#### 4. Quality Control

DEI developed a Quality Control Plan (QCP) which provided procedures for controlling and measuring the quality of all work performed during site activities at Kanaio Impact Range. This plan was implemented by the DEI QCS through a series of record reviews, planned inspections of critical areas, and periodic inspections of record keeping and other less critical areas. When required, the QCS reported deficient areas to the Senior Project Manager and ensured proper corrective action was taken. In addition, the QCS made suggestions for improving the quality of the work being performed.

Prior to mobilization the QCS reviewed all employee records to ensure that DEI employees were trained and qualified for the work to be performed. During operations, the QCS ensured that various workplans were complied with and that required publications and equipment were available. In addition, the QCS ensured that equipment was serviceable and properly calibrated before use.

QCS inspections were made of the following areas critical to proper accomplishment of this project:

- One hundred percent of all scrap metal was inspected to ensure that no hazardous components were present. In addition the QCS monitored the segregation inspection conducted by the UXO Technician and the final inspection by the SPM.
- Ten percent of each Impact Area was inspected to ensure that no ordnance items or scrap was present. These inspections resulted in sweep operations being repeated on Impact Areas 3A and 3B.

- Daily safety briefings and employee compliance with safety procedures were continuously monitored.

**5. Safety**

The overall operation was conducted safely with no significant injuries to DEI personnel. The high degree of safety awareness is evidenced by the absence of injuries in a harsh environment with extremely rugged terrain, high wind conditions and potentially hazardous ordnance. The physical nature of the jobsite created numerous trip and fall hazards from unstable a'a lava and loose cinders as well as tripping and scratching hazards from plants in the "All Other" areas. Daily safety briefings, proper use of personnel protective equipment and continuous hazard recognition were key to completion of operations without injury to DEI personnel.

**6. Clearance Effectiveness**

Impact Areas 1, 2, 3a and 3b were subjected to a thorough visual search and all surface explosive hazards have been removed. It should be noted, however, that Impact 3b is covered with loose soil and is accessible to the public. The possibility exists that ordnance and ammunition items may become revealed at Impact Area 3b due to soil erosion and civilian hunting/shooting activity.

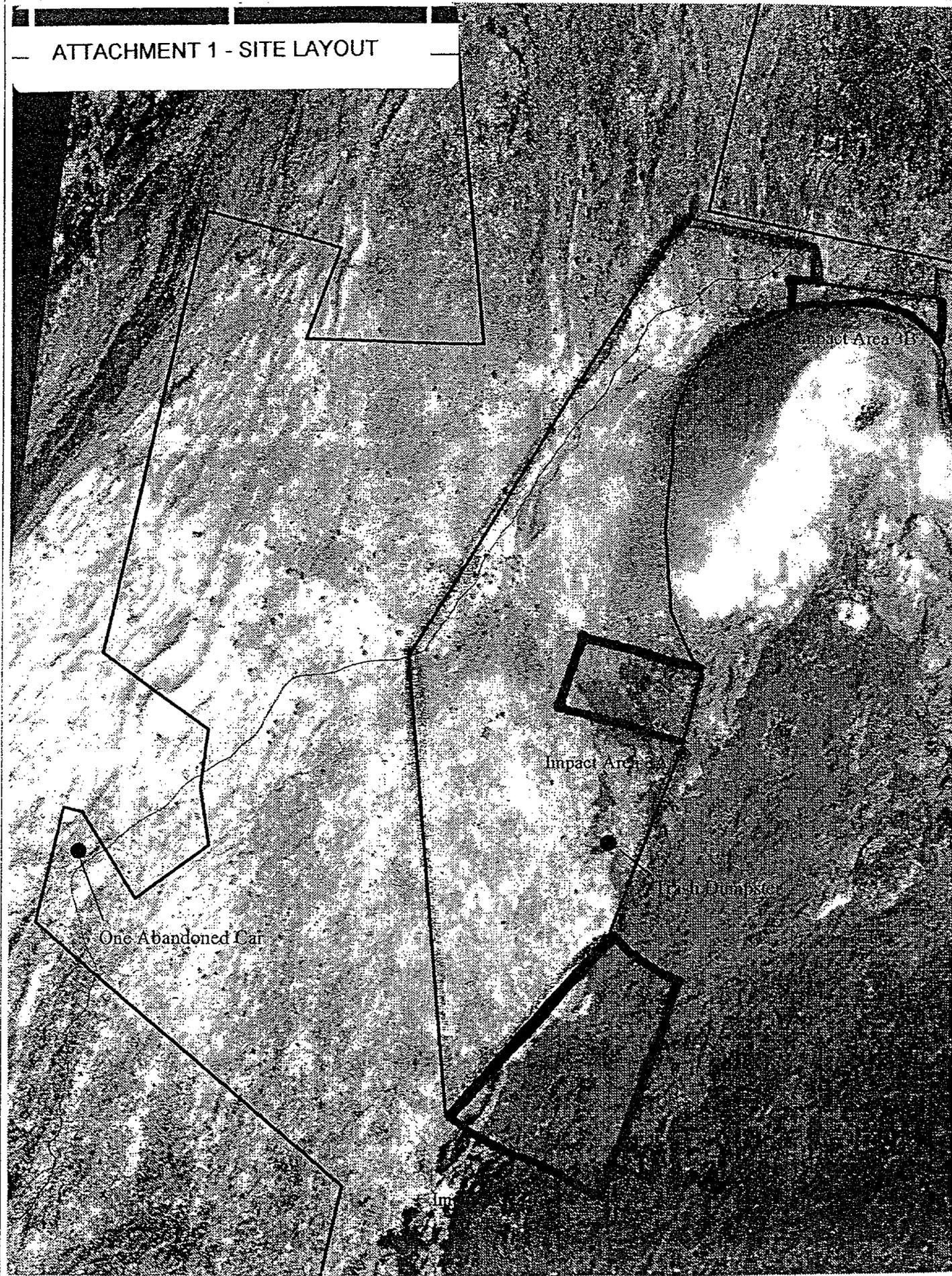
**7. Summary**

DEI performed surface OE/UXO removal operations at The Kanaio Impact Range in a safe, systematic manner using proven operating techniques and methods. All Impact Areas and the "All Other" areas were swept and checked to ensure complete removal of all hazardous ordnance and ordnance related waste. Quality Control procedures were implemented to ensure the completeness and accuracy of the work performed. All work was completed on time and without injury.



Byron Donaldson  
Vice President  
DONALDSON ENTERPRISES, INC.

ATTACHMENT 1 - SITE LAYOUT





LEGEND

- Locations of Interest
- ▭ Police Sweep Area
- ▭ Impact Areas
- ∟ Property Line
- ∟ Dirt Road
- ∟ Improved Road

NOTES

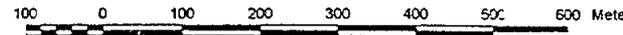
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3. PROJECT NUMBER 3-1300-0021
4. FILE : \\GIS\HAWAII\MAUI\KANAIO.APR

SOURCES

1. U.S. GEOLOGICAL SURVEY DIGITAL LINE GRAPHS, 1983.
2. R.M. TOWILL CORPORATION, 1963.

TITLE

Impact Areas and Additional Areas



Donaldson Enterprises, Inc.

DATE	REV	DRWN	INT	CHKD	INT	APPR	INT
3/1/96		JCS		HFP			

FIGURE

22-3

**ATTACHMENT 2 - DAILY SUMMARY**

**29 Nov 98**

DEI mobilizes personnel and equipment to Maui.

**30 Nov 98**

DEI, GBI and Archeologists do introductions and initial safety briefs. DEI personnel perform surface ordnance sweep of Impact Area 3B and begin marking/flagging outside perimeters of the "All Other" area.

Sweep results:

1. 10.5 lbs. of ordnance related scrap collected.
2. 8.5 lbs. of non-ordnance related scrap collected
3. Ordnance items found include small arms ammunition and shotgun shells.

**1 Dec 98**

DEI personnel mark/flag outside perimeter of Impact Area 3A and complete marking/flagging outside perimeter of "All Other" area. DEI personnel perform surface ordnance sweep of Impact Area 3A.

Sweep results:

1. 171 lbs. of ordnance related scrap collected.
2. 10.5 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include 81mm mortar sub-caliber rounds and signaling flare tubes.

**2 Dec 98**

DEI personnel perform surface ordnance sweep of Impact Area 1.

Sweep results:

1. 87.5 lbs. of ordnance related scrap collected.
2. 18.5 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include live and practice 40mm rounds, M73 sub-caliber rounds, LAW rocket motor tubes, signaling flare tubes and tail booms to recoilless rifle rounds.

Live ordnance items found were:

- 1 Each 40mm practice round
- 1 Each LAW rocket warhead with fuse
- 2 Each LAW rocket warheads without fuse
- 1 Each 40mm H.E. round

**3 Dec 98**

DEI personnel perform surface ordnance sweep of Impact Area 2.

Sweep results:

1. 424 lbs. of ordnance related scrap collected.
2. 3 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include practice 3.5-inch rockets, practice 81mm mortar rounds, LAW rocket motor tubes and 81mm sub-caliber rounds.

Live ordnance items found were:

- 1 Each practice 81mm mortar with live fuse
- 2 Each LAW rocket warhead with fuses
- 1 Each LAW rocket warhead without fuse
- 1 Each 40mm H.E. round

**4 Dec 98**

DEI performs a re-sweep of Impact Area 3B and begins surface sweep of the west side of "All Other" area.

Sweep results:

1. 38 lbs. of ordnance related scrap collected.
2. 39 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include small arms brass and practice grenades.

**5 Dec 98**

DEI continues surface sweep of west side of "All Other" area..

Sweep results:

1. 64.5 lbs. of ordnance related scrap collected.
2. 5 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include 155mm projectile scrap, sub-caliber LAW rocket motor tubes and small arms brass.

**7 Dec 98**

DEI completes surface sweep of the west side of the "All Other" area and begins surface sweep of the east side of the "All Other" area.

Sweep results:

1. 39 lbs. of ordnance related scrap collected.
2. 32.5 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include 155mm projectile scrap, flare tubes and small arms brass.

**8 Dec 98**

DEI completes the surface ordnance sweep of the east side of "All Other" area. DEI QCS and UXO Technician begin inspection and segregation of ordnance related scrap for hazardous items.

Sweep results:

1. 27 lbs. of ordnance related scrap collected.
2. 23.5 lbs. of non-ordnance related scrap collected.
3. Ordnance items found include small arms brass.

**9 Dec 98**

GBI does Quality Control (QC) inspection of the Impact Areas. DEI re-sweeps Impact Area 3A after QC failure and passes the QC re-inspection. DEI starts GPS mapping of Impact Areas and "All Other" area.

Sweep results:

1. 25 lbs. of ordnance related scrap collected.
2. Ordnance items found include 81mm mortar sub-caliber rounds and small arms brass.

**10 Dec 98**

DEI and GBI start clean up of trash in Lava Tube. DEI continue with GPS mapping.

**11 Dec 98**

DEI and GBI finish removing trash from Lava Tube. DEI samples soil of Impact Area 3B and the Lava Tube. DEI finishes with the GPS mapping operations. GBI has a helicopter remove the abandoned cars and associated metal from Kanaio Impact Range.

**12 Dec 98**

GBI takes scrap collected by the helicopter and 139.5 lbs. of non-ordnance related scrap collected by DEI to a scrap metal dealer.

**14 Dec 98**

DEI burns all live small arms ammunition collected during the sweep operations. GBI makes required notifications in preparation for following day's demolition operations.

**15 Dec 98**

DEI performs demolition operations to dispose of the ordnance items found on Impact Area 1 and 2 and to demilitarize practice 81mm mortar rounds. DEI completes the sampling for explosive residue on ordnance related scrap. DEI SPM conducts 100% inspection of scrap metal.

**16 Dec 98**

DEI turns in 886.5 lbs. of ordnance-related scrap to scrap metal dealer. DEI begins demobilization operations.

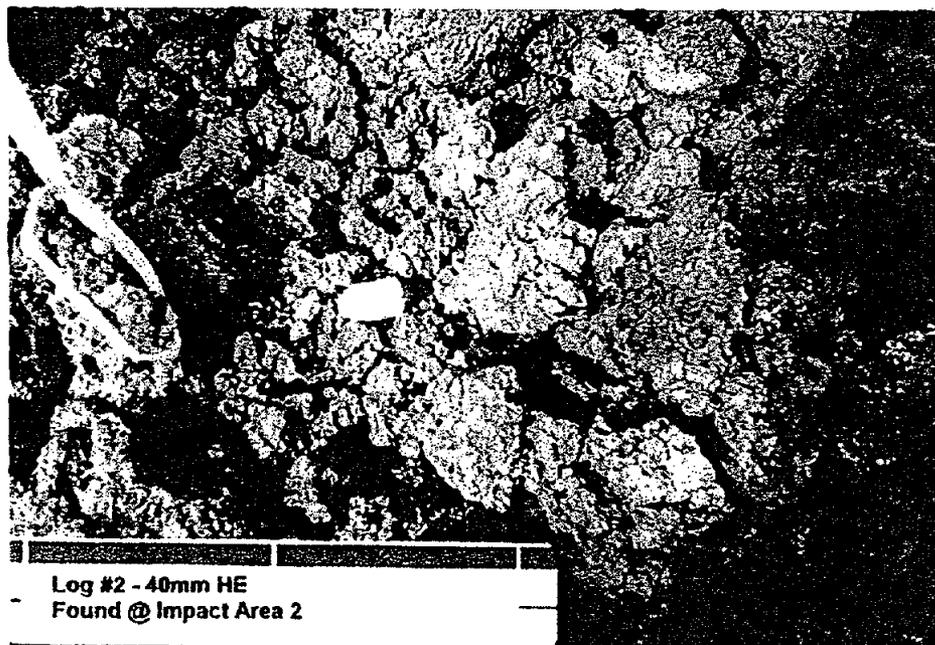
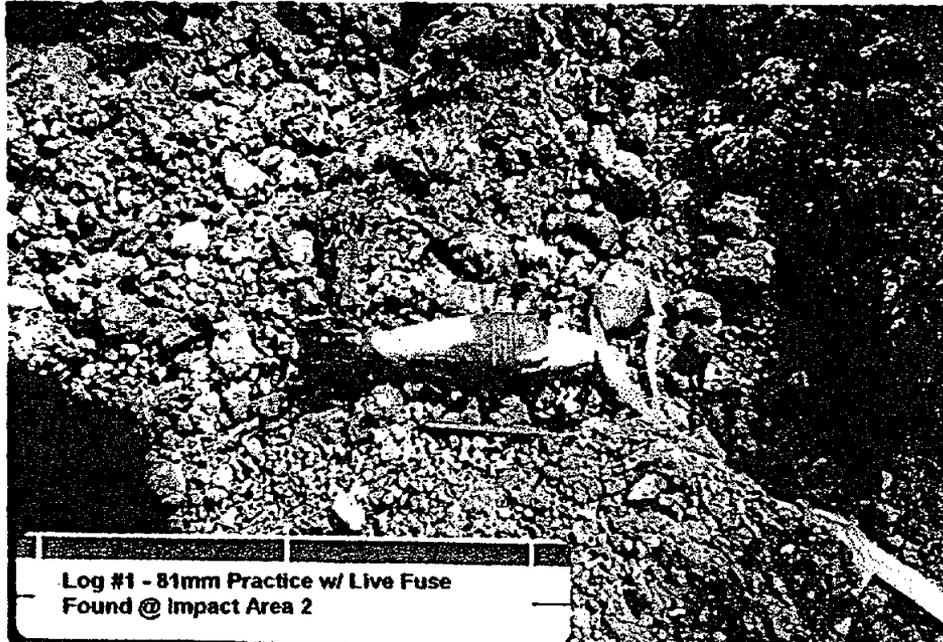
**17 Dec 98**

DEI completes demobilization operations.

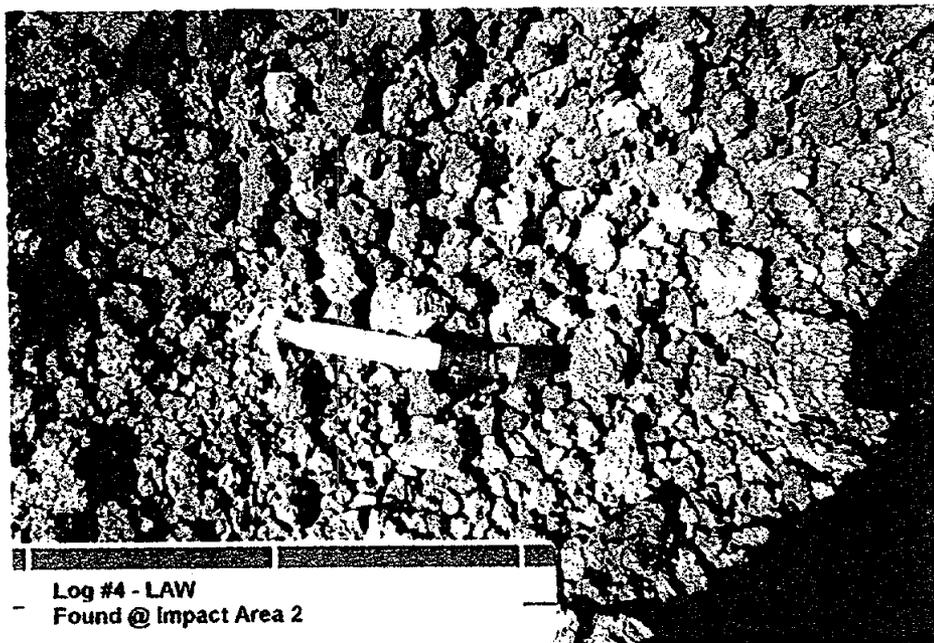
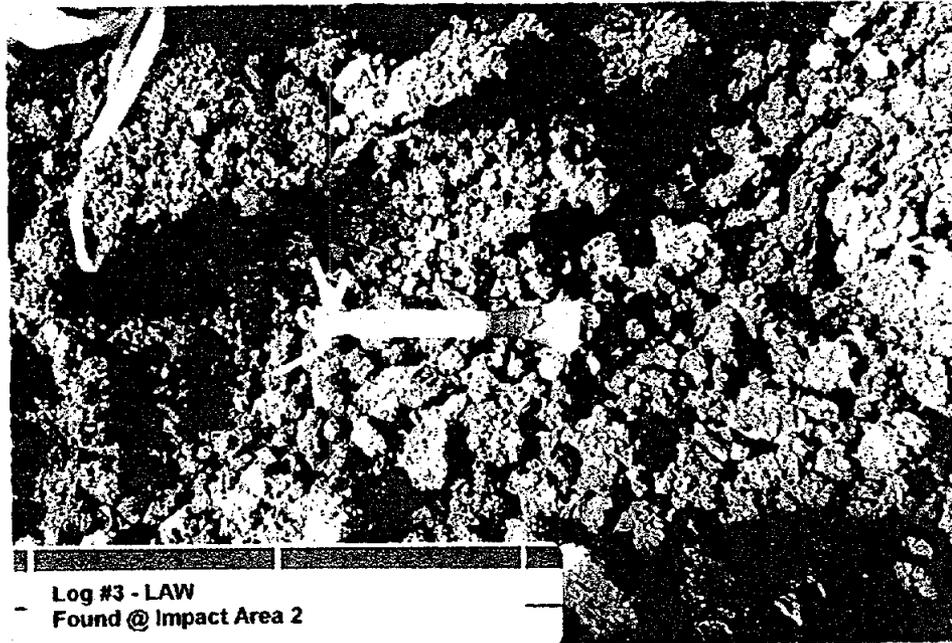
**ATTACHMENT 3 - EXPLOSIVE ORDNANCE SUMMARY**

<b>Description</b>	<b>Location Found</b>	<b>Photo Log #</b>	<b>Date Found</b>	<b>Date Destroyed</b>
40mm Practice	Impact Area 1	6	2 Dec 98	15 Dec 98
40mm H.E.	Impact Area 1	5	2 Dec 98	15 Dec 98
LAW w/o Fuse	Impact Area 1	7	2 Dec 98	15 Dec 98
LAW w/o Fuse	Impact Area 1	8	2 Dec 98	15 Dec 98
LAW w/ Fuse	Impact Area 1	9	2 Dec 98	15 Dec 98
81mm Prac w/ Fuse	Impact Area 2	1	3 Dec 98	15 Dec 98
40mm H.E.	Impact Area 2	2	3 Dec 98	15 Dec 98
LAW w/ Fuse	Impact Area 2	3	3 Dec 98	15 Dec 98
LAW w/ Fuse	Impact Area 2	4	3 Dec 98	15 Dec 98
LAW w/o Fuse	Impact Area 2	10	3 Dec 98	15 Dec 98

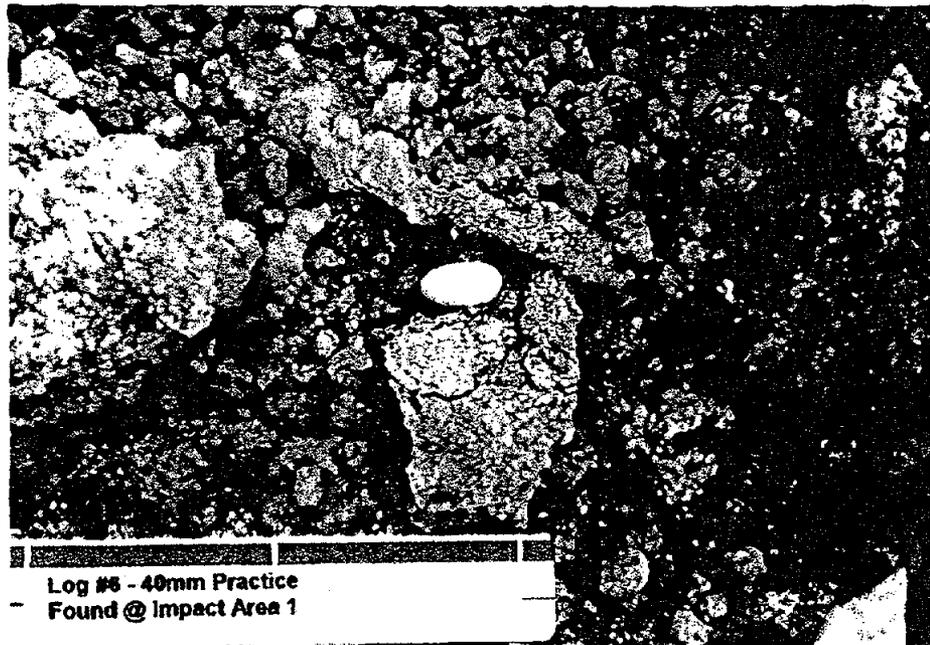
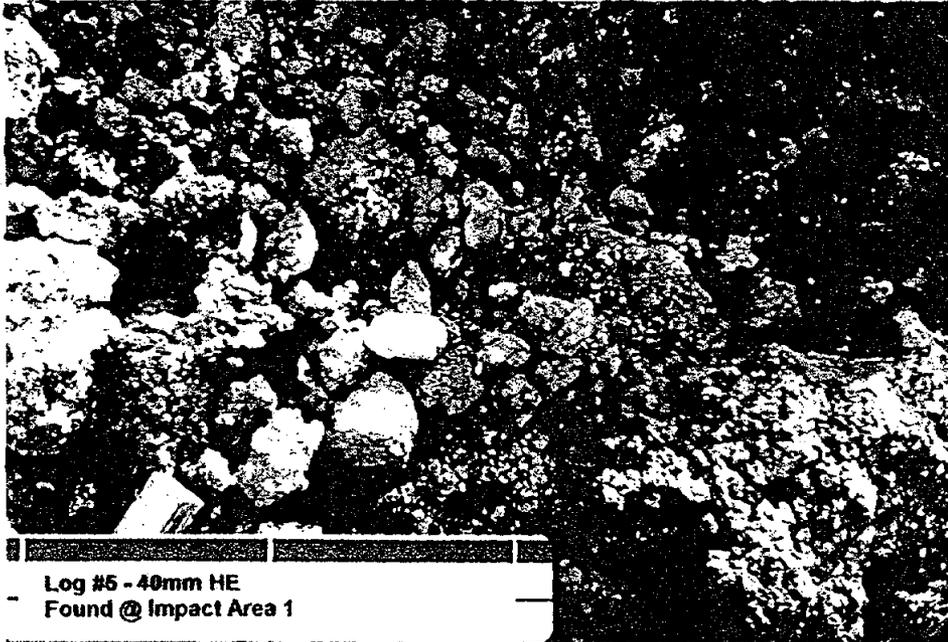
**ATTACHMENT 4 - ORDNANCE PHOTOGRAPHS**



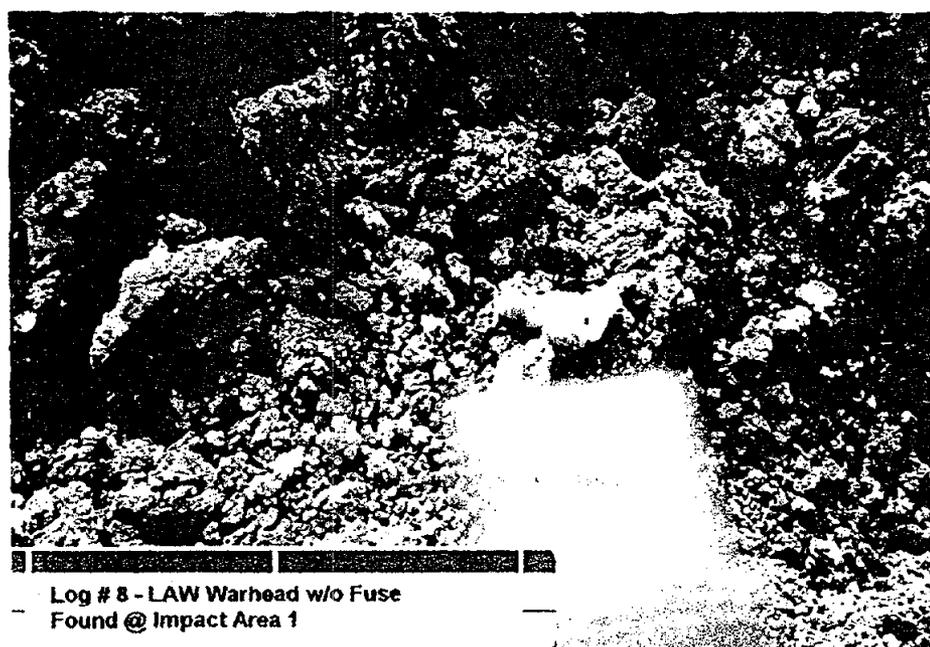
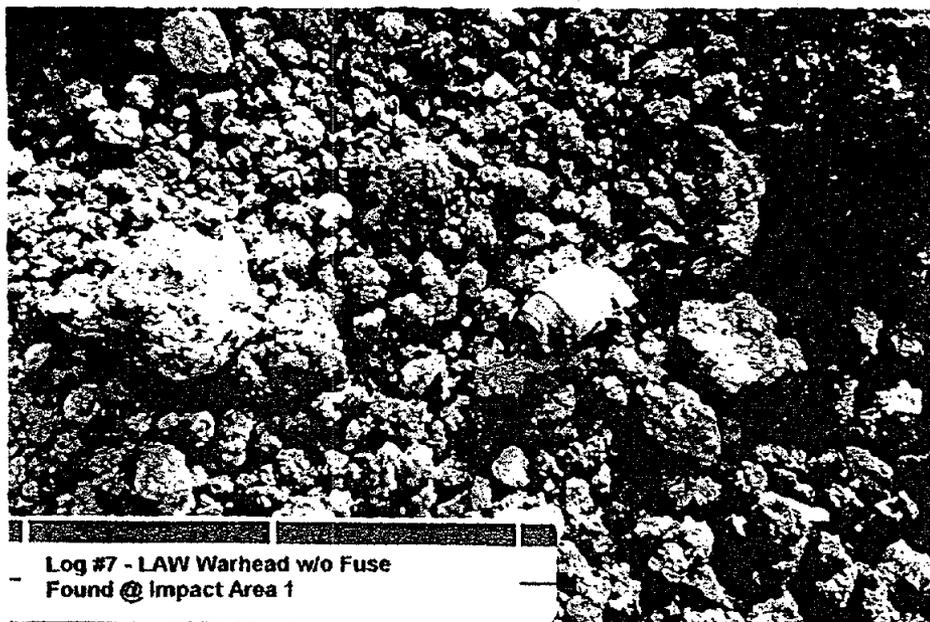
**ATTACHMENT 4 - ORDNANCE PHOTOGRAPHS (Cont.)**



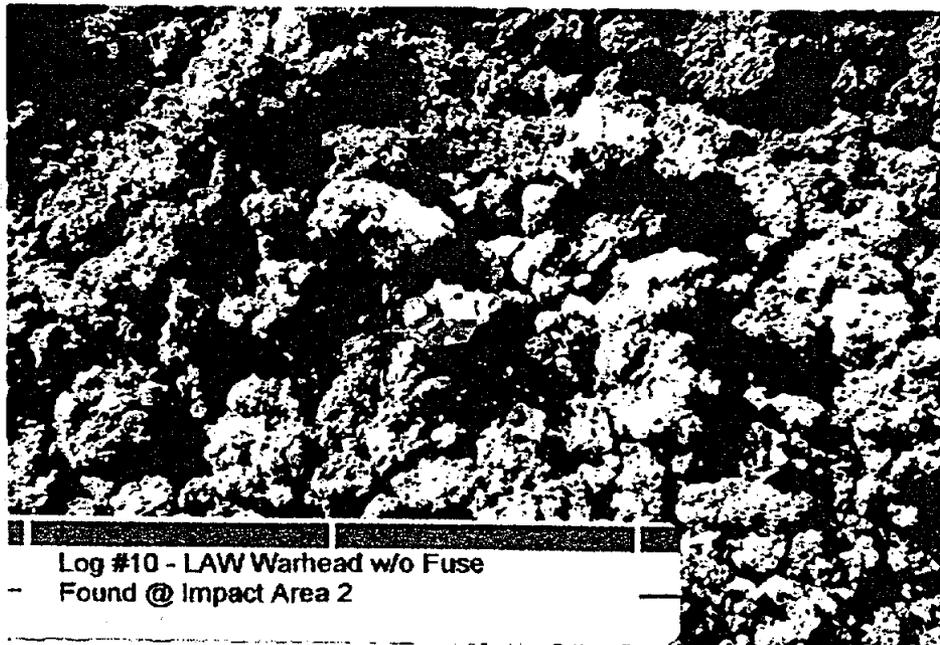
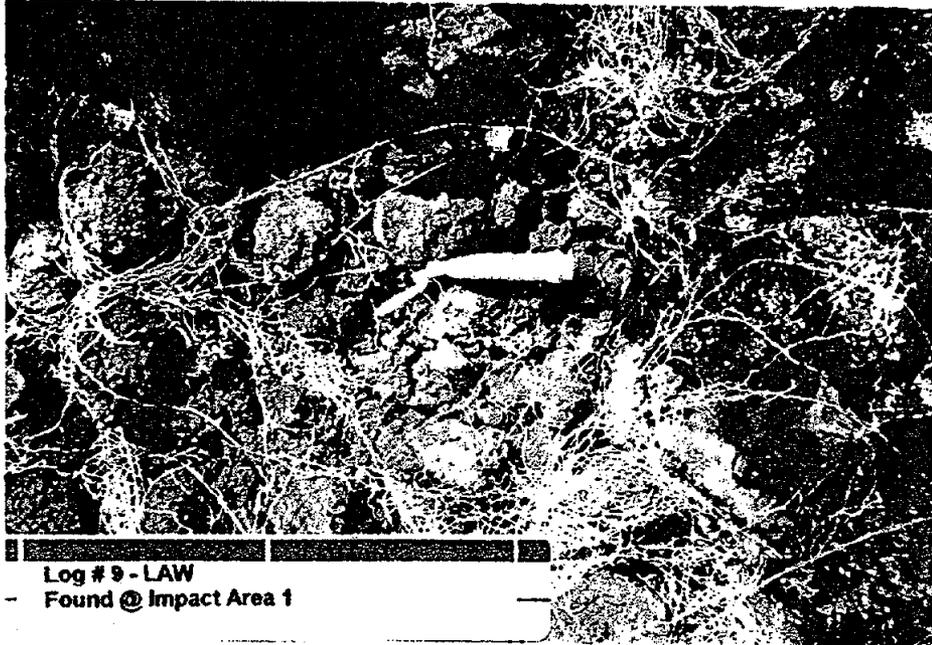
**ATTACHMENT 4 - ORDNANCE PHOTOGRAPHS (Cont.)**



**ATTACHMENT 4 - ORDNANCE PHOTOGRAPHS (Cont.)**



**ATTACHMENT 4 - ORDNANCE PHOTOGRAPHS (Cont.)**



> 1.5 ppm  
< .5-1.5 ppm  
< .5-1.5 ppm

TNT  
RDX

Scrap Metal  
Scrap Metal

Wipe  
Wipe

#7  
#8

## ATTACHMENT 5 - SCRAP METAL SUMMARY

Area	OE Scrap	Non-OE Scrap
Impact Area 1	87.5 lbs.	18.5 lbs.
Impact Area 2	424 lbs.	3 lbs.
Impact Area 3A	196 lbs.	10.5 lbs.
Impact Area 3B	10.5 lbs.	8.5 lbs.
"All Other"	168.5 lbs.	98.5 lbs.
Totals	886.5 lbs.	139 lbs.

**ATTACHMENT 6 - TEST SUMMARY**

<b>Sample</b>	<b>Type</b>	<b>From</b>	<b>Test</b>	<b>Results</b>
#1	Soil	Impact Area 3B	EPA 6010A	38 mg/Kg
#2	Soil	Impact Area 3B	EPA 6010A	Negative
#3	Soil	Impact Area 3B	EPA 6010A	Negative
#4	Soil	Lava Tube	EPA 5030	Negative
			EPA 8260	Negative
#5	Wipe	Scrap Metal	TNT	< 1.5-3.0 ppm
#6	Wipe	Scrap Metal	RDX	< .5-1.5 ppm
#7	Wipe	Scrap Metal	TNT	< .5-1.5 ppm
#8	Wipe	Scrap Metal	RDX	< .5-1.5 ppm



# Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

Client Project ID: Kwaiao  
Sample Matrix: Soil  
Analysis for: Lead, EPA 6010A  
Work Order #: 9812093

Sampled: Dec 11, 1998  
Received: Dec 14, 1998  
Prepared: Dec 14, 1998  
Analyzed: Dec 14, 1998  
Reported: Dec 16, 1998

QC Batch Number: ME1214983050MDA

### LABORATORY ANALYSIS FOR: Lead, EPA 6010A

Sample Number	Sample Description	Reporting Limit mg/Kg	Sample Result mg/Kg
98120290	#1	20	38
98120291	#2	20	N.D.
98120292	#3	20	N.D.

Analytes reported as N.D. were not present above the stated reporting limit.

L. PACIFIC

Aidan J. Scott  
Project Manager



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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

Client Project ID: Kwaiao  
Matrix: Soil

Reported: Dec 16, 1998

### QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Benzene	Trichloroethene	Toluene	Chloro-benzene
QC Batch#:	MS121498	MS121498	MS121498	MS121498	MS121498
	8020EXA	8020EXA	8020EXA	8020EXA	8020EXA
Analy. Method:	EPA 8260	EPA 8260	EPA 8260	EPA 8260	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	SL	SL	SL	SL	SL
MS/MSD #:	98120293	98120293	98120293	98120293	98120293
Samp. Conc. (µg/Kg):	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
Analyzed Date:	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
Instrument I.D.#:	MSD-1	MSD-1	MSD-1	MSD-1	MSD-1
Conc. Spiked (µg/Kg):	250	250	250	250	250
Result (µg/Kg):	291	280	287	286	274
MS % Recovery:	116	112	115	114	110
Dup. Result (µg/Kg):	284	284	268	283	271
MSD % Recov.:	114	114	107	113	108
RPD:	2.4	1.4	6.8	1.1	1.1
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	LCS121498	LCS121498	LCS121498	LCS121498	LCS121498
Prepared Date:	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
Analyzed Date:	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
Instrument I.D.#:	MSD-1	MSD-1	MSD-1	MSD-1	MSD-1
Conc. Spiked (µg/Kg):	250	250	250	250	250
LCS Result (µg/Kg):	110	114	108	110	111
LCS % Recov.:	44	46	43	44	44
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

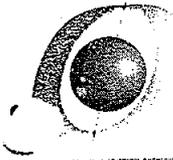
**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

L. PACIFIC

Aidan J. Scott  
Project Manager



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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

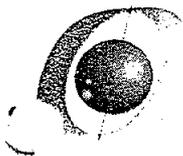
Client Project ID: Kwaiaio  
Sample Matrix/Description: Soil, #4  
Lab Sample ID: 98120293  
Work Order #: 9812093

Sampled: Dec 11, 1998  
Received: Dec 14, 1998  
Prepared: Dec 14, 1998  
Analyzed: Dec 14, 1998  
Reported: Dec 16, 1998

QC Batch Number: MS1214988260S1A

### VOLATILE ORGANICS COMPOUNDS (EPA 5030/8260)

Analyte	Reporting Limit mg/Kg	Sample Results mg/Kg
1,1-Dichloroethene.....	0.010	N.D.
cis-1,2-Dichloroethene.....	0.010	N.D.
trans-1,2-Dichloroethene.....	0.010	N.D.
1,2-Dichloropropane.....	0.010	N.D.
1,3-Dichloropropane.....	0.010	N.D.
2,2-Dichloropropane.....	0.010	N.D.
1,1-Dichloropropene.....	0.010	N.D.
cis-1,3-Dichloropropene.....	0.010	N.D.
trans-1,3-Dichloropropene.....	0.010	N.D.
Ethyl benzene.....	0.010	N.D.
1,2-Dichlorobutadiene.....	0.010	N.D.
2,2,6,6-Tetramethylcyclohexanone.....	0.050	N.D.
1,1,1-Trichloroethane.....	0.050	N.D.
Isopropylbenzene.....	0.010	N.D.
p-Isopropyltoluene.....	0.010	N.D.
Methylene chloride.....	0.010	N.D.
4-Methyl-2-pentanone.....	0.050	N.D.
Naphthalene.....	0.010	N.D.
n-Propylbenzene.....	0.010	N.D.
Styrene.....	0.010	N.D.
1,1,1,2-Tetrachloroethane.....	0.010	N.D.
1,1,1,2-Tetrachloroethane.....	0.010	N.D.
Tetrachloroethene.....	0.010	N.D.
Toluene.....	0.010	N.D.
1,2,3-Trichlorobenzene.....	0.010	N.D.
1,2,4-Trichlorobenzene.....	0.010	N.D.
1,1,1-Trichloroethane.....	0.010	N.D.
1,1,2-Trichloroethane.....	0.010	N.D.
Trichloroethene.....	0.010	N.D.
Trichlorofluoromethane.....	0.010	N.D.
1,2,3-Trichloropropane.....	0.010	N.D.
1,2,4-Trimethylbenzene.....	0.010	N.D.



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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

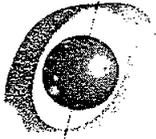
Client Project ID: Kwaiao  
Sample Matrix/Description: Soil, #4  
Lab Sample ID: 98120293  
Work Order #: 9812093

Sampled: Dec 11, 1998  
Received: Dec 14, 1998  
Prepared: Dec 14, 1998  
Analyzed: Dec 14, 1998  
Reported: Dec 16, 1998

QC Batch Number: MS1214988260S1A

### VOLATILE ORGANICS COMPOUNDS (EPA 5030/8260)

Analyte	Reporting Limit mg/Kg	Sample Results mg/Kg
Acetone.....	0.050	N.D.
Acrylonitrile.....	0.050	N.D.
Benzene.....	0.010	N.D.
Bromobenzene.....	0.010	N.D.
Bromochloromethane.....	0.010	N.D.
Bromodichloromethane.....	0.010	N.D.
Bromoform.....	0.010	N.D.
Bromomethane.....	0.050	N.D.
2-Butanone.....	0.050	N.D.
n-Butylbenzene.....	0.010	N.D.
i-Butylbenzene.....	0.010	N.D.
s-Butylbenzene.....	0.010	N.D.
Carbon disulfide.....	0.010	N.D.
Carbon tetrachloride.....	0.010	N.D.
Chlorobenzene.....	0.010	N.D.
Chloroethane.....	0.050	N.D.
2-Chloroethylvinyl ether.....	0.050	N.D.
Chloroform.....	0.010	N.D.
Chloromethane.....	0.010	N.D.
2-Chlorotoluene.....	0.010	N.D.
4-Chlorotoluene.....	0.010	N.D.
Dibromochloromethane.....	0.010	N.D.
1,2-Dibromo-3-chloropropane.....	0.010	N.D.
1,2-Dibromoethane.....	0.010	N.D.
Dibromomethane.....	0.010	N.D.
1,2-Dichlorobenzene.....	0.010	N.D.
1,3-Dichlorobenzene.....	0.010	N.D.
1,4-Dichlorobenzene.....	0.010	N.D.
trans-1,4-Dichloro-2-butene.....	0.050	N.D.
Dichlorodifluoromethane.....	0.050	N.D.
1,1-Dichloroethane.....	0.010	N.D.
1,2-Dichloroethane.....	0.010	N.D.



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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

Client Project ID: Kwaiao  
Sample Matrix/Description: Soil, #4  
Lab Sample ID: 98120293  
Work Order #: 9812093

Sampled: Dec 11, 1998  
Received: Dec 14, 1998  
Prepared: Dec 14, 1998  
Analyzed: Dec 14, 1998  
Reported: Dec 16, 1998

QC Batch Number: MS1214988260S1A

### VOLATILE ORGANICS COMPOUNDS (EPA 5030/8260)

Analyte	Reporting Limit mg/Kg	Sample Results mg/Kg
1,3,5-Trimethylbenzene.....	0.010	N.D.
Vinyl acetate.....	0.050	N.D.
Vinyl chloride.....	0.050	N.D.
m-&p-Xylene.....	0.010	N.D.
o-Xylene.....	0.010	N.D.

Surrogate	Control Limit %	% Recovery
Dibromofluoromethane.....	74	121
1,2-Dichloroethane-d4.....	80	120
Toluene-d8.....	81	117
4-Bromofluorobenzene.....	80	120

Analytes reported as N.D. were not present above the stated reporting limit.

L. PACIFIC

Aidan J. Scott  
Project Manager



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## Laboratory Report

Donaldson Enterprises, inc.  
45-1055 Kam Hwy., Suite 203  
Kaneohe, HI 96744  
Attention: Byron Donaldson

Client Project ID: Kwaiao  
Matrix: Soil

Reported: Dec 16, 1998

## QUALITY CONTROL DATA REPORT

Analyte:	Lead
QC Batch#:	ME121498
	3050MDA
Analy. Method:	EPA 6010A
Prep. Method:	EPA 3050A

Analyst: TKL  
 MS/MSD #: 98120305  
 Samp. Conc. (mg/Kg): 223  
 Prepared Date: 12/14/98  
 Analyzed Date: 12/16/98  
 Instrument I.D.#: Trace-1  
 Conc. Spiked (mg/Kg): 100

Result (mg/Kg): 301  
 MS % Recovery: 78 f

Dup. Result (mg/Kg): 337  
 MSD % Recov.: 114

RPD: 11.4  
 RPD Limit: 0-20

LCS #: LCS121498

Prepared Date: 12/14/98  
 Analyzed Date: 12/16/98  
 Instrument I.D.#: Trace-1  
 Conc. Spiked (mg/Kg): 100

LCS Result (mg/Kg): 100  
 LCS % Recov.: 100

MS/MSD	
LCS	80-120
Control Limits	

Please Note:  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference  
 f Matrix spike compound recoveries are outside method established limits due to matrix effects.

L. PACIFIC

Aidan J. Scott  
 Project Manager

**RECEIVED**

JAN 13 1964

GOODFELLOW BROS., INC.  
MAIN OFFICE

**POST FIELD SUMMARY REPORT  
OF ARCHAEOLOGICAL MONITORING AND  
RECONNAISSANCE CONDUCTED AT THE HAWAII ARMY  
NATIONAL GUARD KANAIO TRAINING AREA  
IN CONJUNCTION WITH AN EXPLOSIVE ORDNANCE  
REMOVAL PROJECT**

**Prepared for:**

Goodfellow Brothers Inc.  
P.O. Box 220  
Kihei, HI 96753

**Prepared by:**

Francis J. Eblé  
Francis Eblé Archaeological Consulting  
1839 Kahakai Drive  
Honolulu, Hawai'i 96814

Job No. 004

## **Introduction**

On 19 December 1998, Francis Eblé Archaeological Consulting (FEAC), under contract to Goodfellow Brothers, Inc. (GBI) completed three weeks of archaeological reconnaissance and monitoring at the Hawaii Army National Guard Kanaio Training Area (KNTA). Wendy Goodman, cultural resources manager for the Hawaii Army National Guard (HIARNG), served as the project Principal Investigator and Field Co-Director. Francis Eblé served as the project Field Co-Director. Work was enacted in response to an explosive ordnance removal project and was designed to insure compliance with applicable Federal and State historic preservation laws.

## **Project Area**

KNTA is located in Southeast Maui approximately 3.2 km SSE of Keone`ō`io (La Pérouse Bay). It is a 5,948-acre parcel of land extending north from shoreline up the south slope of Haleakalā, and lies in Kanaio Ahupua`a in the traditional district of Honua`ula (now part of the modern district of Makawao).

The project area encompasses KNTA Impact Areas 1, 2, 3a, and 3b and adjacent training land extending along the north, west, and east boundaries of the base of Pu`u Pimo`e (Figure 1).

## **Methods**

Archaeological reconnaissance was conducted within the training land. The four Impact Areas were excluded from reconnaissance as they had previously undergone inventory-level survey. Reconnaissance survey was accomplished by two archaeologists walking parallel transects (spaced from 15 to 20m apart) of a predetermined bearing and length. Survey was completed on 100% of the non-impact area portions. Archaeological monitoring consisted of inspecting the locations where live ordnance was to be blown in place and observing the clean-up and sealing of Site 3909 ("Garbage Pit Cave").

## **Results**

A total of 20 potentially significant archaeological sites (designated temporary site numbers T-1 to T-17, T-20, T-21, and T-22 were recorded) (Figure 2). In terms of function, sites reflect habitation, worship, burial, planting/agriculture, tool manufacture, and food processing. Table 1 provides a list of the sites recorded.

Detailed descriptions of these sites including functional interpretation and recommendations for future work will be offered in the draft technical report. Preliminary site significance assessments may also be offered. Certain site boundaries may be redesignated and a portion of the sites may be included within previously recorded archaeological sites.

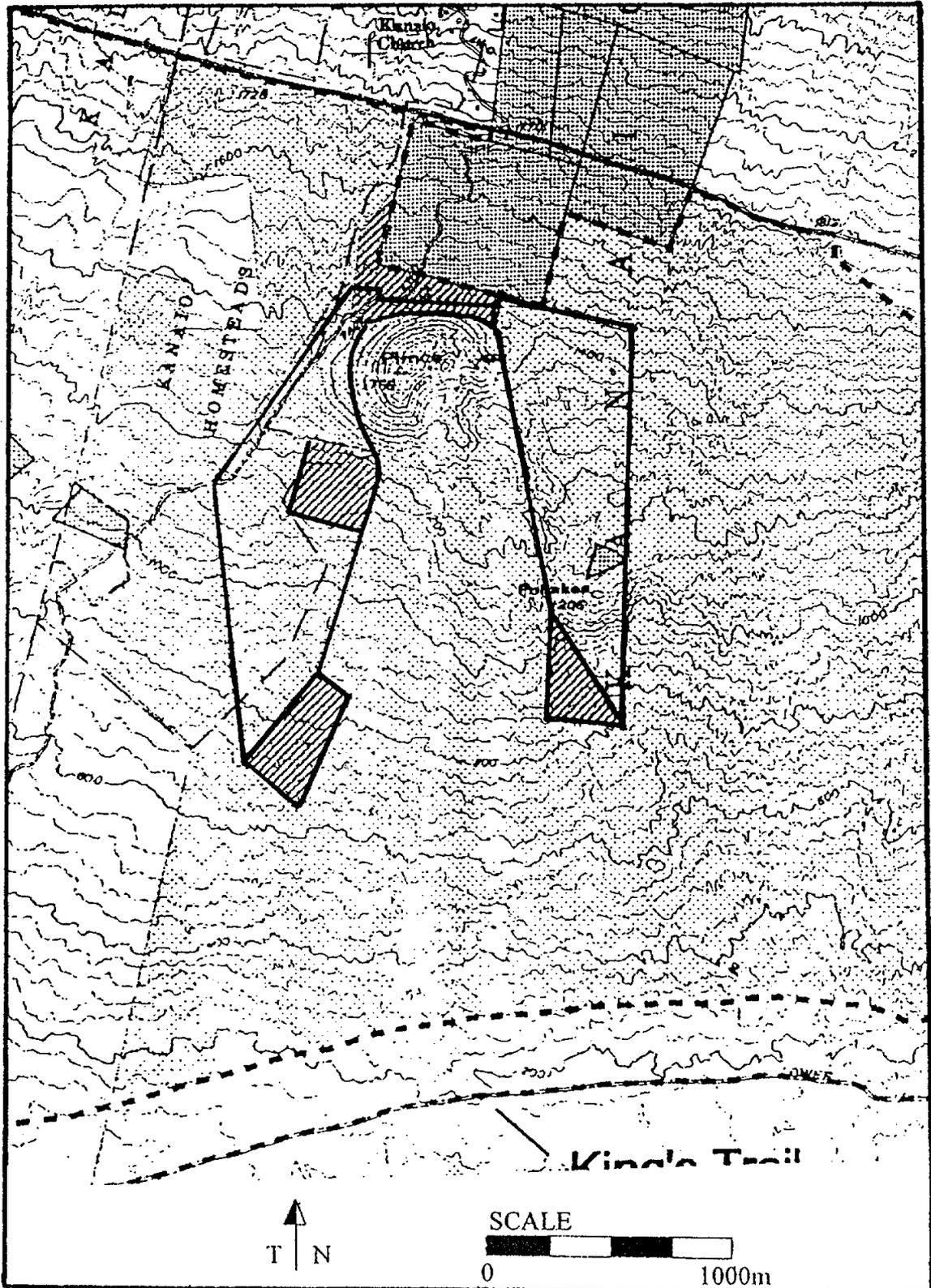


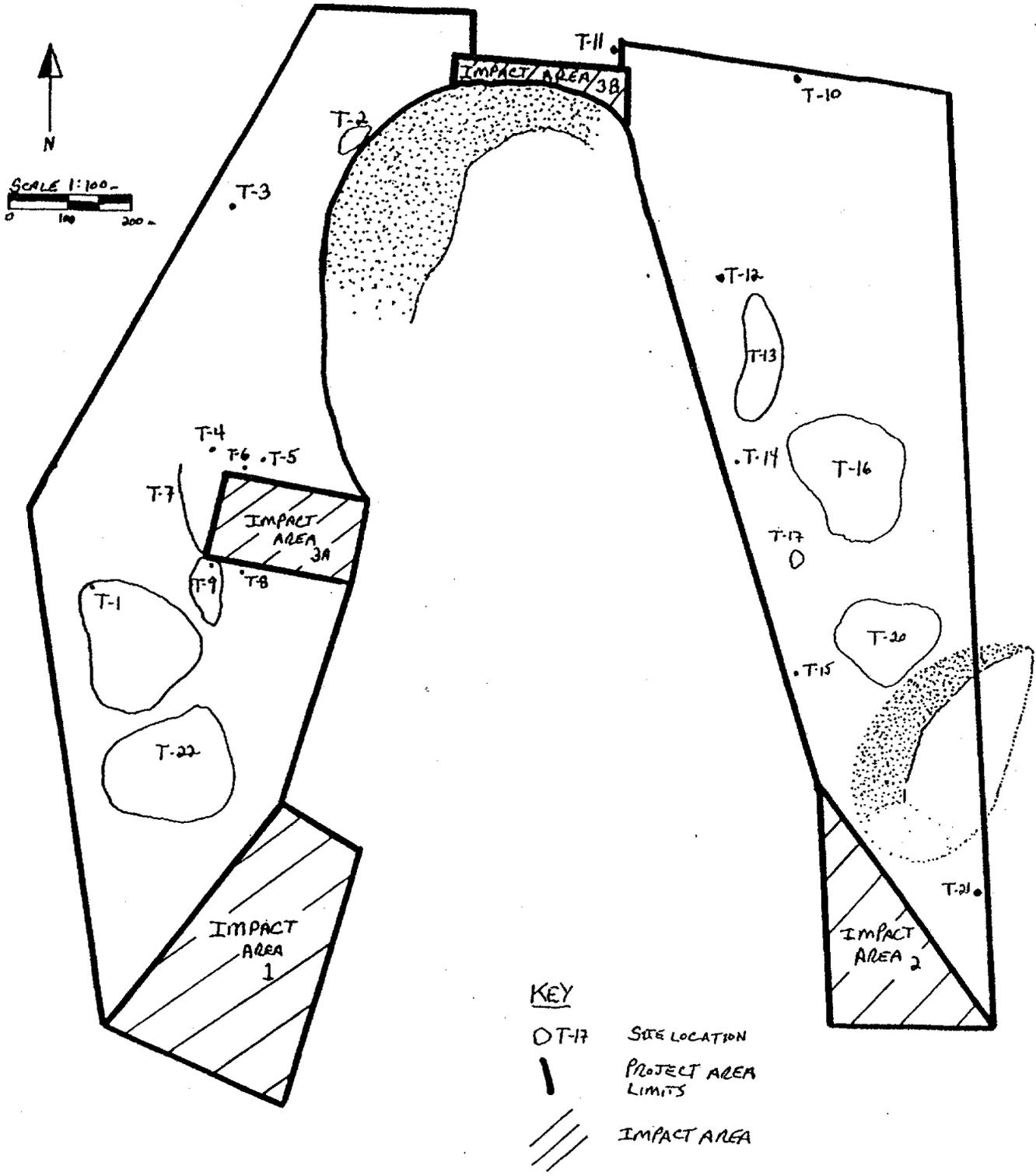
Figure 1. Project location map (basemap: USGS Makena Quad).

**TABLE 1.** Temporary Site List and Descriptions

Site	Site Location/ Dimensions	Description
T-1	Adjacent to and south of Site 3917 wall/ 200m N/S x 200m E/W.	A sprawling site composed of modified outcrops, some low, free standing enclosures, rough terraces, and surface artifactual and midden remains.
T-2	Southwest base of Pimo`e in eroded area/ 60 NE/SW x 100 NW/SE.	Area of isolated artifacts and midden, located at base of Pimo`e in an eroded and washed out area. Materials collected consisted of a partial poi-pounder, historic period ceramics, and fragments of marine shell.
T-3	West of Pimo`e, adjacent to and west of jeep trail/ 14m NW/SE x 7m NE/SW.	Two outcrop modifications consisting of small, low cairns or <i>ahu</i> .
T-4	Approximately 70m NW of NW corner of Impact Area 3a/ 50m N/S x 25m E/W.	Five outcrop modifications consisting of low pavings; also present were lithic debitage, marine shell and a breadloaf sinker.
T-5	Approximately 75m east of Site T-4/ 5m N/S x 4m E/W.	Small alignment of stones situated adjacent to rock outcrop.
T-6	Approximately 50m WSW of Site T-5/ 20 N/S x 12 E/W.	Two areas of poorly defined outcrop modifications consisting of an alignment, mound and pavings.
T-7	Extends to NNW from the north boundary of Site T-9/ 200m NW/SE x 60m NE/SW.	Poorly defined modifications to 200m-long linear rock outcrop; modifications consist of pavings or areas filled with cobbles and small boulders.
T-8	Approximately 20m S of Site 3917 wall/ 6m NW/SE x 4m NE/SW.	Small poorly defined terrace. (Probably to be combined with Site T-9).
T-9	Located adjacent to and south of Site 3917 wall/ 100m N/S x 85m E/W.	Sprawling site comprising a complex including a well defined stone enclosure exhibiting massive, core-filled walls, relatively poorly defined terraces, alignments, pavings, marine shell, and lithic artifacts. Features appear to be associated with planting/agriculture, habitation, worship, and possible burial. To the north of this site lie possible mulching pits in a barren a`a flow.

T-10	Located along the center of the northwestern boundary of the project area/ 1.5m NE/SW x .5m NW/SE.	Small alignment on slope, possibly non-cultural.
T-11	Located on the project area boundary approximately 30m N of Impact Area 3B/ 10m WNW/ESE x 8m NE/SW.	Small, poorly defined U-shaped alignment and nearby concentrations of rocks.
T-12	Located approximately 300m SSW of Site T-10/ 50m N/S by 30m E/W.	Two outcrop modifications consisting of roughly constructed mounds.
T-13	Located approximately 100m SE of Site T-12/ 200m N/S x 100m E/W	An area of exposed weathered pahoehoe exhibiting modified collapsed sinks, and lava tubes. It has been identified that, at a minimum, historic period burials are contained in a number of lava tubes and lava fingers.
T-14	Located approximately 75 m WSW of Site T-13 on hilltop/ 40m N/S x 30m E/W.	An area of a`a on a hilltop containing a number of pits/depressions, a small cupboard, and an alignment.
T-15	Located approximately 120m NW of Pohakea on a ridgeline/ 12m N/S x 2m E/W. A small shelter (15A) lies approximately 200 meters to the north measuring 3m NW/SE x 1.5m NE/SW.	Remnants of a low, core-filled wall, possibly part of a small enclosure; a small shelter constructed of aligned boulders lies 200m to the north along the ridgeline.
T-16	Located approximately 100m SE of Site T-13/ 200m N/S x 100m E/W.	An area of outcrop modifications consisting of rough retaining walls, rock mounds, and a c-shaped feature.

T-17	Located approximately 70m SW of Site T-16/ 30m N/S x 20m E/W.	Large modified outcrop exhibiting rough pavings, a rockshelter, and a cupboard.
T-18	See T-20	A knoll exhibiting areas of modified outcrop (redesignated as part of T-20).
T-19	See T-20	A small enclosure with free-standing walls (redesignated as part of T-20)
T-20	Located adjacent to and NW of the central NW base of Pohakea/ 150m N/S x 180m E/W.	An area of well-defined enclosures, roughly faced platforms, and lithic surface artifacts, also including features originally identified as part of Sites T-18 and T-19.
T-21	South of the southern base of Pohakea/ 8m NW/SE by 17m NE/SW.	Two rough pavings utilizing natural outcrop.
T-22	Located SW of Site T-1/ 200m N/S x 200m E/W.	A sprawling site of outcrop modifications and rockshelters.
T-23	-	Eliminated



**KEY**

- T-# SITE LOCATION
- ▮ PROJECT AREA LIMITS
- ▨ IMPACT AREA

Figure 2. Project area and preliminary site locations.



**DONALDSON ENTERPRISES, INC.**  
Bomb Disposal Services

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DEC 30

**GOODFELLOW BROS., INC.**  
MAIN OFFICE

Goodfellow Bros, Inc.  
P.O. Box 220  
Kihei, Maui 96753  
Attn: Ken Gift

Subj.: Recommendation to close Range 3B.

It is recommended that range 3B located at the Kanaio Range, Ulupalakua be closed at this time. A total of three samples were taken at random points along the length of the former small arms firing range at a depth of zero to fifteen inches in what is believed the heaviest concentrated areas. The results of the testing conducted at the site on 12/11/98 are attached. All levels are below the State and federal requirements for actions for soils contaminated with lead.

**Byron L. Donaldson**  
**Vice President**

45-1055 Kamehameha Highway Ste 203, HI 96744  
Tel: (808) 235-BOMB (2662); (808) 235-FUSE (3873)  
E-mail dei@aloha.net

Maui Field Trip  
Monday, June 1 to Friday, June 5, 1964

The purpose of this trip was to make routine inspections of certain large pasture leases and cover pertinent problems at hand.

June 1, 1964

Arrived on Maui about 10:00 A.M. and went to the office for a brief planning meeting with Mr. Char.

Problem A - Stock in Forest Reserve

A copy of letter from Mr. Korte was taken to Mr. Char inasmuch as he had not been supplied with the information. Coincidentally Mr. Cheatham, the Land Agent for Pioneer Mill, came in and we discussed the matter of their cattle running in the reserve area (General Lease No. 3299). Mr. Cheatham took all the information and I am sure something will be done.

Problem B

In regard to the above subject, the area of forest reserve land above Haleakala Ranch (General Lease No. 3701) was discussed. It was learned that this fence line renewal had been abandoned because of a permit arrangement. Knowing that no such permit had been issued, a search of the files revealed that at the April 19, 1963 Board meeting, such a request had been passed on by the Board but somehow no action had been taken to prepare the document. Lillian Miki has been instructed to type a permit retroactive to the above date at the stipulated rate of \$25 per month for the estimated 400 acres.

June 2, 1964

Due to prearrangement Mr. Char was engaged in the auction of several leases on this date and transportation was not available for the lease study I had planned for that day so a very strenuous hiking trip was made over the Roger's Farm area, southeast of Wailuku (General Lease No. 3396). A ranger's report has been filed with the lease which clearly states the ranger's reaction to this very poor quality piece of State land. A resolution was made not to hike these areas alone again because of danger of injury. It might take days for a party to find someone in such sections.

June 3, 1964

A jeep was secured on this date for a trip into the Kahakuloa section for a further study of unencumbered lands which are being used by Maui Agriculture (C. Brewer) for pasture purposes. Tax Map Key 3-1-6:02, Lot 14, 187.97 acres.

Mr. Char thought he had worked out a reasonably close estimate of the usable area on this tract, but when some comparable measurements were taken, it was decided that we should wait for a survey then make a permit retroactive to the first of the year.

General Lease No. 3289 to Kaonoulu Ranch -- A lease comprising two parcels below the road and just beyond the Kula sanitarium was visited in the afternoon (ranger's report filed).

This area is showing the neglect -- typical of many of our ranch lands today. A heavy growth of weed species is coming in and little or no effort is being made to control them. While in the area, I visited the Polipoli springs area to get an idea of the potential. An excellent stand of high elevation grass has taken over in this area. Likewise the Black wattle (accasia decurrens) (a weed species) is doing very well and will eventually take over in this 5,000-foot elevation section if nothing is done to control it.

June 4, 1964

As jeep was available I went over the lower section of leases along the Leeward side of the island beyond the Ulupalakua Ranch.

These leases being General Lease No. 3700 and the 14,225-acre Hawaiian Home Lands held under General Lease No. 2921. Ranger's reports have been filed on each area.

Due to failure of someone to observe the ranger's request in drawing General Lease No. 3700, no special condition exists as stipulated requiring the ranch to rest these lands periodically for the purpose of developing crops of grass seeds for the renewal of stands of annual grasses.

This section has been dry for some time and the grass around the cinder hill is very short. General Lease 2921 to Ulupalakua Ranch (Ranger's report filed) has a good coverage of Pili and natal red top in the lower section and dry, but the cattle are doing quite well.

The upper section above 4,000 feet was banked in clouds and no attempt was made to complete the study on this trip.

I visited with Armitage (foreman) for some time on the way back and picked up little information and some request:

1. It was Mr. Armitage's belief that the ranch owners would be receptive to a revocable permit on Tax Map Key 1-5-11:7, 68 acres, which was put up for sale recently with an up-set price above the calculated value as set by the ranch and which went unsold at the recent sale if the price was right.

I suggested an annual rate of \$90.00 which would be in line with the actual usable area of 23+ acres ~~per auy~~ *at 4 ac per auy* (6 auy x 15.00). Due to lack of access, this is about all we can do with the area.

2. The large General Lease No. 3238 which covers much of the Kuleana country below the ranch has four (4) small parcels lying below the beach road and likewise, makai of the one long fence paralleling the road. The parcels are low grade pasture to actual portions of the cinder cone. It is not practical to include these parcels in the major pasture area as the returns would not justify fencing and water development. The ranch has asked that these parcels be withdrawn from their lease. I asked Armitage to give us a letter regarding the matter. *parcels being*

*2-1-06: 29, 31, 32, + 68*

June 5, 1964

As the jeep was needed by the Division of Fish and Game on this date, it was necessary that I return it early in the morning, therefore, no other visits could be made on Friday.

A. M. HIERONYMUS

AMH:jf

**ULUPALAKUA RANCH, INC.**

ULUPALAKUA, MAUI, HAWAII, 96790

September 14, 1964

Mr. Louis De Ponte  
RR-19  
Waiakoa, Maui, Hawaii

Dear Mr. De Ponte:

I understand that there has been some misunderstanding over the use of the road from the Kanaio Prison to the beach. I have seen the exert concerning trespass from Chapter 312 of the Revised Laws of Hawaii 1955, which you have distributed.

We do not believe that the roads built by the ranch for the purpose of checking the water system can be classified as "established and well-defined roadways." We intend to continue to prevent the general public from using such roads for travel and we only allow persons who have first obtained permission from the ranch to travel these roads. We will, of course, provide a suitable right-of-access to property owners, however it might not necessarily be over roads which we have built for ranch use only.

To our knowledge the only "established" trail to the beach lies along the ocean and may be traveled by anyone at anytime. The ranch maintains that this is the only "established" access route to the beach area below Kanaio. If you have information to the contrary we would appreciate being informed of our error.

We realize that you claim an interest in real property located makai of the ranch gate in the Kanaio area and therefore claim a right-of-access.

While we believed your claim to tax key parcel 2-1-04-4 was of dubious merit, we had continued to grant you right-of-access until such time as we could verify your claim. We now feel that your claim to the above mentioned parcel has no merit and we intend to withhold right-of-access until such time as you can substantiate your claim. This action has been taken as it is our understanding that you had abused the disputed right-of-access and had been using our water road not for access to your property but to allow others to travel to the beach for fishing and other purposes.

**ULUPALAKUA RANCH, INC.**

ULUPALAKUA, MAUI, HAWAII, 96790

Mr. Louis De Ponte  
RR-19  
Waiakoa, Maui, Hawaii

September 14, 1964  
Page 2

We realize that you still claim right-of-access due to your position with Fish & Game. We intend to take this matter up with Fish & Game but access shall be granted only for the limited purpose of checking on hunting and fishing.

Sincerely,



C. Pardee Erdman, Jr.  
ULUPALAKUA RANCH, INC.

CPE:bi

TAKEN FROM "CHAPTER 312" OF THE REVISED LAWS OF HAWAII 1955,  
as Amended.

NOTE: CHAPTER HAS TO DO WITH "TRESPASS".

-----

SS. 312-1. TRESPASS, PENALTY. Whoever, without right, enters or remains in or upon the dwelling house, buildings or improved or cultivated lands of another or the land of another about or near any buildings used for dwelling purposes, after having been forbidden to do so by the person who has lawful control of such premises, either directly or by notice posted thereon, and any person who wilfully tears down or defaces any such notice, shall be guilty of misdemeanor and upon conviction shall be punished by fined of not more than \$250, or imprisoned not more than three months, or both; provided, that entry upon or passing along or over established and well-defined roadways, pathways or trails leading to public beaches over government lands, whether or not under lease to private persons, shall not of itself constitute the offense of trespass, and anyone entering upon or passing along or over any such roadway, pathway or trail on his way to or from a public beach shall be liable only for such actual physical damage as he may cause in so doing.

-----END-----

Real Property

November 25, 1964

Mr. James H. Armitage  
Ulapalaka Ranch, Inc.  
Ulapalaka, Hawaii 96790

Dear Mr. Armitage:

Thank you for your letter of November 16 with reference to our plans to establish a firing range on State-owned lands in the Makana area.

I sincerely regret the misunderstanding of your position as regards the proposal for this range and assure you that the Department of Defense will not act to the detriment of your best interest. However, commitments we may have, the welfare of the people of Hawaii will always be considered uppermost. The Hawaii National Guard has always enjoyed the cooperation and support of the local citizens and we sincerely hope that this goodwill shall continue to prevail.

Since we have been forced to close our Paukukalo Range for safety reasons, we are interested in the establishment of a rifle and submachine gun range on Maui. Attached herewith is a map of Maui covering the Makana quadrangle indicating the area under consideration. It would be appreciated if you be advised of the position of Ulapalaka Ranch as regards further pursuit on negotiating for this area as a range and training area. We will suspend any further action on this until we hear from you.

I appreciate your many courtesies in the past and sincerely hope that you will be able to assist us in the establishment of this range.

With best personal regards.

Sincerely,

ROBERT I. STEVENSON  
Major General, HANG  
Adjutant General

hcc:3

*File*  
601.53- Kanaiio,  
Makawao, Maui

# ULUPALAKUA RANCH, INC.

ULUPALAKUA, MAUI, HAWAII, 96790

December 1, 1964

AGO COPY

Major General Robert L. Stevenson  
Adjutant General HARNG  
Department of Defense  
Fort Ruger  
Honolulu, Hawaii 96816

Dear General Stevenson:

We acknowledge receipt of your letter of November 25, 1964 and the map designating the area that the Hawaii National Guard is interested in.

We realize that the Guard of necessity must have rifle and weapon ranges. We are quite willing to work out a surrender of a portion our General Lease S-3700 from the State providing a proper rental adjustment can be worked out with the Department of Land and Natural Resources, and also providing that additional operating costs or handicaps are not imposed upon us.

After studying your map we feel that a conference to review your needs and some of the problems which the Guard and we will encounter would be advantageous to both parties. Some of the facts which should be discussed at such a conference are listed below:

1. The Northwest portion of the area you desire includes several hundred acres of the best grazing land in General Lease S-3700.
2. In the same portion of the area there are at least five (5) parcels of fee simple land and to point the difficulties you will probably encounter in dealing with the owners of these land we note that one parcel containing 101 acres is owned jointly by some 29 persons.
3. In the area designated as your rifle range the County of Maui has a cinder quarrying operation.
4. Our watering facility for our cattle is in the area where you anticipate establishing your 106 mm Recoilless Rifle. PSN.

# ULUPALAKUA RANCH, INC.

ULUPALAKUA, MAUI, HAWAII, 96790

Major General Robert L. Stevenson  
Adjutant General HARNG  
Department of Defense  
Fort Ruger  
Honolulu, Hawaii 96816

December 1, 1964  
Page 2

5. There is an ancient Hawaiian burial cave in the North-west portion of the area which we feel should be protected and preserved.

6. At the extreme Southeast corner of the proposed impact area there is a brackish water pond which must be protected as it may be vitally important to us in times of drought.

7. There may be pipe lines and access roads to our adjoining pastures which would have to be relocated.

We do not wish to leave the impression that we are trying to discourage the Guard from the establishing the range but we do feel that there should be a complete understanding and airing of all the factors and problems involved before the range is established so as to avoid any conflicts or misunderstandings in the future.

In as much as the Department of Land and Natural Resources is involved may we suggest that a representative of that Department sit in on discussions of this matter as we can not finally commit ourselves to a surrender of a portion of the lease until we know what rental adjustment they are willing to make on the lease.

If you are agreeable to our suggested conference we will await a reply from you as to when such a meeting could be held and would suggest that it be held here so that any questions as to locations etc., could be gone over right on the site.

Sincerely yours,

ULUPALAKUA RANCH, INC.

By James H. Armitage  
James H. Armitage, Vice President  
AND Manager

JHA:bi

CC-Dept. of Land & Natural Resources

AGO CO

HEADQUARTERS  
HAWAII ARMY NATIONAL GUARD  
FORT RUGER, HONOLULU, HAWAII 96816

10 December 1964

File  
601.53-Range on Maui  
Kanai, Makawao, Maui

good  
Ray

the feasibility of establishing a range at Makawao. Based on your findings and recommendations, this headquarters will determine whether to further coordinate with Ulupalakua Ranch and the Department of Land and Natural Resources for the procurement of the range for a range.  
10 December 1964  
SUBJECT: Range on Maui

TO: Commanding General  
2 Incl 29th Infantry Brigade, HARNG, A. SCHAEFER, III  
as Fort Ruger, Hawaii 96816 Brigadier General, HARNG  
Commanding

Copy furnished:  
TAG-HAW

1. Forwarded herewith is a copy of a letter dated December 1, 1964, from Mr. James Armitage, Vice President and Manager of the Ulupalakua Ranch, Incorporated.
2. As evidenced by the contents of the above referenced letter and previous communication from Mr. Armitage dated November 16, 1964, copy also attached, the matter of the range on Maui leaves much to be desired regarding the coordination and staff planning. It also indicates that the facts as presented to this headquarters were in several instances either incorrect or misrepresented. This situation has caused the Department of Defense and this headquarters much embarrassment.
3. In order to determine whether this matter of a Maui range should be pursued further, it is desired that your headquarters accomplish the following:
  - a. Initiate a restudy of the area in question to determine whether this area is suitable for a rifle and weapons range.
  - b. Coordinate the restudy with Mr. Armitage personally.
  - c. Have a representative of your headquarters accompany members of 3d Battalion at the meeting with Mr. Armitage.
4. It is desired that the above be accomplished as soon as possible and a recommendation submitted to this headquarters on

HAWCOS  
SUBJECT: Range on Maui

10 December 1964

the feasibility of establishing a range at Makena. Based on your findings and recommendations, this headquarters will determine whether to further coordinate with Ulupalakua Ranch and the Department of Land and Natural Resources for the procurement of the area for a range.

2 Incl  
as

F. A. SCHAEFER, III  
Brigadier General, HARNG  
Commanding

Copy furnished:  
✓TAG-HAW

Fill  
Real Property  
MTH

00008

15 January 1965

MEMORANDUM FOR: Commanding General  
Hawaii Army National Guard

SUBJECT: Report of Visit to Maui

1. The undersigned together with Col Clyde W. Woods, Jr., visited Maui on 12-13 January 1965 for the following purposes:

- a. Coordinate use of the Ulowain Rifle Range with representatives of Pioneer Mill Company.
- b. Confer with officials of Ulupalakua Ranch for the use of the range as a target and training area.
- c. Survey of Maui facilities.

2. On Wednesday morning Col Woods, Capt Tavares and I inspected the Ulowain Range area and met with Mr. Jack Krause (Industrial Relations Director) of Pioneer Mill. This range was released by the Hawaii National Guard several years ago because it was no longer required as a range. However, with the closing of Paukukalo Range, there is an immediate requirement that a minimum of a 25 meter range be made available to Maui units in order to qualify personnel in rifle marksmanship. The area in question has recently been used as a source of fill material for development of the Kaanapali area. The known-distance range is therefore no longer in existence; however, the removal of fill material has left an area on the southeast section of the range suitable for a 25 meter range purpose. From a safety standpoint this area appears to satisfy all requirements; however, this will have to be determined by USARHAW.

b. In our discussion with Mr. Krause we indicated to him the urgency of the problem. We further advised him that our requirements are on an interim basis until such time as a permanent range is established on Maui. We indicated that the Maui units would be

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HAWAII

15 January 1965

SUBJECT: Report on Visit to Maui

utilizing this area for approximately 3 or 4 weekends a year spread over 3 months during the Spring. We also told him that since this was a 25 meter range there will be no permanent installations put on the range. Mr. Krauss indicated that for the immediate future Pioneer Mill could not visualize any reasons why this area could not be made available to the National Guard for range purposes. He did indicate that a study was underway for the development of a tram system in the vicinity of Olowalu into the West Maui mountains. He further indicated that he will confer with the Assistant Manager of Pioneer Mill and the individual in charge of lands and will advise Capt Tavares whether or not Pioneer Mill would permit this area for use as a rifle range. Based on this advice from Pioneer Mill to Capt Tavares, a use permit will be prepared by Col Woods for execution by Pioneer Mill and the Department of Defense. We anticipate this action to be forthcoming very shortly. Indications are that the Olowalu Range will be available to the Maui units.

3. On Wednesday afternoon Col Woods, Capt Tavares and I inspected the Makena area to determine the feasibility of this area for a rifle and weapons range and a training area for Maui units of the HAWAII. Our visit indicated the following:

(1) The northwest corner of the area desired covering approximately 1000 meter square including Pinos is good grazing land and utilized by Ulupalakua Ranch for this purpose. The remainder of the area east of Hillside Highway is primarily rough lava not suitable for grazing. There are 3 kipukas (pockets not covered by lava) with good grass for grazing. These kipukas provide limited grazing for cattle and some hogs during the dry seasons.

(2) There is a water hole at the southeast corner of the area under consideration (vicinity Kanaloa) which Ulupalakua Ranch must bore at all costs.

(3) A burial cave is located approximately 700 meters southeast of Hill Pinos which should be declared off-limits if the area is to be used. The burial cave, coordinates 744813 Makena-Maui Quad 125,000, is in the confines of the grazing area covered in subparagraph (1) above and should pose no problem.

(4) The establishment of a 25 meter range against Hill Pinos appears to be no problem.

(5) There is an area approximately 101 acres jointly owned by some PI families on the northwest corner of the area. There appears to be no problem for us to informally arrange for the use of this area for training purposes.

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144008

15 January 1965

144008: Report on Visit to Maui

While we were looking over the area, Mr. Pardee Erdman, owner of Ulupalakua Ranch, together with Mr. James Armitage arrived to join us at the scene. The reception by Mr. Erdman and Mr. Armitage was extremely cordial and they were amenable to our use of the area provided as follows:

(1) The water hole be protected from firing.

(2) The burial cave not be altered.

(3) No live firing in the northwest corner of the area and it be left for grazing. This area may be utilized for training and with proper permitting arrangements can be made with the multiple cover of the area. A simple land located within this area.

(4) The largest area south of the 800 foot contour poses no problem except that the 3 kipukas be declared "no fire" areas.

(5) The weapon positions are okay south of the Piilani Highway in the east half of the area requested.

(6) Provisions be made to post guards at the east and west limits of the lower trail to insure that weekend fishermen are kept out of the area. The ranch management will assist us in this matter by issuing fishing permits during firing weekends.

(7) The requirement for fencing the area was discussed at length. It was the consensus that fencing was not required and that by leaving the fence out Ulupalakua Ranch would have continued use of the area during the periods that the National Guard is not utilizing the area.

(8) It was understood that any damages caused by National Guard activities will either be repaired or rectified by the State.

9. After the discussion on the site we retired to the Ulupalakua Ranch office where we were met by Mr. Y. H. Char, Land Agent for Maui. The proposal was again reviewed in the presence of Mr. Char and he saw no exceptions on the part of the State Land Department to permit the National Guard to use the area under the terms acceptable by Ulupalakua Ranch.

10. It was decided that an agreement be drawn up by the Department of Defense incorporating all of the conditions listed above and that a draft be forwarded to Ulupalakua Ranch for their

15 JAN 1968  
SUN, 1968  
Department of Defense  
Honolulu, Hawaii

15 January 1968

concernance. In past to Alvin K. Hansen's concernance, the draft will be reviewed by the Chief of Staff for his review. The draft once approved will be finalized for submission to the Department of Defense for their approval.

The proposed arrangement for the use of this area as a rifle and machine gun training area for the 3d Battalion will require the establishment of a detailed range regulation to cover training in this area. Administrative controls to include notification of the public at least a week in advance must also be developed.

Mr. Alvin K. Hansen, Commanding Officer, 3d Battalion, was advised of the situation of the Hahaione Range situation.

Mr. Hansen made a comment in passing that the State should entertain an adjustment downward of the lease rental for the use of the State. However, it did not appear that this matter would have any serious effect on the proposed use of the area for range purposes.

The following covers the inspection of Maui Armory and specific recommendations for maintenance and repairs:

#### Maui Armory.

Fluorescent fixtures require major repair because of serious corrosion making the fixtures inoperable.

Large amount of rust is in area of water pipe and further will corrode.

This facility is in excellent condition and the need for repair of the sliding door in the basement floor at the rear of the armory. The interior walls and ceiling with the exception of the first floor offices are in good condition. Several windows require minor maintenance.

#### Kahului Armory.

A good many of the control mechanism for the opening and closing of the windows of the armory are inoperable and require repair. It appears that the primary trouble with the mechanism is that the set screws securing the control rods from the

B-89

(69)

15 January 1965

WASG:oo

SUBJECT: Report on Visit to Maui

crank handle to the several transfer gear boxes are not adequate. This problem can be resolved by having the various links connected with a pin from the collar through the control rods. Captain Favreca will secure bids to have this work done.

(17) Another major problem at Kahului is that the pipe lines servicing the armory grounds have been broken underneath the concrete flooring. As a result the system has had to be shut off and no water is available for the lawns at the front half of the armory. Capt Favreca was instructed to secure bids to realign the pipe line from an existing main located at the rear of the armory.

(18) The armory is also in need of a buffing and polishing machine in order to keep the armory floors maintained. Mr. Kobena was advised that as soon as funds are appropriated by the State the equipment will be made available to Kahului.

4. Kahului Organizational Maintenance Shop. This shop requires the following:

(1) Rehabilitation of the flammable storage quonset but to include painting and repairs to windows.

(2) Relocation of the equipment storage facility presently located outside of the OMS complex into the OMS area. This is scheduled for the immediate future by the State in accordance with their plans to widen and improve the road route adjacent to the OMS facility.

(3) The maintenance shop building requires reroofing of 5 of the existing bays to complete repairs to the building.

(4) Captain Favreca was advised that a purchase order will be issued for the replacement of the gasoline dispensing pump.

5. During our visit we also inspected several concrete bunkers located in the Kahului Airport area which were reported available for our use for ammunition storage. Our inspection revealed that there are 7 large concrete bunkers which will be requested through Mr. Cher of the State Department of Land and Natural Resources. These bunkers require but minor repairs to existing steel doors to make them usable. Once acquired, they will provide adequate facilities to store all ammunition required on Maui.

NAVJCS

15 January 1965

SUBJECT: Report on Visit to Maui

6. This trip to Maui proved to be extremely productive and worthwhile. Similar visits to Hawaii and Kauai will be scheduled in the immediate future.

E. M. YOSHIMASU  
Colonel, GS, HARRNG  
Chief of Staff

6 B-91  
69

FAW

*File  
Real Property  
CM*

State of Hawaii  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
Fort Ruger, Honolulu, Hawaii 96816

28 JAN 1965

HAWAII

Department of Land & Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Attention: Mr. James Detor

Gentlemen:

For some time this department has had a critical requirement for a training area for the conduct of weekend outdoor field training exercises and service firing of infantry weapons by the Army National Guard units on the Island of Maui. Recent negotiations with the Ulupalakua Ranch, Inc., have indicated that a portion of State-owned lands under lease to the Ulupalakua Ranch and located at Kanaio, District of Makawao, Maui are suitable and may be utilized for this purpose.

On 14 January 1965 a meeting was held with Mr. Pardee Erdman and Mr. James Armitage of the Ulupalakua Ranch, Inc., at which time the proposed usage of the land was explained and the conditions and restrictions governing such usage were discussed and agreed to by Mr. Erdman and Mr. Armitage. Mr. Y. H. Char, Land Agent for Maui, was also present at the meeting and concurred in the proposed usage of the land under the terms acceptable to the Ulupalakua Ranch.

Inclosed herewith is a draft of a proposed Use Permit Agreement containing the terms and conditions under which the Ulupalakua Ranch is willing to grant permission to this department for use of the area at Kanaio. The proposed use of the land as a training area will in no way affect its present use by the Ulupalakua Ranch and will require no adjustment in the existing State lease to the Ulupalakua Ranch, Inc. For your information the portion labeled "Area C" on the attached map,

*Similar to Sept L & N R. see Jimmy letter.*

28 JAN 1965

and designated as an impact area, is waste land covered by lava and for all practical purposes is impassable by men and animals except by means of the designated trails. Ranch personnel advise that during extremely dry periods cattle do sometimes find their way down into the "kipukas," and that is the reason these areas have been designated as "no fire" areas in the proposed use permit agreement.

It will be appreciated if you will please review the proposed use permit agreement informally and advise this office as to its adequacy and whether or not such an agreement would be acceptable to your department. We will take no further action to finalize this agreement until we have received your advice and comments.

Very truly yours,

ROBERT L. STEVENSON  
Major General, HARNG  
The Adjutant General

1 Incl:  
Proposed Use Permit



STATE OF HAWAII  
DEPARTMENT OF LAND  
AND NATURAL RESOURCES  
KAHULUI, HAWAII

March 12, 1965

Mr. Michio Takata, Director  
Division of Fish and Game  
Honolulu, Hawaii

Dear Mich:

I have just returned from a meeting and a ~~fit~~ field inspection of the pathway that is the cause of the petition filed by ~~Mr.~~ Mr. Corey on behalf of the 63 petitioners. The meeting was held at Ulupalakua Ranch with Mr. Char, Mr. Erdman, owner, and Mr. Armitage, ranch manager. The enclosed map (tracing) is a rough idea of the area in question and the roads involved.

According to the lease and the map that goes with the lease of said parcel, the trail from I to where it meets road AB consists of only one trail at AB and not two branched trails as indicated by C and D. AB on the US Geological Survey Map on which I made the tracing lists it as being the upper trail and LM as the lower trail. The controversy is about the use of jeep road FG which Ulupalakua maintains is not a public right of way inasmuch as it was put in by the Prison and Ulupalakua and is not listed and delineated on the lease. This jeep trail, FG has been worked on by an old Hawaiian fisherman under authorization of the ~~late~~ Baldwins, (Mr. Erdman's predecessor) and Mitsugi Terada, present office manager, to a point where it is a jeep trail passable to point I. Ulupalakua Ranch maintains that the beach area should be accessible to them through FG and should be limited to light traffic use, as the nature of the trail (cinder base) makes it necessary to repair ~~it~~ it often should we allow constant use. They do not object to making the area available to the public through CI or DI, whichever one can be determined to be the proper right of way. ~~It~~ If what Ulupalakua tells us is the proper way to get to E from AB (either from C or D), it is rough going, for there is no road in the area. To walk from either D or C to I and back is almost out of the question. It would probably be easier to walk from L which would be a level walk, and over a trail on the lava. The reason that the CI or DI walk would be tough is the length plus the elevation.

The alternate would be to bulldoze a road from C or ~~E~~ D to ~~E~~ E and use the Ulupalakua jeep road on agreement that we would maintain it. I personally would rather see any money used to be used ~~for~~ for the extension of L toward M. This would make all of the coastline

more available to fisherman, and once put in, the road would not require as much maintenance as one down the mountainside. In fact the maintenance would only be a fraction of that needed for the jeep trail down the mountain.

JK is a trail on both my map and the map of the lease. It is not used to my knowledge, especially because it does not reach AB. GH is a horse and footpath and it used regularly by the fishermen. It is not, however, marked, but a ~~xx~~ trail in the general direction is recognized by the Ranch.

IT IS RECOMMENDED THAT:

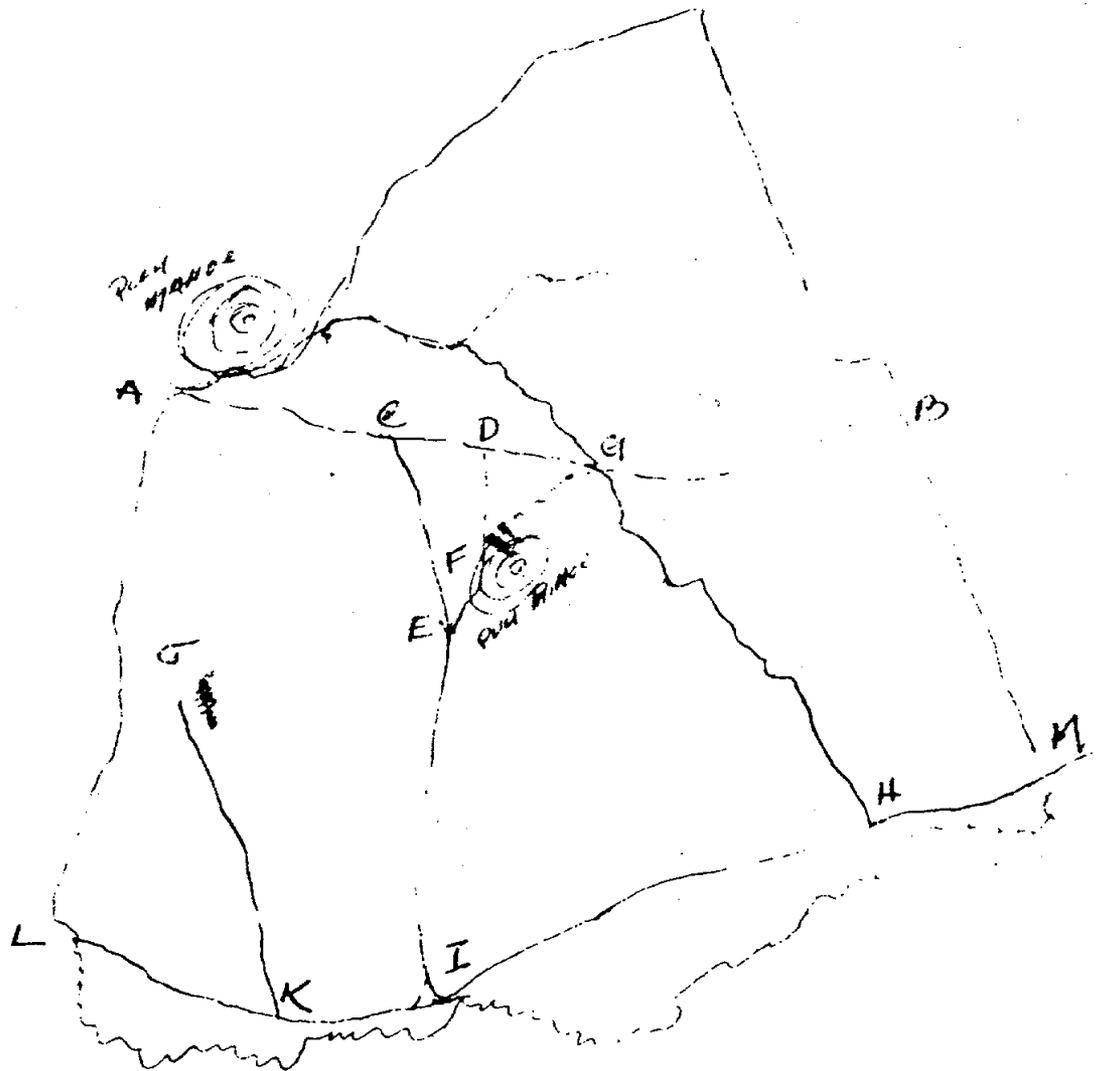
1. The Division of Land Management establish meets and bounds for the entire lease, inasmuch as we will need same before we can allow hunters in the area, which we plan to do by the next game bird season.
2. The Division of Land Management inform Ulupalakua Ranch and our Division of the roads, and rights of ways that we may use so as to make the area available to hunters when we do open the season.
3. Should roads as determined by them are insufficient, that we immediately begin looking for funds or an inexpensive way to construct same.
4. The proper ~~xxxx~~ trail for access either through D or C ~~is~~ be determined and established and marked.
5. If the expenditure of funds is necessary to make the coastline easily available through jeep trails, that monies be expended along the lower trail (LM)

Respectfully submitted,

*Joseph S. Medeiros*

Joseph S. Medeiros

*P.S. Schmulling could not attend the meeting as he had to go to the doctor. I have a copy of the letter and will discuss it with him. Joe*



  
JOHN A. BURNS  
GOVERNOR



V. MARCIEL  
COMPTROLLER

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING  
AND GENERAL SERVICES  
SURVEY DIVISION  
HONOLULU, HAWAII 96813

March 16, 1965

Hon. Jim P. Ferry, Chairman  
Board of Land & Natural Resources  
Honolulu, Hawaii

Dear Sir:

This is to acknowledge receipt of your letter of March 10, 1965 requesting comments upon the letter and petition of sixty-three Maui residents in regard to the rights of the public to use the trails and roads within the Kanaio and Kaunuahane Government Tracts, including Lots 1 to 17 inclusive, of the Kanaio Homesteads, at Honuaula, Maui.

This tract of land is 9500 acres in area including government and privately owned lands. The government land comprising an area of 8370 acres is covered by General Lease S-3700 to Ulupalakua Ranch, Limited. The lease covers a period of 20 years from March 19, 1962 to March 18, 1982, at an annual rental of \$5000.00.

Reference to the lease reveals that a strip of land 250 feet wide along the seashore is reserved for public use. Also reserved are all existing roads and trails and all other roads and trails that may be required for public purposes, the location of such to be determined by the Board of Land and Natural Resources, at such times and for such widths as it may deem proper and necessary. You are referred to General Lease S-3700, which is on file in your office for the exact wording of the reservation for trails and roads.

Also reserved in the lease are hunting and fishing rights, the right to withdraw lands for construction of new roads or the realignment of existing roads and the right to convey to others licenses covering the privilege of using with the lessee all existing roads and trails. See lease on file in your office for specific wording of such reserves.

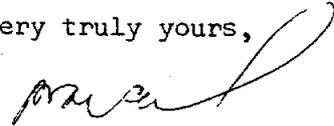
Hon. Jim P. Ferry, Chairman

March 16, 1965

-2-

Attached is a sketchplan of our C.S.F. 9396, which is "Exhibit B" filed with your lease, and which shows a road running parallel to the sea-shore (this was the old makai County road and is in very poor condition, can only be traversed on foot or horseback) also two trails connecting this makai road with the Kanaio-Nuu Road (marked "Road to Hana") that crosses about the middle of the tract. These two trails can be traversed by horse or afoot and possibly by jeep.

Very truly yours,



V. Marciel,  
State Comptroller.

JMD:bka  
enc.



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 1049  
WAILUKU, HAWAII 96793

March 12, 1965

MEMORANDUM

TO: Mr. J. J. Detor, Head  
Division of Land Management

FROM: Y. H. Char, Land Agent, Maui

SUBJECT: Right-of-Ways, Ulupalakua-Kanaio Area

This morning, in company of Joe Medeiros, State Wildlife Biologist, Pardee Erdman and Jim Armitage, owner and manager of Ulupalakua Ranch, respectively, we inspected several of the old trails leading to the beach.

In this investigation, we found the following:

1. The trails have never been closed to the public for foot or horseback traveling.
2. Wherever roadways have been graded by the ranch (not following the established trails) for their own operations; and if the gates were locked, the fishermen were never refused to have the gates opened, if proper request were made to the ranch owner.
3. The controversy in this matter is this (see sketch). Road A to B were developed by the prisoners based there for the construction of the road to Kaupo; and the County for their hauling of cinders from Pimoe. Said Road A-B is graded, road C-B-D (as shown on map has never been developed, therefore, are not being used.) The old established trails are at C-B & E-B, suitable for horse and foot travel, which are open at all times since they are on the same side of the fence (yellow). There is a gate at road B, and does not hinder travel from C & E, B & D to the beach. Road A-B crosses hui property (pink) of which the complainant has a very small interest. Said complainant has a "private property" no trespassing sign posted at the entrance "K". Also, there is another direct open trail nearby G-H and heading towards the beach in another direction. This trail has never been denied use to the public. Unless the State or the Ranch is obligated to furnish a driving road to the beach, we found that there is no prohibition to the use of the old established rights of ways to the beach by the public.

There is one question: Were lots 10 to 15 inclusive sold out to individuals in the past, and is the section of road crossing those lots intended to be a mandatory road? If it is, do we have funds for the construction of same?



LAND LICENSE NO. 1-65

THIS AGREEMENT, made and entered into this 25th  
day of March, 1965, by and between UUPALANUA RANCH, INC.,  
hereinafter referred to as the "LICENSOR", and the STATE OF HAWAII, by the  
Department of Defense, hereinafter referred to as the "LICENSEE",

WITNESSETH:

THAT for and in consideration of the mutual promises, agreements  
and undertakings of the parties hereto, it is hereby agreed and understood as  
follows:

1. That the Licensor hereby grants to the Licensee a  
license to enter, occupy and use, subject to all  
of the terms and conditions hereinafter stated, all  
of those premises located at Kanaio, District of  
Makawao, Island of Maui, Hawaii, and designated as  
Areas "A", "B" and "C", more particularly described  
and delineated on the map labelled Exhibit I, which  
is attached hereto and made a part hereof.
2. That said premises may be occupied and used by the  
Licensee for military training purposes and in  
such connection the Licensee may conduct field  
training exercises, field firing exercises and all  
activities incidental thereto.
3. The Licensee may use the said premises only on  
weekends (Saturday and Sunday), for not more than  
six (6) weekends per calendar year.
4. The Licensee shall notify the Licensor at least  
three (3) weeks in advance of the date that said  
premises will be so occupied and used.

5. That those premises designated as Area "A" shall be used only for maneuver and camping purposes and no firing of live ammunition shall be allowed in said area, but that the Licensee may be permitted to conduct live firing exercises under the terms and conditions of Paragraph No. 6 hereunder.
6. The said Licensee may conduct small arms range firing utilizing live ammunition in Area "A", generally in the portion labelled "Range" on Exhibit I, with firing points established along the foot of Hill "Pimoe" and with firing directed into "Pimoe". Such firing shall be limited to a range of 25 meters and shall not involve the construction of any permanent structures.
7. That the Licensee may conduct live firing of heavy caliber infantry support type weapons in Area "B" from firing positions to be established immediately south of the extension of the Kanaio-Kalama Park Road to Hana. Impact area for projectiles fired from Area "B" shall be limited to Area "C". Approximately three grassed areas inclosed by lava flow, known locally as "kipukas", located in Area "C", and easily identified on the ground, shall be declared "no fire" areas, and all live firing shall be so controlled as to prevent any impact of projectiles in these areas.
8. That all live firing exercises shall be conducted under the personal direction and supervision of an officer of the Hawaii National Guard and shall be

conducted in strict compliance with the latest current safety and range regulations and procedures.

9. That an ancient Hawaiian burial cave is located in Area "A" approximately as indicated on Exhibit I. This cave shall be located and identified on the ground and shall be declared "off limits" to troops and personnel of the Licensee. No entrance into, maneuver over, or firing into this area shall be permitted.
10. That the premises marked as Area "D" on Exhibit I contain a livestock watering facility belonging to the Licensor and shall be declared "off limits" to troops and personnel of the Licensee. No entry into, maneuver over, or firing into this area shall be permitted.
11. That prior to conducting any live firing exercises, the Licensee shall erect barricades and post warning signs at the entrances of all roads and trails into the impact area. During the actual conduct of live firing, the Licensee shall post guards at the entrances of all roads and trails into the impact area to prevent any unauthorized entry into danger areas.
12. That upon completion of each firing period and before leaving the area, the Licensee shall thoroughly police the entire premises, dispose of all debris and trash, and leave the area in a clean and orderly condition. The Licensee shall conduct a thorough search along the entire length of all roads and trails passing through the impact area and shall barricade

and appropriately mark all duds or unexploded projectiles found lying in or near such roads and trails. The Licensee shall initiate immediate action to have all such duds or unexploded projectiles removed and/or destroyed.

13. That the Licensee shall not trap, take, hunt or kill any wild animal or fowl nor cut or destroy any trees in connection with the permitted use of the premises and/or any of the rights granted hereunder.
14. That the Licensee shall take every precaution to avoid damage to livestock or property belonging to the Licensor. In the case of damage resulting from Licensee's exercise of the permission herein granted, the Licensee shall either make physical restoration of the property so damaged or reimburse the Licensor therefor.
15. That the Licensee shall at all times, with respect to said premises, use due care for public and private safety and shall, to the extent permitted by law, indemnify and hold the Licensor harmless from any loss, liability, claim or demand for injury or damage, including but not limited to death, on or about subject premises, or caused by or resulting from any activities or operations of the Licensee in connection with subject premises.
16. That this agreement will become effective upon execution by all parties concerned and approval by the Board of Land and Natural Resources, State of Hawaii, and will continue in effect until revoked or terminated.

The agreement is revocable at will by either party upon ninety (90) days' notification to the other party.

IN WITNESS WHEREOF, ULUPALAKUA RANCH, INC., the Licensor herein, has caused its corporate seal to be affixed and its corporate name to be signed by its proper officers thereto duly authorized by its Board of Directors this 9<sup>th</sup> day of March, 1965, and the STATE OF HAWAII, by the Department of Defense, the Licensee herein, has caused these presents to be duly executed by The Adjutant General this 16<sup>th</sup> day of March, 1965, and the Board of Land and Natural Resources of the State of Hawaii has duly approved this license this 26<sup>th</sup> day of March, 1965.

ULUPALAKUA RANCH, INC.

By: C. Berdee Edickson Jr.  
Its President

And By: James H. Hammitago  
Its Vice-President

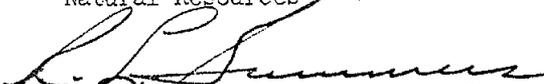
STATE OF HAWAII

By: Robert L. Stevenson  
ROBERT L. STEVENSON  
Major General, HARRG  
The Adjutant General

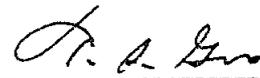
APPROVED: March 25, 1965

STATE OF HAWAII

By:   
Chairman and Member  
Board of Land and Natural Resources (cont)

And  
By:   
Member  
Board of Land and  
Natural Resources

APPROVED AS TO FORM:

  
Deputy Attorney General  
Dated: 4-14-65

*File  
Real Property  
CMV  
RPP*

State of Hawaii  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
Fort Ruger, Honolulu, Hawaii 96816

27 APR 1965

HAWENG

SUBJECT: Executed Land License for Use of Field Training  
Area, Makawao, Maui

TO: Commanding General  
Hawaii Army National Guard  
Fort Ruger, Honolulu, Hawaii

1. Transmitted herewith are two (2) fully executed copies of Land License No. 1-65 providing for the use by the Department of Defense, State of Hawaii, of certain outdoor training areas under the jurisdiction and control of the Ulupalakua Ranch, Inc., located at Kanaio, District of Makawao, Maui, Hawaii.

2. It is requested that one (1) copy of the executed license agreement be transmitted to the Commanding Officer, 3rd Bn, 299th Infantry, with instructions to prepare a set of range regulations governing the use of these training areas, and that, prior to actual conduct of field training in these areas, he conduct an orientation program for all officers and senior NCO's of his staff and units to familiarize all personnel with the restrictions, terms and conditions applying to the utilization of these training areas.

FOR THE ADJUTANT GENERAL:

1 Incl.  
as

W. C. MEYER  
Colonel, GS, HARNG  
Deputy Adjutant General

APR 27 1965  
OFFICE OF THE ADJUTANT GENERAL  
STATE OF HAWAII

B-107

65-1380

65-530

# ULUPALAKUA RANCH, INC.

ULUPALAKUA, MAUI, HAWAII, 96790

August 31, 1965

SEP 2 9 25 AM 1965

DEPT., OF LAND  
& NATURAL RESOURCES  
STATE OF HAWAII

Mr. Jim Ferry  
Department of Land & Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

RE: KANAIO RIGHT-OF-WAY (G. L. NO. S-3700)

Dear Sir:

In reply to your letter of August 24, 1965, we wish to inform you that we have removed the padlock from the gate at Piimoe Hill <sup>and</sup> ~~at~~ the disputed right-of-way is now open to the public as agreed with Mr. Ralph Corey.

Unfortunately we are having trouble with one of Mr. Corey's petitioners, Mr. Louis De Ponte, who persists on running cattle in G. L. No. S-3700. We are requesting Mr. James Dunn to survey the common boundary of G. L. No. S-3700 and Grant 1506 (TMK 2-1-03-7). We feel that it is necessary to construct a fence around Grant 1506 so that we can have quiet enjoyment of G. L. No. S-3700 for grazing purposes. This fence will cross the Kanaio Prison road in two places necessitating gates on what Mr. Corey claims is the right-of-way to the beach. We assume that if Mr. De Ponte does not wish the public to use this road through fee simple land, a suitable by-pass will be provided.

Sincerely,



C. Pardee Erdman, Jr.  
President  
ULUPALAKUA RANCH, INC.

CPE:bi

AFFIDAVIT OF JUAN MALAQUI

ISLAND AND COUNTY OF MAUI     }  
STATE OF HAWAII                   } ss.

JUAN MALAQUI, hereinafter called the "Affiant",  
after being first duly sworn, on oath deposes and says:

1. That his name is JUAN MALAQUI, and that he was born on August 21, 1907, in the Phillipine Islands, migrating to the Island and County of Maui in the year 1924; that he is a married man, is the father of 7 children, is a premanent resident of Maui, has lived at Haiku, Island of Maui since the year 1927, and presently works as an employee at the Libby, McNeill & Libby Pineapple Cannery at Haiku;

2. That since about 1932, Affiant regularly has fished, netted and speared all manner of marine life along the entire Maui coastline and coastal waters lying below Kanaeo Homestead and Kehikenui areas from Makena to Kaupo, using bamboo poles, throw-nets and spear-guns, and has, during the past years and even today, regularly depended upon obtaining such marine life from these coastal waters in order to support himself and his large family with its daily food and survival;

3. That Affiant clearly recalls that at least since 1932, he and his family and many fellow-fishermen have regularly traveled the Kanaeo-Pimoe and Kehikenui trailways from the mountainside down to the seashore, especially from the Kula-Kanaeo-Pimoe areas to the sea; that Affiant and said others have used all manner of transportation down these trailways, that is to say, have journeyed by foot, by burro, by horse and recently by 4-wheel-drive jeep;

4. That Affiant further recalls the names of many of the Maui fishermen who regularly fished the aforesaid coastline with Affiant between 1932 and 1950, to wit:

Tiofilo Gonsalves, from Haiku  
Fabriano Juan, from Haiku  
Louis De Ponte, Sr., from Kula  
John Malaqui, Jr., from Haiku  
Pepito Baldesano, from Haiku (deceased)

*RW*

5. That Affiant clearly recalls that since 1932 until 1950, Affiant, with other fishermen like Francisco Dias, Valeriano Casumpan ~~and~~ <sup>deceased</sup> many others whose names Affiant no longer recalls, regularly would leave their automobiles by the red church at Kanaeo, above Pimoe Grater, and carrying their bamboo fishing poles and packs would walk down the Kanaeo-Pimoe horsetrail to the seashore to fish; that this trail, prior to 1950, was always open to Affiant and all Maui fishermen and their families who desired to obtain salt, opihi, lobsters, fish, vana, limu and other necessary sea products, and never was locked or obstructed by any person or corporation, to the best of Affiant's recollection and belief;

6. That Affiant, since 1932, has on more occasions than he can remember, observed hundreds of Maui fishermen using at least four (4) major trailways to the seashore, extending from the Kula-Kaupo-Hana prisoner road over the Kanaeo-Kehikenui-Kaupo Nuu areas and down to the seashore; that other than those above-mentioned, one he especially recalls is a fishermen by the name of Sam Sampo who regularly fished the Kanaeo shoreline, using the Kanaeo-Pimoe horsetrail to reach there;

7. That Affiant recalls that his wife and other wives of Maui fishermen he knew also regularly went fishing along the Kanaeo coastline of Maui, and usually rode the horses down said trailways, while the men fishermen walked behind with bamboo poles and pack-sack equipment;

8. That Affiant verily states that had he and his family been unable to travel down to the seashore over well-established, historical Hawaiian trails like those in the Kanaeo-Pimoe and Kehikenui areas in order to obtain necessary food from the sea, he is certain that he and his family would either have starved, suffered from malnutrition or been compelled to seek relief from the government, the latter which Affiant and his family never has been forced to do;

9. That Affiant further states that in his opinion, the fishing along the Kanaeo-Kehikenui-Kaupo Nuu coastline of Maui is among the best coastline fishing on the Island of Maui;

10. That Affiant recalls that during the years 1948 and 1949, he regularly went fishing with Louis De Ponte, Sr. on horseback down to the seashore, and traveled by horseback over the long-established Kehikenui trailway; that all gates and fences were open to the public, were unlocked and unencumbered; and that between the years 1932 to 1950, Affiant never found a gate or fence locked to himself or any other fisherman anywhere in the Kanaeo-Kehikenui areas, and that Affiant, his family and other fishermen regularly traveled unmolested or unimpeded from the mountains to the seashore from Makena to Kaupo;

11. That in 1950, Affiant and above-named Tiofilo Gonsalves, Fabriano Juan, Louis De Ponte, Sr., John Malaqui, Jr.,

Pepito Baldesano and five or six other Maui fishermen worked below Pimoe Crater in the Kanaeo area as volunteer laborers to construct a jeep road out of surrounding native lava rock; that the jeep road followed the long-established Kanaeo-Pimoe horsetrail for about 3 miles down to the beach; that Affiant and his fishermen friends used no picks, sledgehammers, machinery or tools other than hand-shovels and their bare hands to construct said jeep trail from Pimoe Crater down to the seashore; that Affiant and his fishermen friends labored strenuously to move rocks and boulders, fill in depressions and ravines and move lava-rock humps to allow four-wheel-drive jeeps to travel up and down the side of the mountain to and from the sea; that at no time does Affiant recall that Ulupalakua Ranch ever ordered Affiant and his friends to cease and desist from their volunteer labors, and at no time did said Ranch, lessee of the State-owned lands adjacent to said trailway, ever aid Affiant and his friends in constructing the jeep trailway;

12. That approximately one (1) week after Affiant and his fishermen friends finally completed construction of their said jeep trail, Affiant and his friends attempted to drive their jeep down and over the trailway just constructed by them and found their access barred by a closed gate, padlocked by Ulupalakua Ranch; and that since said date, Ulupalakua Ranch has regularly barred Affiant, his family, fishermen friends and all members of the fishing public on the Island of Maui (excepting privileged Ranch employees) from using the trailway to the beach along and over the Kanaeo-Pimoe horse trail.

13. That Affiant and his family and fishermen friends, although advised by legal counsel that they would be able to break the locked gate and pass along said trailway without legal risk or penalty, so long as any and all damages were repaired, nevertheless, Affiant, his family and his fishermen friends have declined to risk possible physical violence, assault and battery, and even shooting by Ranch security employees in the event said Ranch employees desired or tried to prevent Affiant et al. from asserting their historical and legal right of access over and across the Kanaeo-Pimoe horse-trail;

14. That Affiant is informed and believes that at all times since 1950 the Kanaeo-Pimoe trailway has continuously been kept padlocked and barred from public use (except by privileged Ranch employees) by Ulupalakua Ranch, and that unless otherwise ordered by appropriate State authority, will continue to padlock its gates and bar the fishing public from entering or crossing over State-owned lands and the Kanaeo-Pimoe trailway to the seashore.

15. That regularly Affiant went shore-fishing with Louis De Ponte, Sr. and traveled for this purpose over the Kehikenui established horse and jeep trail fashioned by State prisoners in 1947 down to the seashore; that the last time Affiant went fishing down said trailway with Louis De Ponte, Sr. was in the year 1950; that while down on the beach fishing, Affiant was observed by one William ~~Makia~~<sup>Uwekoolani, Sr.</sup>, chief cowboy of Ulupalakua Ranch; and that since that time, the access way over State-owned lands from the mountain top to the sea over the Kehikenui trailway has been blocked by Ulupalakua Ranch, lessee of said lands, with a padlocked gate at the inter-

section with with Kapena to Hana Road, and since that date Affiant has been unable to travel over this historical, long-established Hawaiian trailway to the seashore for fishing purposes.

16. That there are at least two (2) other long-established trailways leading down the mountainside to the beach over State-owned lands between Pimoe and Kaupo-Nuu, over which Affiant and his fishermen friends regularly traveled from 1932 until 1950; that since the said Ranch has placed padlocked gates across the public-right-of-way down all of these trails, Affiant has been compelled to walk on foot along the seashore from Makena to Kaupo Nuu, a distance of many miles, in order to fish; that Affiant and his family still depend upon regular fishing by Affiant for their food and survival; that because of the closing of at least four major trailways to the seashore by the Ranch to Affiant and his family, Affiant has suffered undue, irreparable and unnecessary hardship and privation; must do without fish, Hawaiian salt, opihi, limu, vana, lobster and other marine foods necessary to the daily diet of Affiant and family; and unnecessarily has forced Affiant to pay high prices for such foods;

17. That Affiant and many of his fishermen friends are signatories of that certain Petition to the State Department of Land and Natural Resources, said Petition praying for immediate administrative relief and public hearing relieving Affiant from the arbitrary shutting and barring by Ulupalakua Ranch of long-established, historic and natural trailways over

the Kanaeo-Kehikenui State-owned mountainside to the beach, and the designation and marking of said established trailways for the public use.

18. That Affiant respectfully asks the State Department of Land and Natural Resources to direct Ulupalakua Ranch forthwith to open all locked gates astride any and all established trailways leading from any State-owned mountainside to the beach between Makena-mauka to Kaupo-Nuu-mauka; to designate, name and obtain regular and clearly-defined markings along said trailways; and to provide the general public at all times with reasonable access over their own lands and established trailways to the fishing beaches of Maui.

AND FURTHER AFFIANT SAYETH NOT.

DATED at Haiku, Maui, State of Hawaii, this 3rd day of September, 1965.

Juan Malaqui  
JUAN MALAQUI,

Affiant.

Subscribed and sworn to before me  
this 3rd day of September, 1965.

Robert J. ...  
Notary Public, Second Judicial  
Circuit, State of Hawaii.

My commission expires: June 30, 1969

HCPE-A (14 Dec 65)  
SUBJECT: Declaration of Danger Area

6th Ind

HEADQUARTERS, 1ST BN, 299TH INFANTRY, Wailuku, Hawaii, 21 February 1966

THRU: Commanding General, 29th Infantry Brigade, Fort Ruger, Honolulu, Hawaii

TO: Commanding General, Hawaii Army National Guard, ATTN: G-3, Fort Ruger, Honolulu, Hawaii

1. Attached hereto is a letter of authorization from Ulupalakua Ranch, Inc., permitting the Hawaii Army National Guard to utilize Kanaio Training Area for twelve (12) weekends per calendar year, to locate firing points and for firing of heavy caliber infantry support type weapons.

2. In accordance with the foregoing, it is requested that the portions of Page 1 and 2, Land License 1-65, specifically paragraphs 3, 5, 6, and 7, be amended to include usage of the area, twelve (12) weekends per calendar year, and Area "A" for location of firing points and for firing of heavy caliber infantry support type weapons.

3. To protect the interest of all concerned, Firing Point No. 16 will be completely eliminated.

1 Incl  
as

SIGNED

ALVIN M. HAAKE  
Major, Inf, HARNG  
Commanding

REPORT  
OF  
RESERVE COMPONENTS TRAINING FACILITIES REQUIREMENTS

FOR THE  
ARMY NATIONAL GUARD

STATE OF HAWAII

(RCS DD-M(OT) 7214)

12 April 1972

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TAB A

(Index to Study of Reserve Components Training Facility)

1. Guard and Reserve property disposed of since January 1, 1969

See format Tab B. Include any reduction in size, total release of Federal property owned in fee or under permit from another agency. Pay particular attention to those in major urban areas.

2. Display of existing properties/facilities.

See format Tab C. By state, list each facility--armory, training center, non-armory facility, training area, equipment maintenance or concentration site, annual active duty training location, etc. Plot the location of each facility on a small state map (letter size) and key these locations to the above list. Small states (Maine, Vermont, New Hampshire) may be consolidated on one map. In each case break out should show:

1. Acreage on hand
2. Acreage needed and purpose

Indicate (a) Federal ownership--indicate joint usage; (b) state ownership (include and note fee, lease or permit); (c) co-usage (Military owned, civilian usage); (d) donated; (e) civilian owned but made available for Military use.

Include in Purpose and Remarks - for Maneuver units (sep companies and battalions)-indicate whether or not a weekend training area is available - distance to area from armory/training center - if no weekend training area is available what is prospect for acquiring same within 50 miles and 100 miles?

3. Plans to accelerate joint usage and co-usage

In narrative form explain Service concept of joint-usage (Army and Navy) and co-usage (Army and civilian). Explain Service concept of why civilians cannot own in fee with a clause for military usage in deed and any other concepts dealing with these two categories.

4. Recommendations

In narrative form make any recommendation that Service believes will improve management and retention/disposal of Federal Properties.

TAB B

DISPOSED HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

1 Jan 69 to Date

Facility	Location	Status When Acquired				Present Status	Remarks
		Fee	Lease	Permit	Other		
WET Site	Hilo	X				State-owned, fee.	256.88 acres released and transferred to State Dept. of Transportation for construction of airport terminal.
Armory Site	Honolulu (Fort Ruger)	X				State-owned, outleased.	2.157 acres of unused land at Ft. Ruger released by NG and leased by State to Association to Help Retarded Children as site for a school.
Armory Site	Pahala		X			Privately owned by Hawaiian Agricultural Co.	2.898 acres of land leased from the Hawaiian Agricultural Co. released back to the lessor.

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TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
Det 1, Co B, 1st Bn, 299th Inf	Armory	Hanapepe	2.03 Ac (b) Fee	2.03 Ac	Formerly Crown Lands of Hawaii Now State Lands	WET Site Avail- able at Kekaha, 12 miles.
Co B (-Det 1), 1st Bn, 299th Inf	OMS #6	Hanapepe	1.697 Ac (b) Fee	1.697 Ac	Formerly Crown Lands of Hawaii Now State Lands	
Det 1, Co B, 1st Bn, 299th Inf						
HHC, 2nd Bn, 299th Inf	Armory	Hilo	510.10 Ac (b) Fee	510.10 Ac	Formerly Crown Lands of Hawaii Now State Lands	Acreage indicated includes entire Keaukaha Military Reservation which contains all armo- ries and facili- ties indicated as located at Hilo.
Co B, 2nd Bn, 299th Inf						
HHC, 2nd Bn, 299th Inf	OMS #8	Hilo	(See Acreage Under "Armory" Above)	(See "Armory" above)	(See "Armory" above)	Located on the Keaukaha Military Reservation.
Co A (-Det 1), 2nd Bn, 299th Inf						
Det 1, Co A, 2nd Bn, 299th Inf						
Co B, 2nd Bn, 299th Inf						

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TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHC, 2nd Bn, 299th Inf	CSMS #2	Hilo	(See Acreage Under "Armory" above)	(See "Armory" above)	(See "Armory" above)	Located on the Keaukaha Military Reservation.
Co A (-Det 1), 2nd Bn, 299th Inf	AAFA					
Det 1, Co A, 2nd Bn, 299th Inf	Range & WET Site					
Co B, 2nd Bn, 299th Inf						
Co C (-Det 1), 2nd Bn, 299th Inf						
Det 1, Co C, 2nd Bn, 299th Inf						
Spt Co (-Det 1), 2nd Bn, 299th Inf						
Co C (-Det 1), 2nd Bn, 299th Inf	Armory	Honokaa	5.982 Ac (b) Fee	5.982 Ac	Former Crown Lands of Hawaii Now State Lands	Site is co-used with Honokaa High School and Community Park and Playground. WET site is available at Keaukaha Military Reservation, Hilo, 42 miles away.

B-121

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirements</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
Co C (-Det 1), 2nd Bn, 299th Inf	OMS #9	Honokaa	0.475 Ac (b) Fee	0.475 Ac		Former Crown Lands of Hawaii now State land.
Det 1, Co C, 2nd Bn, 299th Inf						
Spt Co (-Det 1), 2nd Bn, 299th Inf						
HHD, Hawaii ARNG	Armory	Honolulu (Fort Ruger)	9.88 Ac (a) Fee	9.88 Ac	Licensed from Army.	Land area indicated includes all of Federally-owned portion of Ft Ruger licensed to State for NG purposes.
117th Pub Inf Det, Tm FA						
227th Engineer Co	Armory	Honolulu (Fort Ruger)	(See acreage listed for Federally-owned licensed portion of Ft Ruger under HHD, Hawaii ARNG, hereinabove)			WET Site available at Schofield Barracks, 26 miles away. Facility is located on Federally-owned portion of Ft Ruger licensed to State for NG purposes.

B-122

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHC (-Det 1), 29th Inf Bde	Armory	Honolulu (Ft Ruger)	344.373 Ac (b) Fee	344.373 Ac	Former Crown Lands of Hawaii ceded to US on annexation & returned to State by Pres. Ex. Order 10648 of 8 Dec 1955.	Acreage indicated includes entire State-owned por- tion of Ft Ruger Mil. Res. WET Site available at Schofield Barracks 26 miles away.
1, 29th Spt Bn						
Co A (Admin), 29th Spt Bn						
Co C (S & T), 29th Spt Bn						
Co D (Maint), 29th Spt Bn	Armory	Honolulu (Ft Ruger)	(See Acreage for State-owned portion of Ft Ruger above)			Located on State- owned portion of Ft Ruger. WET Site available at Schofield Barracks 26 miles away.
Spt Co, 1st Bn, 299th Inf	Armory	Honolulu (Ft Ruger)	(See Acreage for State-owned portion of Ft Ruger above)			Located on State- owned portion of Ft Ruger. WET Site available at Schofield Barracks 26 miles away.

B-123

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHB, 1st FA Bn (105 Towed), 487th Arty	Armory	Honolulu (Ft Ruger)	(See acreage for State-owned portion of Ft Ruger above)			Located on State-owned portion of Ft Ruger. WET Site available at Schofield Barracks 26 miles away.
Co A, 1st FA Bn, (105 Towed), 487th Arty						
Btry B, 1st FA Bn, (105 Towed), 487th Arty						
Svc Btry, 1st FA Bn, (105 Towed), 487th Arty						
Co A, 1st Bn, 299th Inf						
Co B (Med), 29th Spt						
111th Army Band						
All Units, Hawaii ARNG	USPFO OFF/WH  CSMS #1	Honolulu (Ft Ruger)	(See acreage for State-owned portion of Ft Ruger above)			Located on State-owned portion of Ft Ruger.

B-124

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHD Hawaii ARNG 227th Engineer Co 11th Army Band 117th Pub Inf Det, Tm FA	OMS #1	Honolulu (Ft Ruger)	(See acreage for State-owned portion of Ft Ruger above)			Located on State-owned portion of Ft Ruger.
HHB, 1st FA Bn (105 Towed), 487th Arty Btry A, 1st FA Bn, (105 Towed), 487th Arty Btry B, 1st FA Bn, (105 Towed), 487th Arty Btry C, 1st FA Bn, (105 Towed), 487th Arty Svc Btry, 1st FA Bn (105 Towed), 487th Arty	OMS #2	Honolulu (Ft Ruger)	(See acreage for State-owned portion of Ft Ruger above)			Located on State-owned portion of Ft Ruger.

B-125

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHD, 29th Spt Bn Co A (Admin), 29th Spt Bn Co B (Med), 29th Spt Bn Co C (S & T), 29th Spt Bn Co D (Maint), 29th Spt Bn	OMS #3	Honolulu (Fort Ruger)	(See acreage listed for Federally-owned licensed portion of Ft Ruger under armory for HHD, Hawaii ARNG, on Page 3 hereinbefore.)			Facility is located on Federally-owned portion of Fort Ruger licensed to State for NG purposes.
HHC (-Det 1), 29th Inf Bde Co A, 1st Bn, 299th Inf Spt Co, 1st Bn, 299th Inf	OMS #5	Honolulu (Fort Ruger)	(See acreage listed for State-owned portion of Ft Ruger on Page 4 hereinbefore)			Facility is located on State-owned portion of Ft Ruger.
All units of Hawaii ARNG located at Ft Ruger	Range & Close-in Training Area	Honolulu (Fort Ruger)	(See acreage listed for State-owned portion of Ft Ruger on Page 4 hereinbefore.)			Facilities are located on State-owned portion of Ft Ruger.

B-126

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
Det 1, HHC, 29th Inf Bde	Armory & AASF	Honolulu. (Honolulu Intern'l Airport)	2.0 Ac ± (a) Fee	2.0 Ac	Licensed from Navy	License is for building only, no land area is delineated.
Co C (-Det 1), 1st Bn, 299th Inf	Armory	Kahului	1.68 Ac (b) Fee	1.68 Ac	Purchased in fee.	WET Site is available at Makawao, 25 miles away.
Btry C, 1st FA Bn, (105 Towed), 487th Arty	Armory	Kaneohe	2.778 Ac (b) Fee	2.778 Ac	Conveyed to City & County of Honolulu by US for educational purposes and transferred to State.	Land and facili- ties are co-used with King High School. WET Site is available at Schofield Barracks 28 miles away.
Co B (-Det 1), 1st Bn, 299th Inf	Armory	Kapaa	3.283 Ac (b) Fee	3.283 Ac	Former Crown Lands of Hawaii now State lands.	WET Site is available at Kekaha, 36 miles away.

B-127

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
Det 1, Co C, 2nd Bn, 299th Inf	Armory	Kapaau	0.40 Ac (b) Fee	0.40 Ac	0.249 Ac purchased; 0.161 Ac donated to State by Kohala Sugar Co.	WET Site available at Keaukaha Mil. Res., Hilo, 82 miles away.
Det 1, Spt Co, 2nd Bn, 299th Inf	Armory OMS #10	Kaunakakai	2.517 Ac (b) Fee	2.517 Ac	Purchased in fee.	OMS & Armory located on same site. No WETS available on island. Only close-in training possible.
Co A (-Det 1), 2nd Bn, 299th Inf	Armory	Keaau	3.044 Ac (b) Fee	3.044 Ac	Purchased in fee.	WET Site available at Keaukaha Mil. Res., Hilo, 8 miles away.
Spt Co (-Det 1), 2nd Bn, 299th Inf	Armory	Kealakekua	4.249 Ac (b) Fee	4.249 Ac	Purchased in fee.	WET Site available at Keaukaha Mil. Res., Hilo, 98 miles away.
Co B (-Det 1), 1st Bn, 299th Inf	Range & WET Site	Kekaha	220.11 Ac (b) Fee	110.11 Ac	Former Crown Lands of Hawaii now State Land.	Approx. 110 acres are scheduled to be withdrawn in the near future.
Det 1, Co B, 1st Bn, 299th Inf						

B-128

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
298th Engineer Det (Utilities)	Armory	Koko Head	4.21 Ac (a) Leased	4.21 Ac	Former NIKE on-site control Admin. facility leased by Army & licensed to State.	WET Site available at Schofield Barracks 34 miles away.
Det 1, Co C, 1st Bn, 299th Inf	Armory	Lahaina	1.855 Ac (b) Fee	1.855 Ac	Purchased in fee	WET Site available at Makawao 46 miles away.
→ HHC, 1st Bn, 299th Inf	Range & WET Site	Makawao	6,860 Ac (b) Fee	6,860 Ac	Former Crown Lands of Hawaii now State land.	State land leased to Ulupalakua Ranch and co-used by Hawaii ARNG for weekend field training under permit from the Ranch.
Co C (-Det 1), 1st Bn, 299th Inf						
Det 1, Co C, 1st Bn, 299th Inf						
Det 1, Co A, 1st Bn, 299th Inf	Armory	Pahala	0.738 Ac (b) Fee  0.226 Ac (b) Leased	0.964 Ac	0.738 Ac donated to State by Hawaiian Agricultural Co.; 0.226 Ac leased from Hawaiian Agricultural Co.	WET Site available at Keaukaha Mil. Res., Hilo, 52 miles away.

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirements</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHC, 1st Bn, 299th Inf	OMS #7	Paukukalo	1.765 Ac (b) Fee	1.765 Ac	Purchased in fee.	
Co (-Det 1), 1st Bn, 299th Inf						
Det 1, Co C, 1st Bn, 299th Inf						
All Units, Hawaii ARNG	ATEP	Pearl City (Waiawa Gulch)	22.22 Ac (a) Fee	19.22 Ac	Licensed from Army.	Land previously declared surplus by Navy, transferred to Army for NG use. 3 acres declared surplus by DA for transfer to State as armory site, now undergoing disposition processing by GSA.
HHC, 298th Field Depot	Armory	Wahiawa	5.05 Ac (b) Fee	5.05 Ac	Former Crown Lands of Hawaii ceded to US on annexation, returned to State by Pres. Ex. O. 10665, 23 April 1956.	WET Site available at Schofield Barracks immediately adjacent. Land area indicated also includes site for OMS #4 listed hereinafter and co-located with the armory.
Troop E, 19th Cav						

B-130

TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHC, 298th Field Depot	OMS #4	Wahiawa	(See acreage listed under armory at Wahiawa hereinabove)			OMS is co-located on the same site with the Wahiawa Armory.
AF 297th S & S Bn						
291st Maint Co						
292nd S & S Co						
298th Engr Det (Util)						
Troop E, 19th Cav						
HHC, 1st Bn, 299th Inf	Armory	Wailuku	2.821 Ac (b) Fee	2.821 Ac	Purchased in fee.	WET Site available at Makawao 27 miles away.
291st Maint Co (DS)	Armory	Waimanalo (Bellows Field)	2.84 Ac (a) Fee	2.84 Ac	Former NIKE on-site launcher Admin. area licensed from Air Force.	Land and facilities are co-used with Air Force. WET Site available immediately adjacent at Bellows Field or at Schofield Barracks, 32 miles away.

B-131

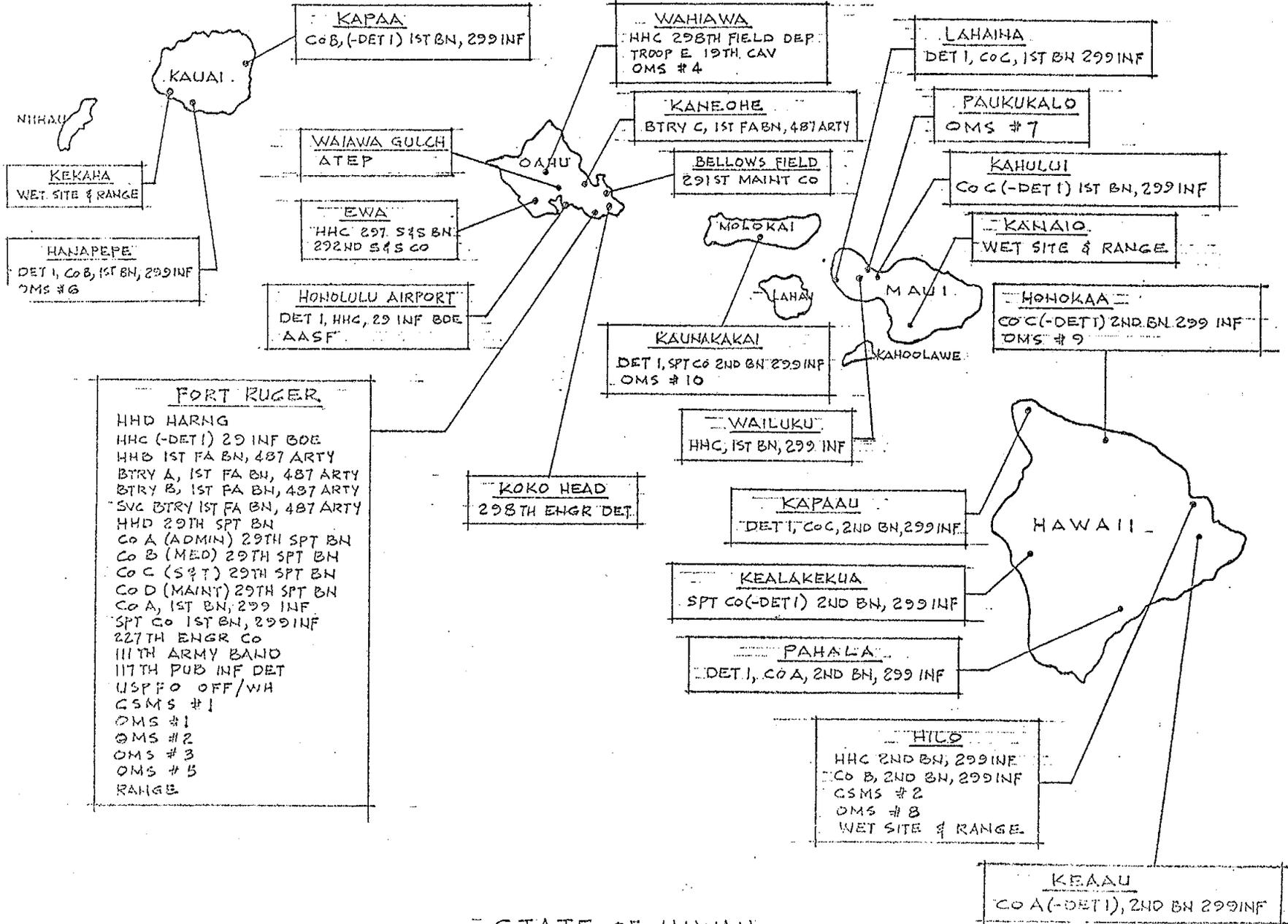
TAB C

HAWAII ARMY NATIONAL GUARD RESERVE ACREAGE

(Existing and Projected Requirements)

<u>Units</u>	<u>Facility</u>	<u>Location</u>	<u>Acreage</u>	<u>Projected Requirement</u>	<u>How Acquired</u>	<u>Purpose and Remarks</u>
HHC, 297th S & S Bn	Armory	Waipahu	53.47 Ac (a) Fee	53.47 Ac	Former NIKE on-site launcher area, owned by Army and licensed to State for NG purposes.	Sufficient close-in area available for WET. Portion of one building and 0.54 acres of land shared with Air Force.
292d S & S Co (DS)						

B-132



STATE OF HAWAII  
PRINCIPAL ISLANDS  
 SCALE: 1" = APPROX. 25 MI

TAB D

RESERVE COMPONENT FACILITY SUMMARY DATA SHEET

TOTAL ACREAGE REQUIREMENTS

Local Training Area	457.363 Acres
Weekend Training Area	7,590.210 Acres
Summer Training Area	22.220 Acres
Mobilization Stations Area	

TOTAL ACREAGE ON HAND

	<u>Federal /</u>		<u>State</u>					
	<u>Fee</u>	<u>Permit</u>	<u>Owned</u>	<u>Licensed</u>	<u>Permit</u>	<u>Donated</u>	<u>Leased</u>	<u>Other</u>
Local	68.19 Ac	4.21 Ac	384.737 Ac				0.226 Ac	
Weekend			7,590.210 Ac					
Summer	22.22 Ac							
Mobilization								

ACREAGE ADJUSTMENT DURING LAST 1 Jan 69 - 1 Jan 72

(+ or -)

	<u>Force Structure Change</u>	<u>Consolidation of Facilities</u>	<u>Weekend Training Area</u>
Local		- 5.057 Ac	
Weekend			- 256.88 Ac
Summer			
Mobilization			

B-134

TAB D (cont)

PROJECTED ADJUSTMENTS (+) or (-)

	<u>Force Structure Change</u>	<u>Consolidation of Facilities</u>	<u>Weekend Training Area</u>
Local			
Weekend			- 110.00 Ac
Summer			
Mobilization			

JOINT USAGE (Military)

	<u>Current</u>	<u>Projected</u>
# of Facilities	2	-
# of Acres	3.38	-

CO-USE (Civilian/Military)

	<u>Current</u>	<u>Projected</u>
# of Facilities	3	-
# of Acres	6,868.760	-

B-135

HCOT-R

Reserve Components Training Facilities Requirements  
(RCS DD-M (OT) 7214)

DIREN

DIROPT

MAJ Ho/ly/658897

1. Attached at inclosure 1 is a copy of the HARNG report sent to this headquarters for review and subsequent forwarding to HQ USARPAC for action.
2. Request your office review the report and return it with comments you deem appropriate. It is also requested that quick action be initiated in that the report is overdue at HQ USARPAC.

1 Incl  
as

DAVID H. WILLIAMS, JR.  
Colonel, GS  
Dir of Op, Plans and Tng

MFR: As stated above.

*after review copies of B furnished USARPAC. Col Wilburn  
has seen a copy of report.*

*as*

RESERVE AFF. OPS DIV



# Ulupalakua Ranch, Inc.

3032

JUL 13 2 28 PM '76

ULUPAL

UA, MAUI, HAWAII 96790

RECEIVED

'76 JUL 13 AM 8:33

DEPT. OF LAND  
& NATURAL RESOURCES  
STATE OF HAWAII

July 12, 1976

Mr. Christopher Cobb  
Chairman  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Re: LAND LICENSE NO. 1-65

Dear Sir:

We wish to formally protest the breaches in the terms of the above land license that have been committed by the licensee:

Paragraph 1 provides that the licensee will confine its use to Areas "A", "B", and "C" as delineated on the attached map.

Paragraph 4 provides that the licensee will provide Ulupalakua Ranch, Inc. with at least three (3) weeks notice in advance of use of the premises.

Paragraph 11 provides that the licensee will erect barricades, post warning signs and post guards at all roads and trails into the impact area before conducting firing exercises.

On July 10th and 11th, the Hawaii National Guard entered the area without giving prior notice to Ulupalakua Ranch, Inc.. Area outside of the permitted areas were used for maneuver purposes, mainly the Kanaio Church. Live firing of heavy weapons was conducted without first giving warning and posting of necessary guards.

Employees of Ulupalakua Ranch were goat hunting in the Auwahi area at the time and had no knowledge that live firing of heavy weapons was about to take place. Fortunately no tragedy resulted.

We hereby request that your department take immediate action to enforce the terms of this license. If the terms cannot be enforced, we request that the license be revoked. Please inform us as to the action taken.

Sincerely,

C. Pardee Erdman

HEADQUARTERS  
1ST BATTALION 299TH INFANTRY  
HAWAII ARMY NATIONAL GUARD  
Wailuku, Hawaii

RECEIVED  
DIVISION OF  
LAND MANAGEMENT

SEP 11 8 45 AM '76

Mr. James Shaw  
Department of Land & Natural Resources  
P. O. Box 1049  
Wailuku, Hawaii 96793

Dear Mr. Shaw:

This responds to your letter dated 2 September 1976 in which you requested comments on Mr. Erdman's letter relative to Land License No. 1-65, covering the Hawaii Army National Guard's use of Government land at Kamae.

This headquarters will take immediate action to insure that the terms of Land License 1-65 are enforced.

A review of the training conducted on 10 and 11 July 1976 revealed that no heavy weapons were fired, the largest caliber being 60mm, which have a range of 350 meters. Maneuvers were not held in the vicinity of Kamae Church; however, several individuals visited the church area without permission of this headquarters.

Henceforth, this headquarters will insure that Wapulaia Ranch Co. is informed well in advance of training to be conducted at Kamae. Training will be conducted in the areas so permitted and all notices and safety precautions will be followed for live firing.

Sincerely,

DONALD M. CHUA  
Maj, Inf, HAWAII  
Commanding

CFF  
Cdr, HHC  
Cdr, Co C  
S3

GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 1049  
WAILUKU, HAWAII 96793

RECEIVED  
LAND DIVISION  
SEP 14 9 47 AM '76  
DIVISIONS:  
CONVEYANCES  
FISH AND GAME  
FORESTRY  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

September 13, 1976

MEMORANDUM

TO: Mr. James J. Detor

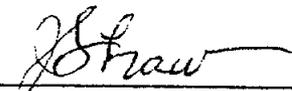
FROM: James Shaw

SUBJECT: Land License No. 1-65 Covering Hawaii National Guard's Use of Premises Covered by General Lease No. S-3700 to Ulupalakua Ranch, Inc.

Reference is made to Mr. C. Pardee Erdman's letter of July 12, 1976 relative to the subject matter.

Attached is a copy of a September 9, 1976 letter received from Major Donald M. Oura indicating that they will be more careful in the future to abide by the conditions contained in Land License No. 1-65.

I would recommend that no action be taken at this time and that a copy of Major Oura's letter be forwarded to Mr. Erdman.

  
\_\_\_\_\_  
JAMES SHAW

Attachment

SEP 24 1976

Mr. C. Pardee Erdman  
Ulupalakua Ranch, Inc.  
Ulupalakua, Maui, HI 96790

Dear Sir:

This is in reference to your July 12, 1976 communication protesting the Hawaii National Guard's breaching of terms and conditions contained in Land License No. 1-65 on July 10, and 11, 1976.

A copy of a September 8, 1976 self-explanatory response from Major Donald M. Ours of that organization to the foregoing is enclosed.

We regret the unfortunate situation which has taken place and trust that the above will meet your request for enforcement of the Land License term.

Should you have any questions, please do not hesitate to contact either this office or that of our Maui Land Agent in Miluku again.

Very truly yours,

*Nike Amabukuro*

*for* JAMES J. DETOR  
Land Management Administrator

Enc.

cc Mr. Manuel Moniz, Jr.  
Mr. James Shaw  
Maj. Donald Ours

*JCL*  
JCL:pap

HCPE-A (14 Dec 65)  
SUBJECT: Declaration of Danger Area

6th Ind

HEADQUARTERS, 1ST BN, 299TH INFANTRY, Wailuku, Hawaii, 21 February 1966

THRU: Commanding General, 29th Infantry Brigade, Fort Ruger, Honolulu, Hawaii

TO: Commanding General, Hawaii Army National Guard, ATTN: G-3, Fort Ruger, Honolulu, Hawaii

1. Attached hereto is a letter of authorization from Ulupalakua Ranch, Inc., permitting the Hawaii Army National Guard to utilize Kanaio Training Area for twelve (12) weekends per calendar year, to locate firing points and for firing of heavy caliber infantry support type weapons.

2. In accordance with the foregoing, it is requested that the portions of Page 1 and 2, Land License 1-65, specifically paragraphs 3, 5, 6, and 7, be amended to include usage of the area, twelve (12) weekends per calendar year, and Area "A" for location of firing points and for firing of heavy caliber infantry support type weapons.

3. To protect the interest of all concerned, Firing Point No. 16 will be completely eliminated.

1 Incl  
as

SIGNED

ALVIN M. HAAKE  
Major, Inf, HARG  
Commanding

53, Lang

HEADQUARTERS  
1ST BATTALION 299TH INFANTRY  
HAWAII ARMY NATIONAL GUARD  
Wailuku, Hawaii 96793

AHXA-OP

21 November 1980

SUBJECT: Request for Engineer Support (Project Request)

Commander  
Company B 411th Engineer Battalion  
1686 Kaahumanu Avenue  
Wailuku, Hawaii 96793

1. Reference Map, Makena 5719 III SE Series W833.
2. Request that the road from Piilani Highway (vic 741826) to mortar firing point (vic 735813) be improved and resurfaced. Length of road is approximately 1.2 miles (1.9 kilometers).
3. Winter rains in the Makena area have made the road dangerous for heavy vehicles.

FOR THE COMMANDER:

Signed

Incl  
as

CLAUDE T. ISHIDA  
CPT, Inf, HARNG  
Adjutant

CF:  
Cdr, 29th Inf Bde  
Cdr, HARNG ✓

ROUTING AND TRANSMITTAL SLIP

Date

2 Dec 80

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. <i>Major Tomoyama</i>		
2. <i>(Fac Engr)</i>		
3.		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

Does anyone need to touch base w/ UluPalakua Ranch per "use permit?"

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
<i>63</i> MEL ALENCASTRE COLONEL HAWAII ARMY NATIONAL GUARD	
	Phone No.

ROUTING AND TRANSMITTAL SLIP

Date

3 Dec 80

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. <i>63 COL ALENCASTRE</i>		
2.		
3.		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

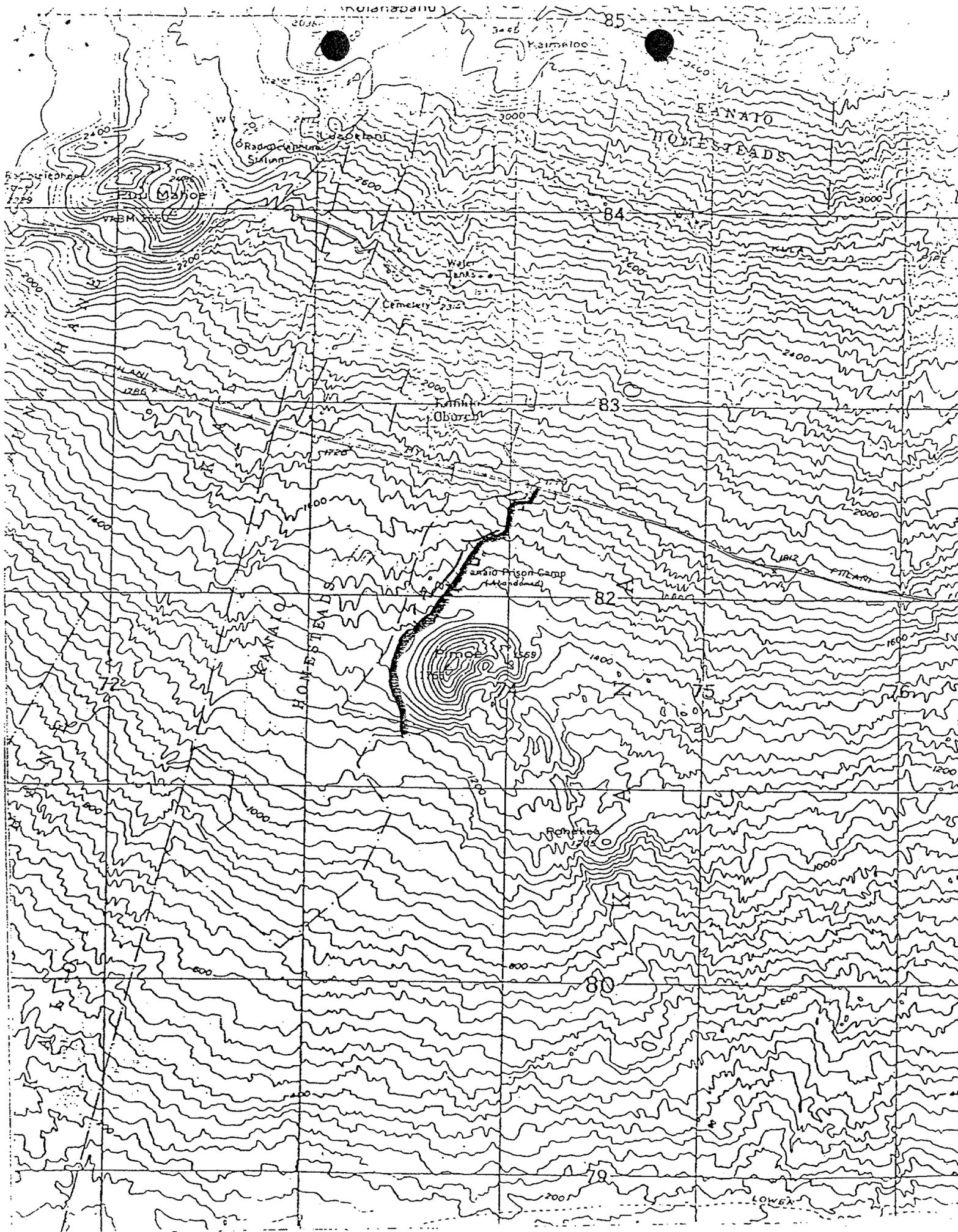
REMARKS

The land license from UluPalakua Ranch does not cover use or maintenance of the road. CPT Ishida should be able to verbally coordinate the repair <sup>directly</sup> with the Ranch on Maui. I'll advise him to do so. We are also experiencing a problem with the 411<sup>TH</sup>'s request for fuel (not available) and if not resolved, the repair work may be done by contract.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
<i>D. J. ...</i>	
	Phone No.

B-143



HIDAG  
Honorable George R. Ariyoshi

STATE OF HAWAII  
DEPARTMENT OF OFFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

CEO	<i>gh</i>
FMS	<i>1/2</i>
BCE	
GMSS	
CA	
PG	
C.T.	
D.T.	
F.M.	
Action	
Comments	
File	

9 JUL 1981

HIDAG

MEMORANDUM

To: Honorable George R. Ariyoshi

Subject: Unexploded Munitions at Kanaio Firing Range

Since 1965 the Hawaii Army National Guard has been operating the Kanaio Firing Range located on the southeastern slopes of Mount Haleakala.

The land on which the Range is located is under the control of the Department of Land and Natural Resources on lease to Ulupalakua Ranch. The Hawaii Army National Guard in turn has a license from Ulupalakua Ranch to operate the Kanaio Firing Range and conduct weapons firing six times per annum. One of the terms of the license agreement from Ulupalakua Ranch is to clear all unexploded munitions.

It was recently discovered that the Hawaii Army National Guard failed, over the years, to remove unexploded munitions. An aerial survey confirms the existence of unexploded munitions in the area. We are now in the process of planning the removal of all unexploded munitions. Federal funding will be requested to carry out this program. It is estimated that 20 working days will be required to complete the project. The cleanup will start when professional explosive specialists from the active Army return from a trip and become available to the National Guard.

After careful evaluation, it was decided that mortar firing will no longer be scheduled for the Kanaio Firing Range. Instead, all future mortar firing will be accomplished at Schofield Barracks or the Pohakuloa Training Area. The Kanaio Firing Range will only be used for small arms firing. This decision will prevent the recurrence of this problem. Whatever lands categorized as no longer required will be released by the Hawaii Army National Guard.

We are in the process of coordinating with the Department of Land and Natural Resources and the Ulupalakua Ranch managers for the closing of the old King's trail which is in this same area. The trail will be reopened when the area is determined to be cleared. Our first news release will be made when the trail is closed.

HIDAG

9 JUL 1981

Honorable George R. Ariyoshi

Mr. Brad Mossman has been briefed and all actions have been coordinated with Mr. Susumu Ono or Mr. Edgar Hamasu.

VALENTINE A. SIEFERMANN  
Major General, HANG  
Adjutant General

bcc: / Engr Off  
HARNG  
PAO  
USPFO  
ASO

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816

Rel. No. 41-81

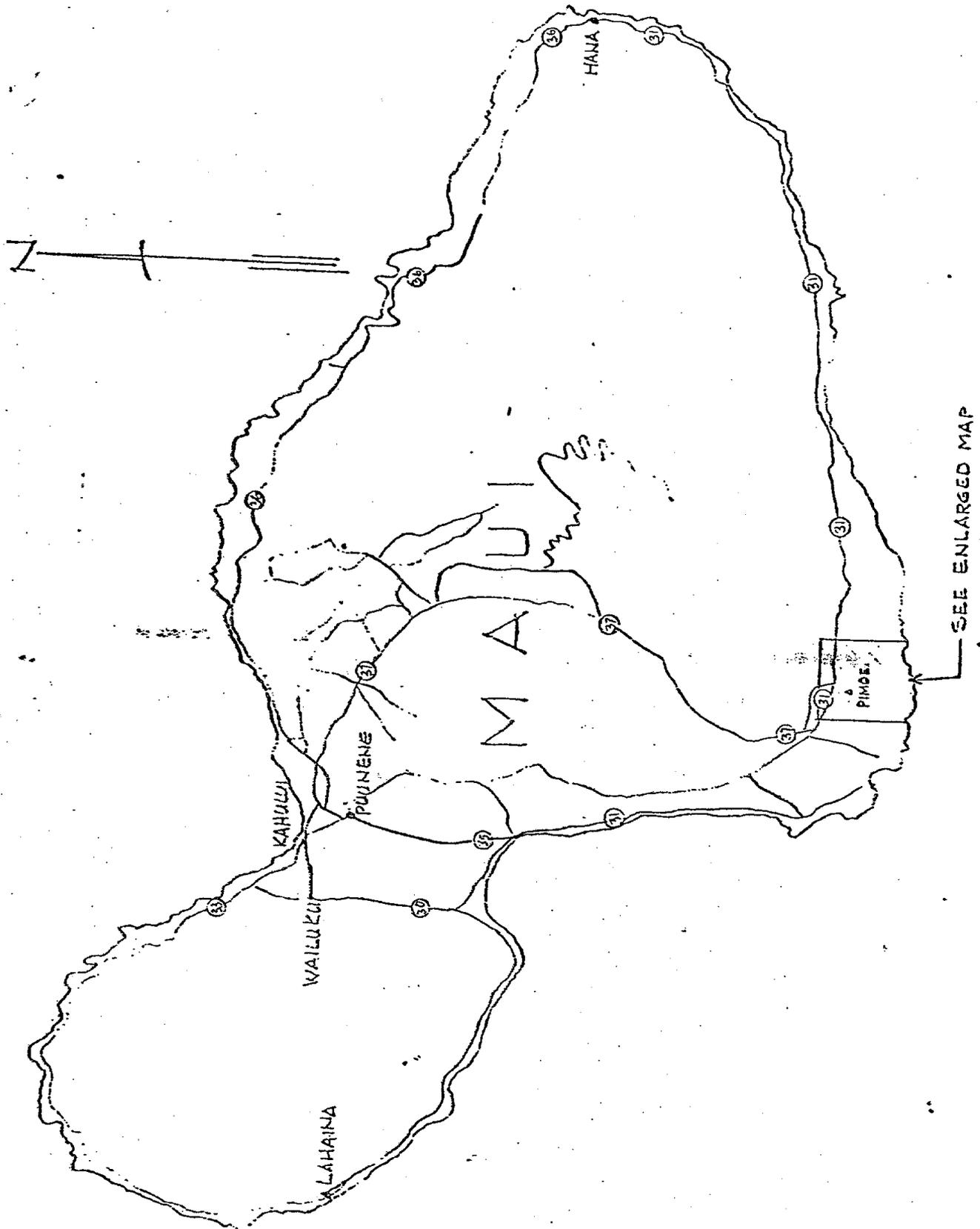
FOR IMMEDIATE RELEASE

(For further information, contact 1st Lt. Drew M. Hurley at 737-8839.)

HONOLULU, Hawaii (July 9, 1981) -- The Hawaii Army National Guard announced today the closing for safety reasons of the Hoapili or King's Trail through the Kanaio firing range area of East Maui. Recent surveys of the area revealed various types of unexploded live ammunition. Arrangements are being made with the 6th Explosive Ordnance Disposal Detachment, based at Fort Shafter, to clear the entire area. Guard officials expect the trail to be reopened sometime in September.

The Hawaii Army National Guard now uses only a portion of the area for small arms and machine gun firing. All mortar firing by the 1st Battalion 299th Infantry unit, headquartered in Wailuku, will be conducted either at Schofield Barracks on Oahu or at the Pohakuloa Training Area on Hawaii. The last time the Kanaio range was used for practice with high explosive rounds was July 1979.

The range land is owned by the state and leased to Ulupalakua Ranch, Inc. The Maui Guard unit has used the range site under a license agreement with Ulupalakua Ranch since 1965.



GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 1049  
WAILUKU, HAWAII 96793

July 13, 1981

DIVISIONS:  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FISH AND GAME  
FORESTRY  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
JUL 14 9 47 AM '81

MEMORANDUM

TO: Mr. James J. Detor.

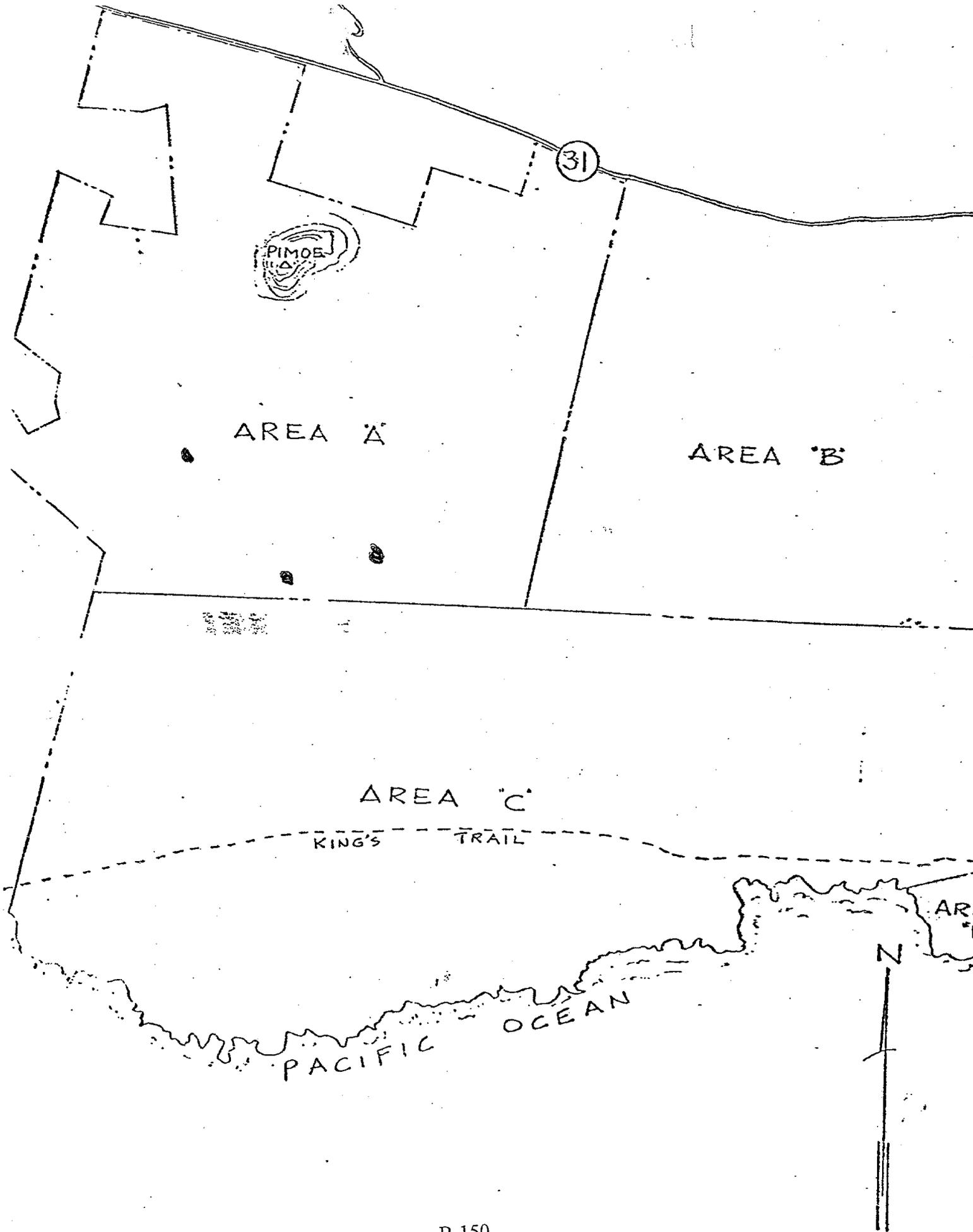
FROM: Alvin Haake

SUBJECT: Land License No. 1-65 covering Hawaii National Guard's use of premises covered by General Lease No. S-3700 to Ulupalakua Ranch, Inc., Tax Map Key 2-1-02:01

On July 8, 1981 at 9:30 A.M., Warrant Officer David Lee, Hawaii Army National Guard, gave a briefing of the unexploded ordinance (81 mm mortar rounds) along the Hoapili or King's Trail and within Area C (impact area) as shown on enclosed map, their plans of closing the King's Trail and clearing of the unexploded ordinance. A recent helicopter inspection of the area revealed unexploded mortar shells along the King's Trail and inland of the trail. No ordinance was observed seaward of the trail.

The plans of the Hawaii Army National Guard are as follows:

1. The King's Trail will be closed today and signs will be posted on both ends of Area C at the trail warning users of the trail of unexploded ordinance.
2. On August 3, 4, 5 and 6, 1981, personnel from the Hawaii Army National Guard will clear the King's Trail by using long ropes to pull the unexploded ordinance away from the trail and detonating the unexploded ordinance.
3. During the month of September, personnel from the Hawaii Army National Guard and 6th Explosive Ordinance Detachment (U.S. Army) will spend twenty (20) days clearing unexploded ordinance and targets in Area C from the King's Trail and inland.
4. Plans are to completely clear Area C and return the area to the State. The small arms range at the base of Pimoe Hill will still be utilized by the Maui Unit, 1st Battalion, 299th Infantry.



AREA 'A'

AREA 'B'

AREA 'C'

KING'S TRAIL

PACIFIC OCEAN

AREA 'E'

31

PIMOS

N

5/20

GEORGE R. ARIYOSHI  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

VALENTINE A. SIEFERMANN  
MAJOR GENERAL  
ADJUTANT GENERAL  
  
THOMAS S. ITO  
BRIGADIER GENERAL  
DEPUTY ADJUTANT GENERAL  
  
DANIEL K. C. AU  
COLONEL  
DEPUTY ADJUTANT GENERAL

HIENG

22 JUL 1981

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
JUL 23 7 08 AM '81

Mr. Richard Greenwell  
Ulupalakua Ranch, Inc.  
P. O. Box 901  
Kula, Maui 96790

Dear Mr. Greenwell:

Clearing of Kanaio Range

As discussed in our telephone conversation of July 7, 1981, the Hawaii National Guard is taking positive actions to clear Kanaio Range of any unsafe ordnance.

Our first phase of this operation will be on August 3-6, 1981. There will be approximately 30 personnel (search as well as support personnel) clearing King's Trail from west to east. The clearance will include a 70 foot wide area on each side of the trail. Time and resources permitting, the makai side of King's Trail, portion of mauka area will also be cleared, in that priority.

If there are any questions regarding this matter, please contact Major Wayne Tomoyasu, at 737-6733 or CW4 David Lee at 732-2006.

Yours truly,

signed

JERRY M. MATSUDA  
Captain, HANG  
Contr & Engr Officer

cc: DLNR, Div of Land Mgmt  
DLNR, Maui District Agent

Mr. James J. Detor

-2-

July 13, 1981

Warrant Officer Lee stated that Mr. Richard Greenwell, Manager, Ulupalakua Ranch, Inc., has been informed of the situation and plans of clearing the area of unexploded ordinance. Cooperation with Ulupalakua Ranch, Inc. has been excellent.

Lt. Drew M. Hurley, Public Information Officer, Hawaii National Guard, submitted a copy of the news release (copy enclosed) with attachments to be submitted to the Maui News for publication.

The above information and copies of the news release were relayed to the other divisions of our Department on Maui.

  
ALVIN HAAKE

Encls.

cc: Mr. Thomas S. Yagi

14 August 1981

## MEMORANDUM FOR RECORD

SUBJECT: After Action Report for Range Clearance on KANAIO RANGE,  
Maui, Hawaii

1. During the period 3-6 August 1981 one Explosive Ordnance Disposal team consisting of SFC Crowder and SP5 McElroy participated in a range clearance with the Hawaii Army National Guard at the Kanaio Range located on State of Hawaii land which is leased to Ulupalakula Ranch with the stipulation that the range, which is primarily an AA (ah, ah) lava flow can be fired on six times a year by HANG. Involved in the surface clearance with the EOD team were: COL Alencaster, G-3; CW4 Lee, safety officer; MAJ Weeks, OIC of troops; two medics; 15 searchers; and two UH-1H helicopters with crews.
2. This operation was extremely well planned in advance and all equipment and personnel were present for the prior briefings and at the Maui Armory, and later at the Kahului Airport for the start of the range operation.
3. Areas of primary concern were, King's Trail, fishermen's paths to and from the ocean, 3.5" rocket firing range, M79 40mm grenade range, and 2 M72 LAW impact areas (see attached detail map at Incl 1).
4. The entire range was difficult to search because the lava had cooled slowly causing the surface to be broken and irregular. A visual check of the area by helicopter was conducted and it was noted that the quantity of residue which is normally found in an impact area, such as fins, internal components from illumination projectiles, and unexploded ordnance (UXO) didn't exist in the quantities normally expected for the period the range has been in existence. In fact it was difficult to even tell that the area was in fact an impact area.
5. The reasons for the lack of debris and UXO's on the surface is directly related to the lava.
  - a. Mortars, which are high angle fire weapons, have little or no resistance to penetrating the surface for two reasons:
    - 1) The surface being broken and irregular there are numerous voids where the rounds can enter without having to penetrate the surface.
    - 2) Lava having a silica content of 44-45% is extremely brittle and being impacted by a steel cased munition at a fast rate of speed will shatter from the impact allowing the projectile to penetrate the surface with little or no resistance.

APGP-EOD

SUBJECT: After Action Report for Range Clearance-Kanaio Range, Maui  
Range Clearance

b. The following is a listing of fuzes which are peculiar to the ordnance fired on the range that incorporate delay features:

60mm	M525 PD
81mm	M524 series PD M525 PD
4.2"	M48A3 PD M521 PD M557 PD M739 PD

c. The following fuzes are also peculiar to the ordnance fired which do not incorporate a delay and would produce UXO if a detonation did not occur upon impact at the surface:

60mm	M527 PD M717 PD	
81mm	M567 PD M526 PD M716 PD	
4.2"	M520 MTSQ M564 MTSQ M728 PROX	M548 MTSQ M513 PROX M732 PROX

d. All fuzes listed in the two preceding sub paragraphs have the potential of penetrating the surface either by delay option or as UXO without the delay because of the steel construction of the projectiles. From the surface sweep it was apparent that the delay type fuzes were detonating beneath the surface lava and the heaving effect was covering the debris and UXO, that would normally be on the surface. This accounts for the 10% UXO rate that may exist on this range, but isn't visible.

## 6. Search Sweeps

a. Kings Trail- This sweep produced debris from approximately 30ea 81mm illumination projectiles, 5ea 81mm old style practice, 3ea 81mm white phosphorus projectiles, and one 81mm illumination UXO.

b. Fishermen Trails- Sweeps along these trails and the area between Kings Trail and the ocean produced no debris or UXOs.

c. 3.5" Rocket Range- This range only produced practice rounds which contained no explosive hazards. The quantity was in excess of 200 items which were policed up. See Incl #2

APGP-EOD

SUBJECT: After Action Report for Range Clearance on KANAIO RANGE, MAUI, Hawaii

d. M72 LAW Rocket Range- This area not swept by the party due to the likeness of the fuzing. UXO's were observed by the EOD team. See Incl #1.

e. M72 Law Rocket and 40mm grenade Range- This area also wasn't searched by the party because of the sensitivity of the fuzing of both items. UXOs were not observed. See Incl #1

f. Target Site- One target site involving two vehicle targets, 50 meters apart, was swept by the party. This was done for a visual recon to determine the extent of debris and UXOs at other target sites. The sweep only turned up fin sections of 81mm mortars which had detonated.

7. Discussion: Because of the close proximity of a civilian community this impact area will require signs to keep the public out or at least inform them that hazards do exist if the area is entered. Additionally, the ranges where the M72 LAW Rockets and M79 40MM Grenades are fired will not only require signs warning of the hazards, but it is preferred that a barrier of barbed wire be put up to deny entry. The M72 LAW utilizes two fuzes which are so sensitive that the slightest action upon them can result in a detonation. The nose fuze contains a piezo-electric crystal that generates an electrical pulse upon stress or movement ever so slight or a slight change in temperature, also the detonator being electric can be functioned by electro-magnetic radiation (EMR). The base fuze contains an anti-graze element with a cocked-striker in line with a detonator. Upon any action which would give the rocket the sensation of deceleration, the graze weight moves forward which releases a lever holding back the cocked striker and would allow the striker to go forward into the detonator detonating the main-charge of explosives. The M79 40mm grenade contains an impact/anti-graze fuze which utilizes a weighted collar that acts directly on a sharp striker. Changing the orientation of this grenade can cause the striker to impinge itself into the detonator or cause an impinged striker to extract itself creating enough stress either way on the primary explosives in the detonator to detonate the main charge.

8. Further Actions: Upon completion of the range sweep the EOD team returned to Fort Shafter and researched the feasibility of electronically locating the ordnance (UXO) under the surface of the lava. This was done at the request of the HANG because the desire was expressed that the area be completely cleared of all hazardous materials so that it could be turned over to the State of Hawaii. Not knowing the composition of the lava, Dr. Garcia from the University of Hawaii Geology Department was called and the type and composition of the lava was requested.

The composition of the lava is as follows:

Iron Oxide	10-16%	Titanium Oxide	2-4%
Magnetite	10%	Cilica	44-45%

APGP-EOD

SUBJECT: After Action Report for Range Clearance on KANAIO RANGE,  
MAUI, Hawaii

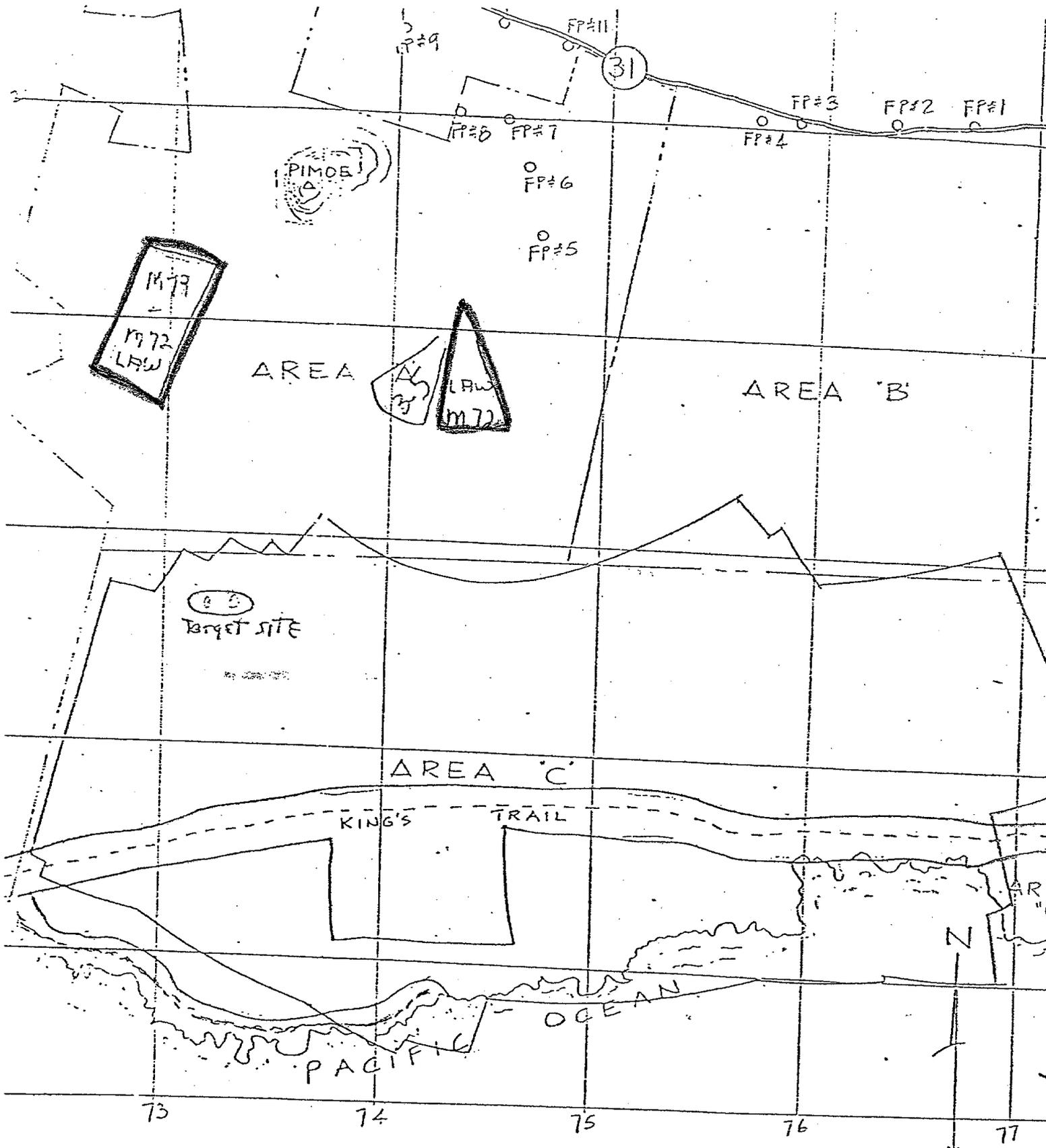
a. The EOD center at Indianhead Maryland was called pertaining to electronic equipment to sub-surface clear this area and the above composition of the lava was passed on. This information was given to the project manager of the MK22 locator. The MK22 is the latest in the State of the art for subsurface clearance. The instrument was tested on KAHOOLOWE and the lava was similar. It was found the instrument will not work and only surface clearances by personnel is being used until something better comes along.

b. Also requested from IndianHead was a time frame where through natural means an explosive item would rust, corrode, or decompose to a point where it would not constitute a hazard. Nothing has ever been published in this area, therefore an indefinite period of time was recommended being that recently in France a WWII German bomb detonated when it was disturbed.

9. Summary: Per conversations with CW4 Lee, the HANG is scheduling to mark the general boundaries of the impact area with signs, establish barriers in required areas and schedule classes at the local schools to educate the students that live in the area of the range. Also sweeps will be conducted around target for debris. An EOD team will be present during all operations involving the range. An EOR class will be taught when scheduled by HANG.

2 incl  
as

HAROLD R. CROWDER JR.  
SFC, E7  
Senior EOD Supervisor



Incl 1

GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII



RECEIVED  
DIVISION OF  
LAND AND NATURAL RESOURCES  
AUG 31 - 9 12 AM '81

DIVISIONS:  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FISH AND GAME  
FORESTRY  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 1049  
WAILUKU, HAWAII 96793-0357

August 28, 1981

MEMORANDUM

TO: Mr. James J. Detor

FROM: Alvin Haake

SUBJECT: Land License No. 1-65 covering Hawaii National  
Guard's use of premises covered by General Lease  
No. S-3700 to Ulupalakua Ranch, Inc. TMK 2-1-02:01

On August 26, 1981, Major Tomayasu and Warrant Officer Lee, Hawaii Army National Guard submitted and explained the enclosed "After Action Report for Range Clearance on Kanaio Range" that was conducted on August 3-6, 1981. The report covers the areas that were cleared of unexploded ordnance:

1. King's Trail - colored in yellow on Inclosure 1 of the report.
2. Area and trails by the ocean - colored in yellow.
3. 3.5" Rocket Launcher Range - Inclosure 1.

Two ranges (M79 and M72 LAW), outlined in red on Inclosure 1, cannot be cleared due to the sensitivity of the ordnance fuzes that slight movement may result in detonation. A barrier of barbed wire will be erected and signs posted warning of the hazards.

It was reported that the entire impact area from the firing points are considered dangerous for any use for an indefinite period as they are unable to clear the area of unexploded ordnance. The report explains that a number of mortar ordnance could have penetrated the surface of the lava without difficulty and extremely difficult to detect. Efforts to obtain electronic equipment to locate subsurface ordnance revealed that the latest developed equipment known as the MK22 locator which was tested on Kahoolawe will not work due to the composition of the lava.

The Hawaii Army National Guard and an Explosive Ordnance Disposal Team will return to Kanaio Range on September 14-18, 1981 to redefine boundaries of the unexploded ordnance area, post signs, fence the M79 and M72 LAW ranges, remove the two targets from the impact area, if possible, and determine

Mr. James J. Detor

-2-

August 28, 1981

fencing requirements of the area. They were also exploring the firing of 4.2" mortars in the past. On August 27, 1981, Lt. Ribucon, HANG-Maui, received confirmed information that 4.2" mortar firing on the range did occur in the past. This creates another problem as further surface sweeps from firing points 1-4 to Area D will be required.

Major Tomoyasu indicated that a conference will be held at your office later of discussing the withdrawal of the range area from General Lease No. S-3700 and the area retained under the Hawaii Army National Guard's control and maintenance as complete clearance of unexploded ordnance cannot be accomplished. It is unknown at this stage whether the National Guard will continue to use the area for range firing or let the area remain idle for an indefinite period.

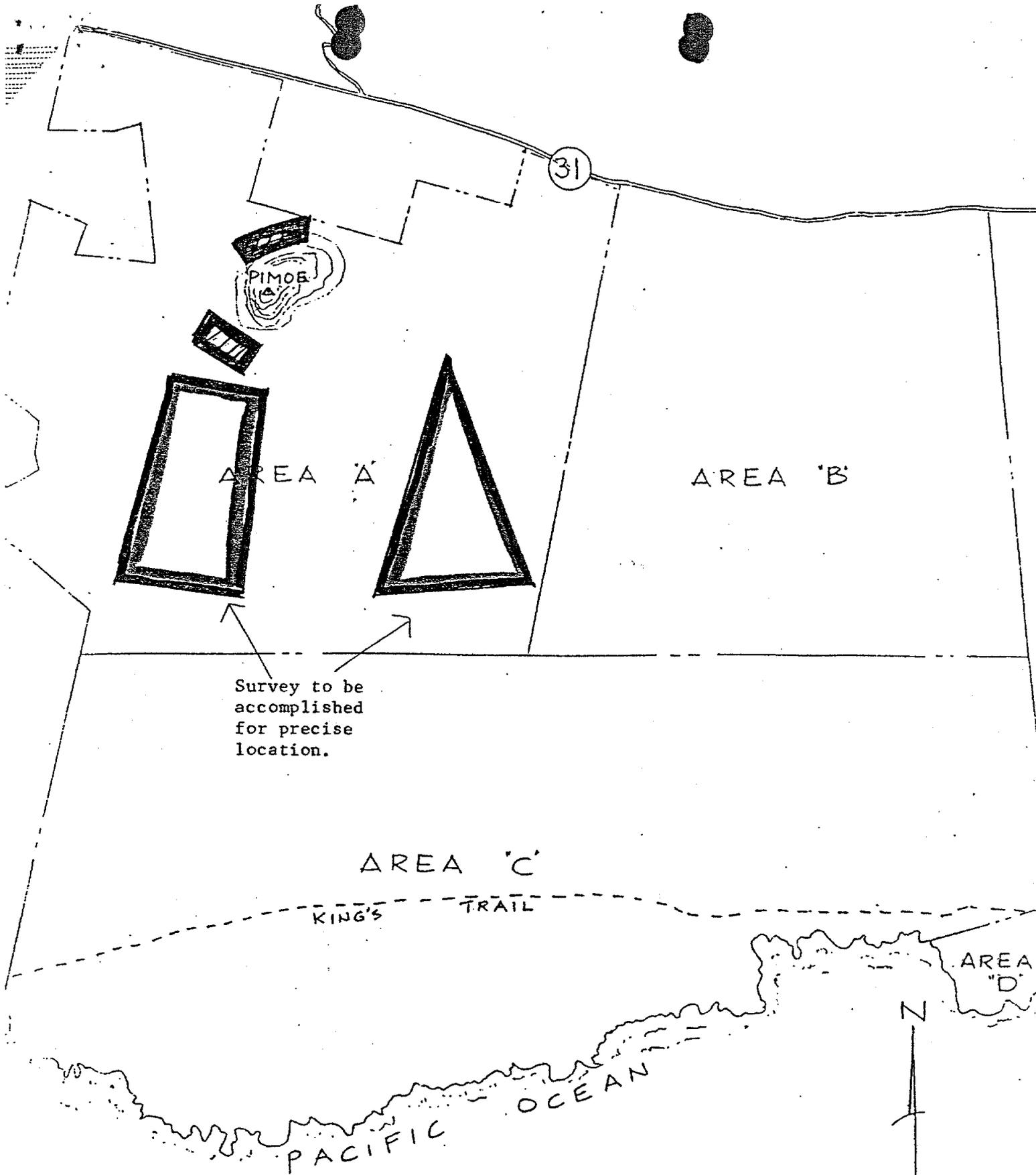
More exact information should be available following the completion of their September 14-18, 1981 range clearance efforts and re-evaluating the problems.

  
ALVIN HAAKE

Encl.

cc: Mr. Thomas S. Yagi w/Encl.





LEGEND

- UNCLEARABLE AREAS
- IN-USE RANGES

SCALE: 1 inch = 700 yards

TELEPHONE OR VERBAL CONVERSATION RECORD

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

DATE

17 NOV 81

SUBJECT OF CONVERSATION

KANAI0 WEEKEND TRAINING SITE

INCOMING CALL

PERSON CALLING

MFR: MTG AT DLNR

ADDRESS

PHONE NUMBER AND EXTENSION

PERSON CALLED

OFFICE

PHONE NUMBER AND EXTENSION

OUTGOING CALL

PERSON CALLING

MATSUDA  
TOMOYASU  
LEE

OFFICE

DoD

PHONE NUMBER AND EXTENSION

PERSON CALLED

JAMES DETOR  
JAMES LAMB

ADDRESS

LAND MGT DIV. DLNR

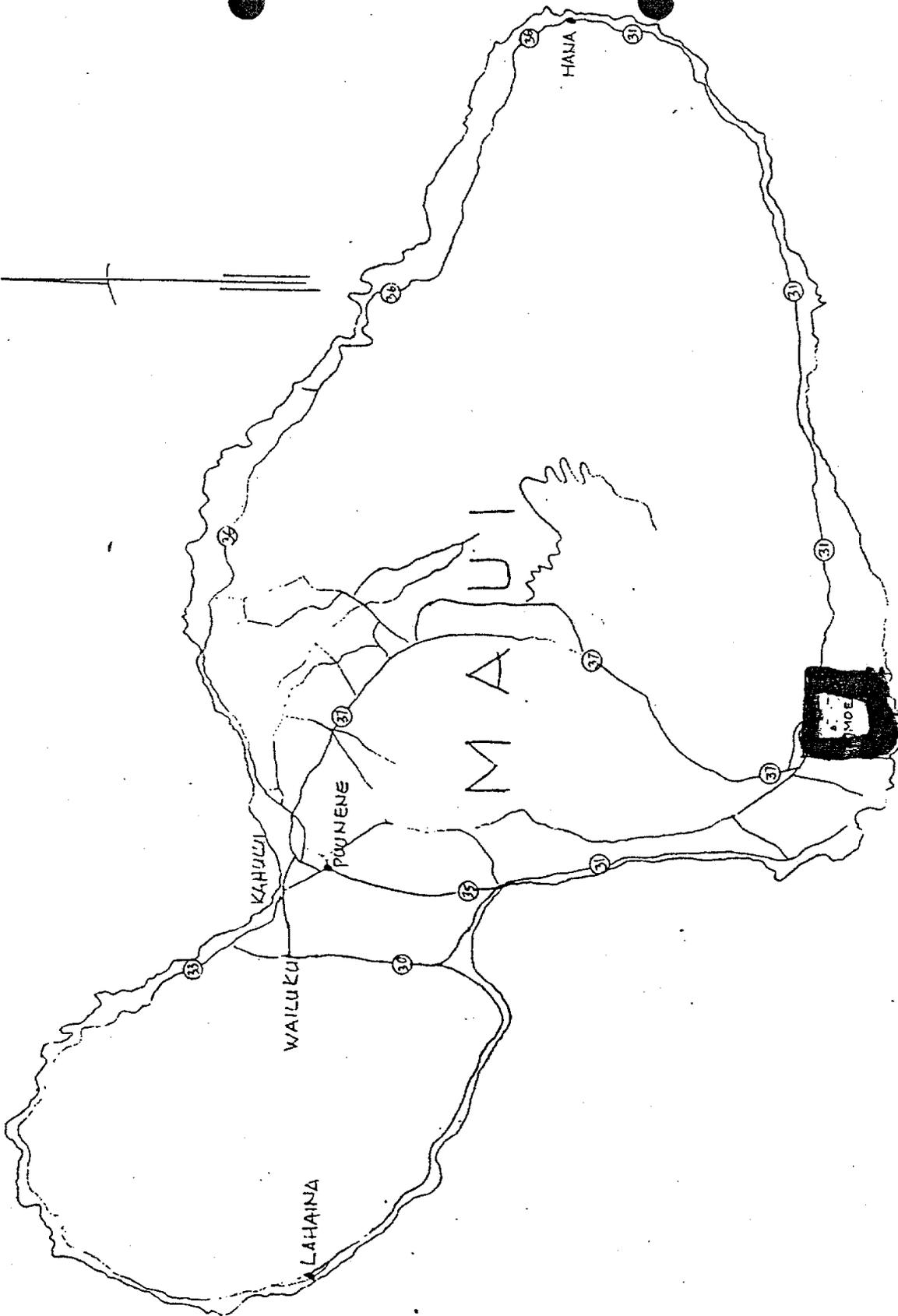
PHONE NUMBER AND EXTENSION

SUMMARY OF CONVERSATION:

DoD advised on clearing actions to date. Fenced areas are permanently restricted. Our concern is to insure federal funds to maintain restricted areas (fence and signs).

DLNR lease to Ulu palakua Ranch expires in March 1982 when it will be put up for lease again (new lease rent - public bidding). It will be possible to condition terms of new lease to allow continued DoD use of the area. DLNR recommends DoD discuss with Ulu palakua Ranch.

NOTION - DoD to review present land license and alter provisions that are unsuitable for us. DLNR will consider our input when signing new lease.



SEE ENLARGED MAP

*Ind*

# DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL

SUBJECT

HIIB-XA-PT

Changes to Kanaio Lease (License No 1-65)

TO THRU Cdr, 29th Inf Bde

FROM Cdr, 1st Bn 299th Inf

DATE 18 Dec 81

CMT 1

CPT Prewitt/dmp/242-6451

TO USPFO for Hawaii  
ATTN: MAJ Tomoyasu

1. Changes to Land License No 1-65 are recommended for para's 1,2,3,6,7,8 as follows:

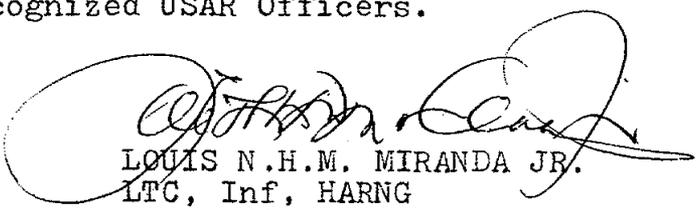
✓ a. Para 1, line 6, delete area "C", other than the explosive contaminated areas. Delete that portion of area "B" which is more than approx 100 meters to the East of the trail. (the trail, and Pahakea hill and the Kiawe tree area at the SW of area "B" should remain under our control.)

✓ b. Para 3, The licensee may have exclusive use of said premises for not less than 12 weekends per calendar year. The licensee may use the premises for one weekday prior to each weekend use for the purpose of maintenance of the facility (such as target preparation, and grass cutting). An advance element consisting of range personnel may bivouac on the range on the Friday night prior to weekend weapons firing.

c. Para 6, change all after "The licensee may conduct small arms range firing utilizing live ammunition in area "A"..." This HQs wishes to have the freedom in the future, to establish a KD or other type range, either butting into Pimoe, or into Pahakea hill. Further, deletion of the prohibition on the construction of permanent structures, will allow us to construct target butts for any future range. Lastly, the construction of infantry fighting positions on a permanent display basis is not allowed under the present agreement.

d. Para 7, delete firing of heavy caliber infantry support type weapons in area B.

e. Para 8, change to reflect occasional USAR use with our permission, I.E., "to include federally recognized USAR Officers.

  
LOUIS N.H.M. MIRANDA JR.  
LTC, Inf, HARNG  
Commanding

B-164

HIIB-XA-PT

Changes to Kanaio Lease (License No 1-65)

THRU Cdr, 29th Inf Bde

Cdr, 1st Bn 299th Inf 18 Dec 81

CPT Prewitt/dmp/242-6451

TO USPFO for Hawaii  
ATTN: MAJ Tomoyasu

1. Changes to Land License No 1-65 are recommended for para's 1,2,3,6,7,8 as follows:

a. Para 1, line 6, delete area "C", other than the explosive contaminated areas. Delete that portion of area "B" which is more than approx 100 meters to the East of the trail. (the trail, and Pahakea hill and the Kiawe tree area at the SW of area "B" should remain under our control.)

b. Para 3, The licensee may have exclusive use of said premises for not less than 12 weekends per calendar year. The licensee may use the premises for one weekday prior to each weekend use for the purpose of maintenance of the facility (such as target preparation, and grass cutting). An advance element consisting of range personnel may bivouac on the range on the Friday night prior to weekend weapons firing.

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d. Para 7, delete firing of heavy-caliber infantry support type weapons in area B.

e. Para 8, change to reflect occasional USAR use with our permission, I.E., "to include federally recognized USAR Officers.

LOUIS N.H.M. MIRANDA JR.  
LTC, Inf, HARNG  
Commanding

State of Hawaii  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 Diamond Head Road  
Honolulu, Hawaii 96816

HIENG

26 JAN 1982

Mr. Susumu Ono, Chairman  
Board of Land and Natural Resources  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Ono:

Land License 1-65, Kanaio, Maui

Reference is made to the meeting between Mr. James Detor, Mr. James Lan, Major Wayne Tomoyasu, Captain Jerry Matsuda and CW4 David Lee on November 17, 1981 at the Department of Land and Natural Resources. The meeting was held to brief your staff on the status of our cleanup of the unexploded munitions at our Kanaio Weekend Training Site (WETS). We have since fenced off the contaminated unclearable areas, which are now being surveyed for accurate locations on appropriate real property documents.

Our Kanaio WETS is presently covered under Land License 1-65 between Ulupalakua Ranch (Licensor) and DoD (Licensee). Ulupalakua Ranch in turn was leased the area by your department. That lease will expire in March 1982. It was agreed with your staff, that our requirements for use of the Kanaio WETS would be a precondition for any future lease. In this way, federal support for maintenance of the WETS and especially of the fenced contaminated areas would be assured. Our requirements for continued use of the Kanaio WETS are enclosed.

Request that they be included as conditions of the next lease of the area. If there are any questions, our Contracting and Engineering Officer may be reached at 737-6733.

Yours truly,

DANIEL K. C. AU *DKC*  
Colonel, HANG  
Acting Adjutant General

Enclosure

bcc: HQ HANG, G-3, Safety Officer,  
1st Rm 200th Inf

B-1667/6

CONDITIONS FOR INCLUSION IN FUTURE LEASE FOR  
KANAIO WEEKEND TRAINING SITE (WETS)

Licensor - as determined by Department of Land and Natural Resources  
Licensee Department of Defense, State of Hawaii.

1. That the Licensor hereby grants to the Licensee a license to enter, occupy and use, subject to all of the terms and conditions hereinafter stated, all of those premises located at Kanaio, District of Makawao, Island of Maui, Hawaii, and designated as Areas "A," "B" and "C", more particularly described and delineated on the map labelled Exhibit I, which is attached hereto and made a part hereof.
2. That said premises may be occupied and used by the Licensee for military training purposes and in such connection the Licensee may conduct field training exercises, field firing exercises and all activities incidental thereto.
3. The Licensee may have exclusive use of the said premises on weekends (Saturday and Sunday) to include Friday night bivouac for advance party elements for twelve (12) weekends per calendar year. The Licensee may have non-exclusive use of the said premises for one weekday prior to each weekend use for the purposes of maintenance, site preparation, etc.
4. The Licensee shall notify the Licensor at least three (3) weeks in advance of the date that said premises will be so occupied and used.
5. That those premises designated as Area "A" shall be used only for maneuver and camping purposes and no firing of live ammunition shall be allowed in said area, but that the Licensee may be permitted to conduct live firing exercises under the terms and conditions of Paragraph No. 6 hereunder.
6. The said Licensee may conduct small arms range firing utilizing live ammunition in Area "A," in accordance with standard safety requirements and procedures for range operations. Any construction of permanent structures shall be limited to that incident to the operation of the range or training of personnel at the range.
7. That the Licensee may conduct live firing of small arms and heavy caliber infantry support type weapons in Areas "A," "B" and "C" from firing positions established in accordance with standard safety requirements and procedures for range operations. Impact area for projectiles fired from Areas "A," "B" and "C" shall be limited to Area "C." Approximately

- three grassed areas inclosed by lava flow, known locally as "kipukas", located in Area "C," and easily identified on the ground, shall be declared "no fire" areas, and all live firing shall be so controlled as to prevent any impact of projectiles in these areas.
8. That all live firing exercises shall be conducted under the personal direction and supervision of a federally recognized officer of the Hawaii National Guard or US Army Reserve and shall be conducted in strict compliance with the latest current safety and range regulations and procedures.
  9. That an ancient Hawaiian burial cave is located in Area "A" approximately as indicated on Exhibit I. This cave shall be located and identified on the ground and shall be declared "off limits" to troops and personnel of the Licensee. No entrance into, maneuver over, or firing into this area shall be permitted.
  10. That the premises marked as Area "D" on Exhibit I contain a livestock watering facility belonging to the Licensor and shall be declared "off limits" to troops and personnel of the Licensee. No entry into, maneuver over, or firing into this area shall be permitted.
  11. That prior to conducting any live firing exercises, the Licensee shall erect barricades and post warning signs at the entrances of all roads and trails into the impact area. During the actual conduct of live firing, the Licensee shall post guards at the entrances of all roads and trails into the impact area to prevent any unauthorized entry into danger areas.
  12. That upon completion of each firing period and before leaving the area, the Licensee shall thoroughly police the entire premises, dispose of all debris and trash, and leave the area in a clean and orderly condition. The Licensee shall conduct a thorough search along the entire length of all roads and trails passing through the impact area and shall barricade and appropriately mark all duds or unexploded projectiles found lying in or near such roads and trails. The Licensee shall initiate immediate action to have all such duds or unexploded projectiles removed and/or destroyed.
  13. That the Licensee shall not trap, take, hunt or kill any wild animal or fowl nor cut or destroy any trees in connection with the permitted use of the premises and/or any of the rights granted hereunder.

14. That the Licensee shall take every precaution to avoid damage to livestock or property belonging to the Licensor. In the case of damage resulting from Licensee's exercise of the permission herein granted, the Licensee shall either make physical restoration of the property so damaged or reimburse the Licensor therefor.
15. That the Licensee shall at all times, with respect to said premises, use due care for public and private safety and shall, to the extent permitted by law, indemnify and hold the Licensor harmless from any loss, liability, claim or demand for injury or damage, including but not limited to death, on or about subject premises, or caused by or resulting from any activities or operations of the Licensee in connection with subject premises.
16. That this agreement will become effective upon execution by all parties concerned and approval by the Board of Land and Natural Resources, State of Hawaii, and will continue in effect until revoked or terminated.

GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
FEB 24 8 28 AM '82



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 1049  
WAILUKU, HAWAII 96793

DIVISIONS:  
AQUATIC RESOURCES  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

February 22, 1982

MEMORANDUM

TO: Mr. James J. Detor

FROM: Eddie Ansai

SUBJECT: Department of Defense Recommended Conditions  
for Inclusion in Future Lease for Kanaio  
Weekend Training Site (WETS)

This is in reference to your pink slip dated February 18, 1982 (copy enclosed) for our comments and recommendations.

The subject area to be occupied and used by the Department of Defense is presently encumbered under General Lease No. S-3700 to Ulupalakua Ranch, Ltd. for pasture purposes. The Lease expires on March 18, 1982. The State lands encumbered under General Lease No. S-3700 consist of 8,370.00 acres and described as follows:

<u>Tax Map Key</u>	<u>Area in Acres</u>	<u>State Land Use Commission Zoning</u>
2-1-02:01	6229.00	4771.29 acres in Conservation and 1457.71 acres in Agriculture
2-1-03:50	2141.00	All in Agriculture
TOTAL	<u>8370.00</u>	

We recommend the following procedures be taken:

1. Ulupalakua Ranch, Ltd. be informed that rather than exercising the one-year holdover period effective March 19, 1982, a revocable permit be issued to them effective March 19, 1982 with a reduction in rental commensurate with the areas to be withdrawn until as such time a public auction be held for lease.
2. The area withdrawn be covered under a revocable permit to the Department of Defense effective March 19, 1982.

Mr. James J. Detor

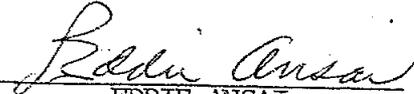
-2-

February 22, 1982

3. Should any portion of the withdrawal area be within the Conservation District, Department of Defense should file a Cдуа, if necessary.

Should the Board approve the foregoing, may we recommend the enclosed conditions for inclusion in future lease for Kanaio Weekend Training Site (WETS) be corrected as denoted in "red".

May we also request that designated areas "A", "B", and "C" be identified by tax map key and approximate areas denoted.

  
EDDIE ANSAI

EA:kr  
Encls.

cc: Mr. Thomas S. Yagi



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
P. O. BOX 621  
HONOLULU, HAWAII 96809

May 14, 1982

Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, HI

Gentlemen:

MAUI

Subject: One (1)-Year Holdover of General Lease  
No. S-3700

STATUTE: Chapter 171-40, Hawaii Revised Statutes

APPLICANT: ULUPALAKUA RANCH, INC.

LOCATION: All of that portion of the Government land of Honuaula, the same being the Kanaio and Kaunuaahane-Kaloi Government Tracts, including Lots 1 to 17, inclusive of the Kanaio Homesteads, Honuaula, Maui, Tax Map Keys 2-1-02:01 and 2-1-03:50, as shown outlined in red on maps labeled Land Board Exhibits "A" and "B," respectively, appended to the basic file.

AREA: Tax Map Key 2-1-02:01 6,229.00 acs. more or less  
Tax Map Key 2-1-03:50 2,141.00 acs., more or less  
8,370.00 acs., more or less

LAND TITLE STATUS: Section 5(b) Admissions Act

PURPOSE: Pasture

LEASE EXPIRATION DATE: March 18, 1982

RENTAL: \$5,000.00 per annum

REMARKS: The Lessee is currently utilizing the subject premises for pasture purposes and has requested continued tenancy to the areas in question which is being studied by the staff for possible leasing at public auction in the near future. General Lease No. S-3700 does not contain an escalation clause.

APPROVED BY THE BOARD OF  
LAND AND NATURAL RESOURCES  
AT ITS MEETING HELD ON

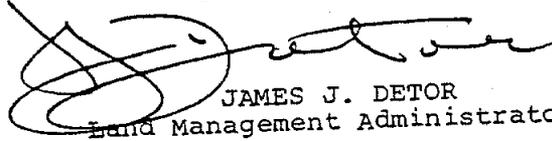
5/14/82

The State Department of Defense (National Guard) is using portions of the leasehold for training purposes (Kanaio Weekend Training Site - WETS) under Land License 1-65 between our lessee (Ulupalakua Ranch) and the State Department of Defense. This license should be continued during the holdover period.

RECOMMENDATION:

That the Board approve a one (1)-year holdover of General Lease No. S-3700 at the lease rental of \$5,000.00 per annum, subject to continuation of Land License 1-65 by and between Ulupalakua Ranch and the State Department of Defense for Kanaio Weekend Training Site.

Respectfully submitted,



JAMES J. DETOR  
Land Management Administrator

APPROVED FOR SUBMITTAL:



SUSUMU ONO, Chairman



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621

HONOLULU, HAWAII 96809

MAY 21 1982

SUSUMU ONO, CHAIRMAN  
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU  
DEPUTY TO THE CHAIRMAN

DIVISIONS:  
AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

Brigadier General Arthur U. Ishimoto  
Department of Defense  
Office of the Adjutant General  
3949 Diamond Head Road  
Honolulu, HI 96816

Attn: Major Wayne Tomoyasu

Dear Sir:

Subject: General Lease No. S-3700 to Ulupalakua Ranch, Inc., Kaunuaahane-Kaloi Government Tracts, Honuaula, Maui, HI, TMK 2-1-02:01 and TMK 2-1-03:50 (Kanaio Weekend Training Site Covered by Land License 1-65)

CEO	<i>[Signature]</i>
FMO	<i>[Signature]</i>
BCE	
GMSS	
CA	
PC	
C.T.	
D.T.	
F.M.	
Action	
Comments	
File	<i>[Signature]</i>

This is to inform you that at its May 14, 1982 meeting, Item F-8 (copy enclosed), the Board of Land and Natural Resources approved a one (1)-year holdover of G.L. No. S-3700 issued to Ulupalakua Ranch, Inc. subject to the existing terms and conditions including the continuation of Land License 1-65 by and between Ulupalakua Ranch and the Department of Defense covering your use of portions of the leased area for Kanaio Weekend Training Site.

The one (1)-year holdover covers the period March 19, 1982 through March 18, 1983.

We ask for your continued cooperation with Ulupalakua Ranch during this period in insuring full compliance with the terms and conditions of the license agreement.

Your request for inclusion of certain conditions in future leases affecting the Kanaio Training Site is still under study. Meanwhile, we would appreciate your furnishing us with a more detailed map delineating the areas "A," "B," "C," and "D" and showing the appropriate landmarks cited in your proposed conditions.

*[Handwritten mark]*  
B-174



Brigadier General Arthur U. Ishimoto  
Page 2

Should you have any questions, please call our Land  
Management office at 548-6463.

Very truly yours,

  
SUSUMU ONO  
Chairman of the Board

Enc.

cc Mr. Tom Yagi  
Mr. Eddie Ansai  
Ulupalakua Ranch



DIVISIONS:  
CONVEYANCES  
FISH AND GAME  
FORESTRY  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
P. O. BOX 621  
HONOLULU, HAWAII 96809

May 14, 1982

Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, HI

Gentlemen:

MAUI

Subject: One (1)-Year Holdover of General Lease  
No. S-3700

STATUTE: Chapter 171-40, Hawaii Revised Statutes

APPLICANT: ULUPALAKUA RANCH, INC.

LOCATION: All of that portion of the Government land of Honuaula, the same being the Kanaio and Kaunuaahane-Kaloi Government Tracts, including Lots 1 to 17, inclusive of the Kanaio Homesteads, Honuaula, Maui, Tax Map Keys 2-1-02:01 and 2-1-03:50, as shown outlined in red on maps labeled Land Board Exhibits "A" and "B," respectively, appended to the basic file.

AREA: Tax Map Key 2-1-02:01 6,229.00 acs., more or less  
Tax Map Key 2-1-03:50 2,141.00 acs., more or less  
8,370.00 acs., more or less

LAND TITLE STATUS: Section 5(b) Admissions Act

PURPOSE: Pasture

LEASE EXPIRATION DATE: March 18, 1982

RENTAL: \$5,000.00 per annum

REMARKS: The Lessee is currently utilizing the subject premises for pasture purposes and has requested continued tenancy to the areas in question which is being studied by the staff for possible leasing at public auction in the near future. General Lease No. S-3700 does not contain an escalation clause.

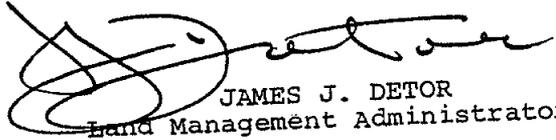
APPROVED BY THE BOARD OF  
LAND AND NATURAL RESOURCES  
AT ITS MEETING HELD ON

5/14/82

The State Department of Defense (National Guard) is using portions of the leasehold for training purposes (Kanaio Weekend Training Site - WETS) under Land License 1-65 between our lessee (Ulupalakua Ranch) and the State Department of Defense. This license should be continued during the holdover period.

RECOMMENDATION: That the Board approve a one (1)-year holdover of General Lease No. S-3700 at the lease rental of \$5,000.00 per annum, subject to continuation of Land License 1-65 by and between Ulupalakua Ranch and the State Department of Defense for Kanaio Weekend Training Site.

Respectfully submitted,



JAMES J. DETOR  
Land Management Administrator

APPROVED FOR SUBMITTAL:



SUSUMU ONO, Chairman

HIARS

25 June 1982

CEO	<i>h</i>
FMO	<i>h</i>
BCE	
GMSS	
CA	
PC	
C.T.	
D.T.	
F.M.	
Action	
Comments	
File No	<i>270</i>

MEMORANDUM FOR RECORD

SUBJECT: Kanaio Firing Range Aerial Survey

1. An aerial survey of Kanaio Firing Range was conducted on 171100 Jun 82 to determine the condition of previously emplaced barbed wire fencing and warning signs around designated non-clearable dud areas.
2. The survey revealed that all barbed wire fencing and signs on the west end and trail area are in good condition and firmly in place. The signs that were emplaced in the Wailuku or east side of the range approximately 12-14 are either down or blown apart because of vandalism. It appears that these signs were used as targets by hunters as they exhibit signs of being shot up.
3. The problem of vandalism to the signs was discussed with the Facility Maintenance Officer and plans are being made to correct this by emplacing a more permanent type structure for the signs.

*David Y. Lee*  
 DAVID Y. LEE  
 CW4, HARNG  
 Safety Manager

CF:  
 G3, HARNG  
 Cdr, 29th Inf Bde  
 Cdr, 1/299 Inf  
 ✓ Fac & Engr

*80*

RECEIVED 10M 5 1982

State of Hawaii  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 Diamond Head Road  
Honolulu, Hawaii 96816

CEO	<i>h</i>
PMO	<i>h</i>
BCE	
GMSS	
CA	
PC	
C.T.	
D.T.	
F.M.	
Action	
Comments	
File	<i>h</i>

21 DEC 1982

**HIENG**

*Handwritten:* *Handwritten:*

Mr. Susumu Oae, Chairman  
Board of Land and Natural Resources  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Oae:

Land License 1-65, Kanaio, Maui

Reference is made to your letter dated May 21, 1982, subject: General Lease No. S-3700 to Shupaihus Ranch, Inc., Kamaohala-Kalo Government Tracts, Hanaula, Maui, HI, TRM 2-1-02:01 and TRM 2-1-03:50 (Kanaio Weekend Training Site covered by Land License 1-65). As requested, enclosed are copies of the detailed maps of parcels 1, 2, 3, and 4 of the specific range locations utilized. Parcels 1 and 2 are small arms weapon ranges. Parcels 3 and 4 are unclearable areas which were fenced and posted with appropriate signs.

In accordance with the informal discussion between our staffs on December 10, 1982, we will forward under separate cover, a narrative with sufficient details to assist your Land Management Division in the presentation of this matter to the Land Board. As agreed in that discussion, a more permanent disposition of the restricted areas (parcels 3 and 4) is highly desired. Our request for specific conditions in future leases (as addressed in the referenced letter) was intended only as a temporary measure to insure continued federal support of the Kanaio Weekend Training Site.

If any additional information is required, Captain Jerry Matsuda, our Contracting and Engineering Officer, may be reached at 737-6733.

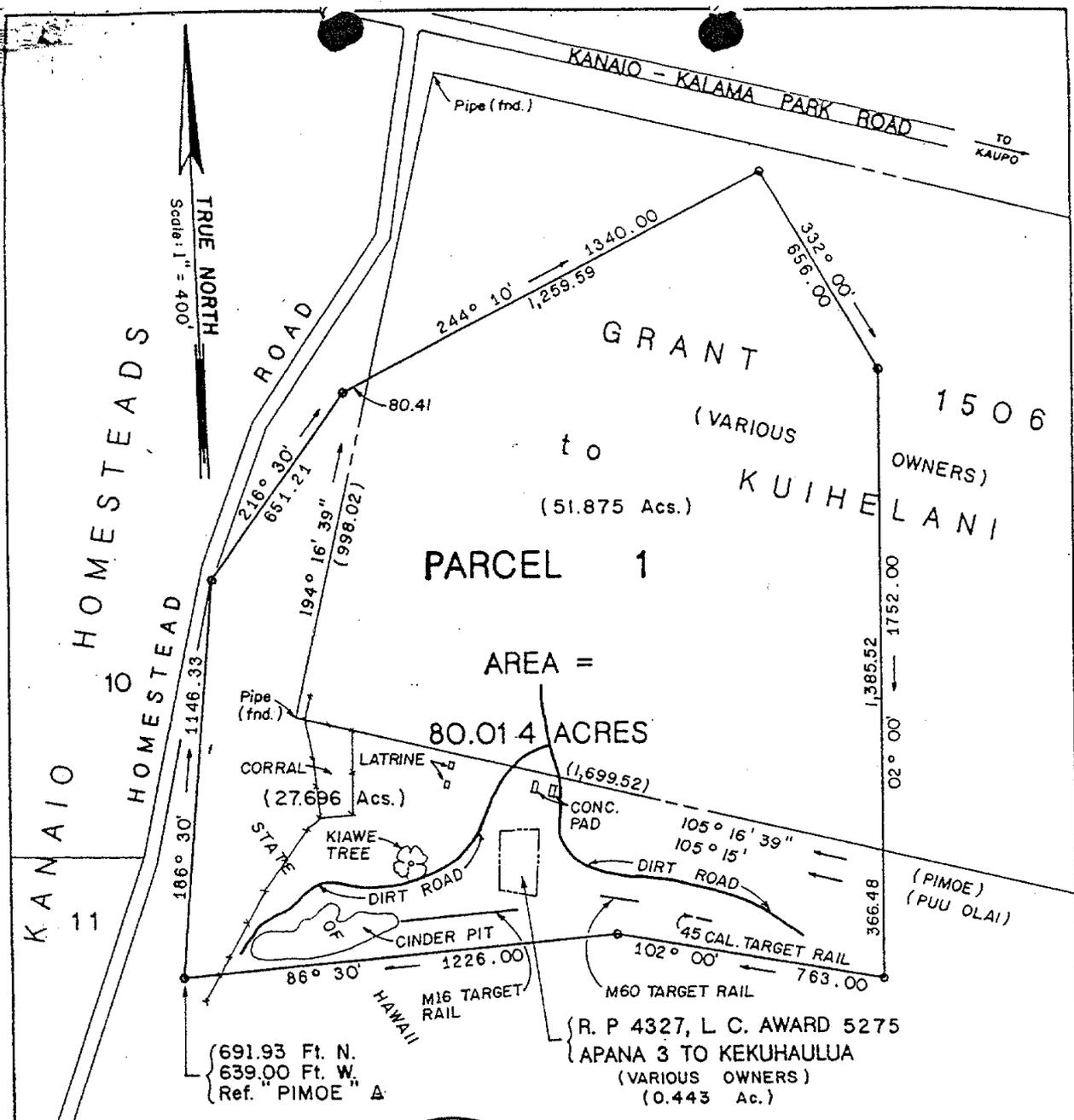
Yours truly,

A. N. ISHIMOTO *J.M.*  
Major General, HIENG  
Adjutant General

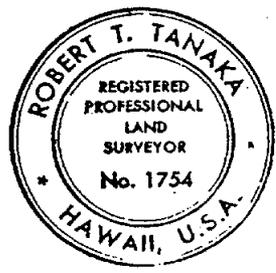
Enclosures

bcc: HIENG w/encl Safety Officer w/encl  
29th Sde w/encl 1st Bn w/encl

*Handwritten:* +  
82-  
enclosure  
filed in  
R.P.-Kan  
folder



PARCEL 1  
 AREA =  
 80.014 ACRES



THIS MAP IS FROM AN ACTUAL SURVEY ON THE GROUND DONE BY ME OR UNDER MY DIRECT SUPERVISION.

*Robert T. Tanaka*

ROBERT T. TANAKA  
 Reg. Professional Surveyor  
 Certificate No. 1754 E-S

7/8/82  
 DATE

# PARCEL 1

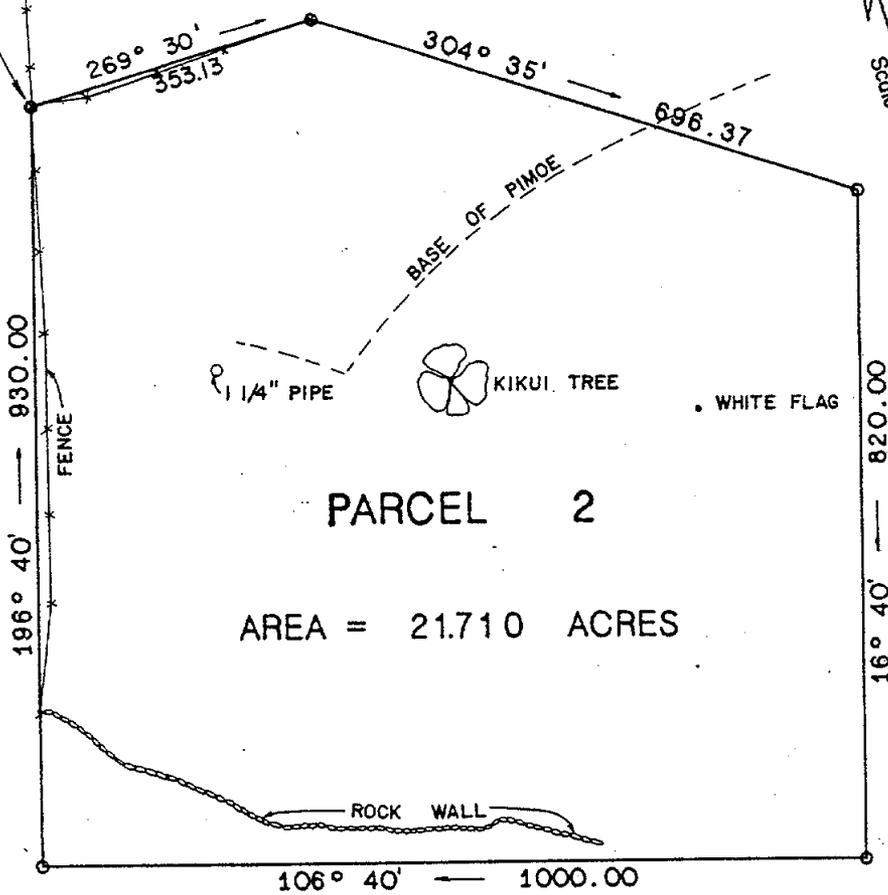
## HAWAII ARMY NATIONAL GUARD KANAIO WEEKEND TRAINING SITE

Being Portions of Government Lands of Kanaio and Grant 1506 to Kuihelani; Being all of R. P. 4327, L. C. Award 5275, Apana 3 to Kekuhaulua

AT KANAIO, HONUULA, MAKAWAO, MAUI, HAWAII

TAX MAP KEY: 2 - 1 - 02 : 1; 23 (Por.) & 22 B-180

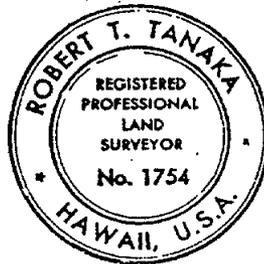
{ 902.35 Ft. S.  
 { 1,204.13 Ft. W.  
 { Ref. " PIMO E " Δ



Scale: 1" = 200'  
 TRUE NORTH

PARCEL 2

AREA = 21.710 ACRES



THIS MAP IS FROM AN ACTUAL SURVEY ON THE GROUND DONE BY ME OR UNDER MY DIRECT SUPERVISION.

*Robert T. Tanaka*

ROBERT T. TANAKA  
 Reg. Professional Surveyor  
 Certificate No. 1754 E-S

7/8/82  
 DATE

PARCEL 2

HAWAII ARMY NATIONAL GUARD  
 KANAIO WEEKEND TRAINING SITE

Being a Portion of Government Lands of Kanaio

AT KANAIO, HONUAAULA, MAKAWAO, MAUI, HAWAII

TAX MAP KEY: 2 - 1 - 02 : 1 ( Por. )

B-181

2,935.90 Ft. S.  
1,094.80 Ft. W.  
Ref. "PIMOE" Δ

HOMESTEADS

13

KANAIO

15

PARCEL 3

AREA =  
24.411 ACRES

1463.91

221° 30'

305° 55'

510.00

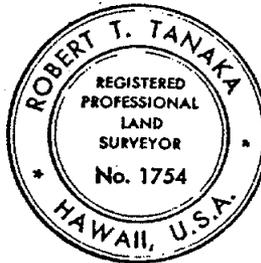
TRUE NORTH  
Scale: 1" = 200'

25° 18'

1521.00

128° 15'

933.43



THIS MAP IS FROM AN ACTUAL SURVEY ON THE GROUND DONE BY ME OR UNDER MY DIRECT SUPERVISION.

*Robert T. Tanaka*

ROBERT T. TANAKA  
Reg. Professional Surveyor  
Certificate No. 1754 E-S

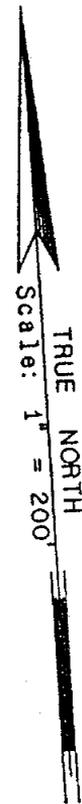
7/8/82  
DATE

# PARCEL 3

## HAWAII ARMY NATIONAL GUARD KANAIO WEEKEND TRAINING SITE

Being a Portion of Government Lands of Kanaio  
Being Also a Portion of Lots 13 & 15, Kanaio Homesteads  
AT KANAIO, HONUAU'I A . MAKAWAO, MAUI, HAWAII

3,152.32 Ft. S.  
2,020.59 Ft. W.  
Ref. "PIMOE" Δ



183° 01' → 1349.00

PARCEL 4

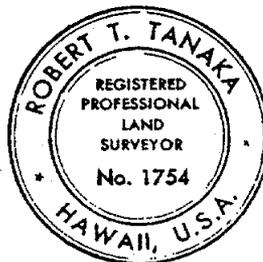
AREA =  
14.983 ACRES

328° 55'

1725.86

97° 45'

970.90



THIS MAP IS FROM AN ACTUAL SURVEY ON THE GROUND DONE BY ME OR UNDER MY DIRECT SUPERVISION.

*Robert T. Tanaka*  
ROBERT T. TANAKA  
Reg. Professional Surveyor  
Certificate No. 1754 E-S

7/8/82  
DATE

PARCEL 4

HAWAII ARMY NATIONAL GUARD  
KANAIO WEEKEND TRAINING SITE

Being a Portion of Government Lands of Kanaio

AT KANAIO, HONUAILII A. MAKAWAO, MAUI, HAWAII

TAX MAP KEY: 2 - 1 - 02 : 1 ( Por. )

B-183

GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
JAN 13 8 18 AM '83



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 1049  
WAILUKU, HAWAII 96793

DIVISIONS:  
AQUATIC RESOURCES  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

January 11, 1983

MEMORANDUM

TO: Mr. James J. Detor  
FROM: Eddie Ansai  
SUBJECT: Land License 1-65, Kanaio, Maui,  
Department of Defense

This is in reference to the enclosed pink slip dated January 4, 1983 in reference to the subject land license for our comments and recommendation and to delineate Parcels 1, 2, 3 and 4 on the tax map.

Review of the delineated Parcels as delineated by R. T. Tanaka Engineers, Inc. (enclosed tax map) reveal that these parcels are within Tax Map Key 2-1-02:por. 1, 22 and por. 23. Tax Map Key 2-1-02:01 is State-owned and presently encumbered under a one-year holdover of General Lease No. S-3700 to Ulupalakua Ranch, Inc., Tax Map Key 2-1-02:22 is owned by Ulupalakua Ranch, Inc. and Tax Map Key 2-1-02:23 is multiple claimed and Ulupalakua Ranch, Inc. as one of the claimants.

Delineated Parcel 1 is within portion of Tax Map Key 2-1-02:01, portion of Tax Map Key 2-1-02:23 and Tax Map Key 2-1-02:22, and presently zoned "Agriculture" by the State Land Use Commission and "Interim-Agriculture" by the County of Maui. Delineated Parcels 2 and 3 are within Tax Map Key 2-1-02:01 and portions of are within Agriculture Zone and portions of are in Conservation District, subzone General. Delineated Parcel 4 is within Tax Map Key 2-1-02:01 and in Conservation District, subzone General.

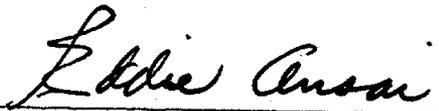
General Lease No. S-3700 is presently under a one-year holdover which expires on March 18, 1983. During the interim, a revocable permit is recommended with rental reduction commensurate with the area withdrawn from Tax Map Key 2-1-02:01 as follows:

Parcel 4	14.983 acres
Parcel 3	24.411 acres
Parcel 2	21.710 acres
Parcel 1 (por.)	<u>27.696 acres</u>
TOTAL	88.800 acres

Rental reduction of  $\frac{88.800}{8370.00}$  x recommended rental  
 by our Agricultural Resource Specialist.

To insure continued federal support of the Kanaio Weekend Training Site (WETS), Land License 1-65 between Ulupalakua Ranch, Inc. (Licensor) and Department of Defense (Licensee) should be terminated. A new license is recommended covering State-owned land (Licensor) and Ulupalakua Ranch, Inc. land (Licensor) to the Department of Defense (Licensee). The State-owned land under the new license totals 88.80 acres and identified as Tax Map Key 2-1-02:por. 1 and Ulupalakua Ranch, Inc. land totals 52.318 acres and identified as Tax Map Key 2-1-02:22 and por. 23. The conditions of the new land license should be agreeable to both Licensors and the Licensee and the total area verified by Survey Division.

Enclosed is our "DRAFT" of Ulupalakua Ranch, Inc. revocable permit application to be effective March 19, 1983 for further review and submitted to the Board recommending approval. Since portions of the total area is within the Conservation District, subzone General and previously used under General Lease No. S-3700 and under Land License 1-65, for their respective purposes, we request a Conservation District Use Application be waived.

  
 EDDIE ANSAI

EA:kr  
 Encls.

cc: Mr. Thomas S. Yagi

DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT

REVOCABLE PERMIT NO. S-6001

KNOW ALL MEN BY THESE PRESENTS:

THAT, effective the 19th day of March, 1983,  
ULUPALAKUA RANCH, INC., a Hawaii corporation, whose business address is  
Ulupalakua, Maui, Hawaii, and whose mailing address is P. O. Box 901  
of Kula County of Maui 96790, State of Hawaii  
(City and)

hereinafter called the "PERMITTEE", is permitted to enter and occupy  
on a month-to-month basis that certain parcel of Government land  
(and any improvements located thereupon) situate at Kanaio and  
Kaunuaahane-Kaloi Government Tracts, Tax Map Keys 2-1-02:por. 01 and  
2-1-03:50,

Makawao County of Maui  
(City and)

State of Hawaii, as indicated on the plan attached hereto, if any,  
and made a part hereof, containing an approximate area of  
8,281.20 acres, more or less (aggregate) which parcel is  
hereinafter referred to as the "Premises".

THIS PERMIT IS GRANTED UNDER THE FOLLOWING CONDITIONS:

A. The Permittee shall:

1. Occupy and use said Premises for the following specified purposes only:

Pasture

2. Pay, at the Office of the Department of Land and Natural Resources, Honolulu, Oahu, or at the Office of its Land Agent on the Island where said Premises are located, the sum of EIGHT HUNDRED EIGHTY-SEVEN AND 08/100 DOLLARS (\$887.08) being rental for period covering March 17, 1983 to April 30, 1983 inclusive, and commencing May 1, 1983 the sum of SIX HUNDRED TWENTY-FIVE AND NO/100 DOLLARS (\$625.00) being rental due and payable on the first day of each and every month.

The interest rate on any and all unpaid or delinquent rentals shall be at one per cent (1%) per month.

Rev. Sept. 1982

(3)

B-186

3. Upon execution of this Permit, deposit with the Board of Land and Natural Resources, hereinafter called the "Board", the sum of \$1,250.00 as security for the faithful performance of all of the terms and conditions herein. The whole or portion of said deposit will be returned to the Permittee upon termination of this Permit, but only after all of the terms and conditions of this Permit have been observed and performed to the satisfaction of the representatives of the Department of Land and Natural Resources.
4. At the Permittee's own cost and expense, keep the government-owned improvements located on the Premises insured against loss by fire and other hazards, casualties and contingencies, for the full insurable value of such improvements. Said policies are to be in favor of the Board and are to be filed and deposited with said Board. In the event of loss, damage or destruction of such improvements, the Board shall retain from the proceeds of the policies such amounts deemed by it to be necessary to cover the loss, damage or destruction of or to the government-owned improvements and the balance of such proceeds, if any, shall be delivered to the Permittee.
5. Give the Board twenty-five (25) days' notice in writing before vacating the Premises.
6. If a holdover lessee or licensee, pay all real property taxes, which shall be assessed against the Premises from the date of this Permit. In addition, a Permittee, not a holdover lessee or licensee, who has occupied the Premises for commercial purposes for a continued period of one year or more, shall pay the real property taxes assessed against said premises after the first year of the Permit as provided in Section 246-36(1)(d), Hawaii Revised Statutes.
7. Observe and comply with all laws, ordinances, rules and regulations of the federal, state, municipal or county governments affecting the Premises or improvements.
8. Repair and maintain all buildings or other improvements now or hereafter on the Premises.
9. Obtain the prior written consent of the Board before making any major improvements.
10. Keep the Premises and improvements in a clean, sanitary and orderly condition.
11. Pay when due, all payments for water and other utilities, and whatever charges for the collection of garbage that may be levied.
12. Not make, permit or suffer, any waste, strip, spoil, nuisance or unlawful, improper or offensive use of the Premises.
13. At all times with respect to the Premises use due care for public safety and agrees to defend, hold

harmless and indemnify the State of Hawaii from and against all claims or demands for damage, including claims for property damage, personal injury or death, arising on or about the Premises, or by any fire or explosion thereon, or growing out of, or caused by any failure on the part of the Permittee to maintain the Premises in accordance with the terms and conditions of this Permit excluding, however, the use of the Premises by such persons specifically authorized by the Board for hunting or other uses.

14. Procure, at its own cost and expense, and maintain during the entire period of this Permit, a policy or policies of comprehensive public liability insurance, in an amount acceptable to the Chairman or his designated representative, insuring the State of Hawaii and the Permittee against all claims for personal injury, death and property damage excepting those claimants which have been specifically authorized to use the Premises for hunting or other uses; that said policy or policies shall cover the entire Premises, including all buildings, improvements and grounds and all roadways or sidewalks on or adjacent to the Premises in the control or use of the Permittee. The Permittee shall furnish the State with a certificate showing such policy to be initially in force and shall furnish a like certificate upon each renewal of such policy, each such certificate to contain or be accompanied by an assurance of the insurer to notify the State of any intention to cancel any such policy sixty (60) days prior to actual cancellation. The procuring of this policy shall not release or relieve the Permittee of its responsibility under this Permit as set forth herein or limit the amount of its liability under this Permit.

Additional Conditions:

1. The Board may revoke this Permit for any reason whatsoever, upon written notice to the Permittee at least thirty (30) days prior to such revocation; provided, however, that in the event payment of rental is delinquent for a period of ten (10) days or more, this Permit may be revoked upon written notice to the Permittee at least five (5) business days prior to such revocation.
2. If the Permittee does not vacate the Premises upon the revocation of the Permit by the Board, the Permittee shall pay to the State liquidated damages at the daily rate of \$125.00 for each day, or portion thereof, the Permittee remains on the Premises over said date of revocation by said Board. Such payment is to be in addition to any other rights or remedies the Board may be entitled to pursue for breach of contract, or for illegal occupancy, including the right to evict the Permittee without court action, and the cost thereof to be paid by the Permittee.
3. Should the Permittee fail to vacate the Premises upon the revocation of the Permit, the Board, its agents and/or representatives may enter upon the Premises and remove and dispose of, at Permittee's costs and expenses, all vehicles, equipment, materials, and/or any personal property remaining on the Premises, and the Permittee agrees to pay for all such costs and expenses of removal and disposition.

4. The Board may at any time increase or decrease the monthly rental by written notice thereof at least thirty (30) days prior to the date of change of rent.
5. Any major improvements, including but not limited to buildings and fences, erected on or moved onto the Premises by the Permittee shall remain the property of the Permittee and the Permittee shall have the right, prior to the termination of this Permit, or within such additional period as the Board in its discretion may allow, to remove such improvements from the Premises; provided, however, that in the event the Permittee shall fail so to remove such improvements within thirty (30) days, after written notice to remove, the Board may elect to retain said improvements or shall remove the same and charge the cost of removal and storage if any to the Permittee.
6. The Board reserves the right to itself, its agents and/or representatives to enter or cross any portion of the premises at any time in the performance of its duties.
7. This Permit or any rights hereunder shall not be sold, assigned, conveyed, leased, mortgaged or otherwise transferred or disposed of.
8. It is understood that the Permittee has inspected the Premises and knows the condition thereof and fully assumes all risks incident to its use.
9. The acceptance of rent by the Permitter shall not be deemed a waiver of any breach by the Permittee of any term, covenant or condition of this Permit nor of the Permitter's right to declare and enforce a forfeiture for any such breach, and the failure of the Permitter to insist upon strict performance of any term, covenant or condition, or to exercise any option herein conferred, in any one or more instances, shall not be construed as a waiver or relinquishment of any term, covenant, condition or option.
10. Should this Permit on a month-to-month basis extend for a period beyond one year from the date of issuance, any renewal of this Permit beyond such one year from the date of issuance shall be only upon approval of the Board of such extension.
11. The use and enjoyment of the Premises shall not be in support of any policy which discriminates against anyone based upon race, creed, color, national origin or physical handicap.
12. Any and all disputes and/or questions arising under this Permit shall be referred to the Chairman of the Board and his determination of such disputes or questions shall be final and binding on the parties.

Unless the text indicates otherwise, the use of any gender shall include all genders and, if the Permittee includes more than one person, the singular shall signify the plural and this Permit shall bind said persons, and each of them jointly and severally.

DATED: \_\_\_\_\_, 19\_\_\_\_\_.

STATE OF HAWAII

By \_\_\_\_\_  
Chairman and Member,  
Board of Land and  
Natural Resources

Approved by the Board  
at its meeting held on

January 28, 1983 *as*  
(Item F-1-e)

By \_\_\_\_\_  
Member, Board of Land  
and Natural Resources

PERMITTEE  
ULUPALAKUA RANCH, INC.

By *Paul Selu*  
President

By \_\_\_\_\_

APPROVED AS TO FORM:

*Johnson Allong*  
Deputy Attorney General  
dated: January 28, 1983

# DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL

SUBJECT

RS

Aerial Survey of Kanaio Range, Maui

TO Chief of Staff

FROM Safety Manager

DATE 9 March 1987  
CW4 Lee/tig/732-2006

Init/Date	
CEG	3/11
FMS	3/11
EE	
BCE	
CF	
FM	CMT-1
CMSS	
TL	
SEC	
MAJ Vogt	
Reits	
Explosive warning	
Signs were not	
File RP 863	
Info	

1. An aerial survey of Kanaio Range, Maui was conducted on 5 Mar 87, to determine the condition of the fence line at the LAW Missile, and M79 Grenade impact areas. The perimeter warning signs along the boundary were also checked. (See enclosure TL)
2. The aerial survey party consisted of COL Silva, LTC Sheridan, LTC Tomoyasu, CPT Young, and CW4 Lee. A UH1H aircraft was utilized for this mission.
3. An initial sweep of the King's Trail and adjacent areas was made to assess the condition. No change to the trail and adjacent areas were noted. The explosive warning signs that were posted at the boundaries of the range facing the entrance to the range in sight where it had been posted.
4. The LAW Missile impact area barbed wire fence is in place for about two-thirds of its length. The remaining fence line looks as though the wire has fallen off the fence post or the post are all laid down. All of the signs bordering the impact area are down.
5. The M79 Grenade impact area North and West fence wire seemed to be missing. Only the South and East fence line can be seen. The signs bordering the West side of the impact are also missing.

To obtain an accurate estimate of damage/deterioration to the LAW Missile and M79 Grenade impact areas fence line and signs, a ground survey of these areas must be made. It is recommended that commander 1/299 Inf schedule and conduct a ground survey to determine what is required to restore the fence line and reestablish the signs.



DAVID Y. LEE  
CW4, HIARNG  
Safety Manager

Encl

CF:  
Cdr, 29th SIB  
Cdr, 1/299 Inf  
G3  
Engr O

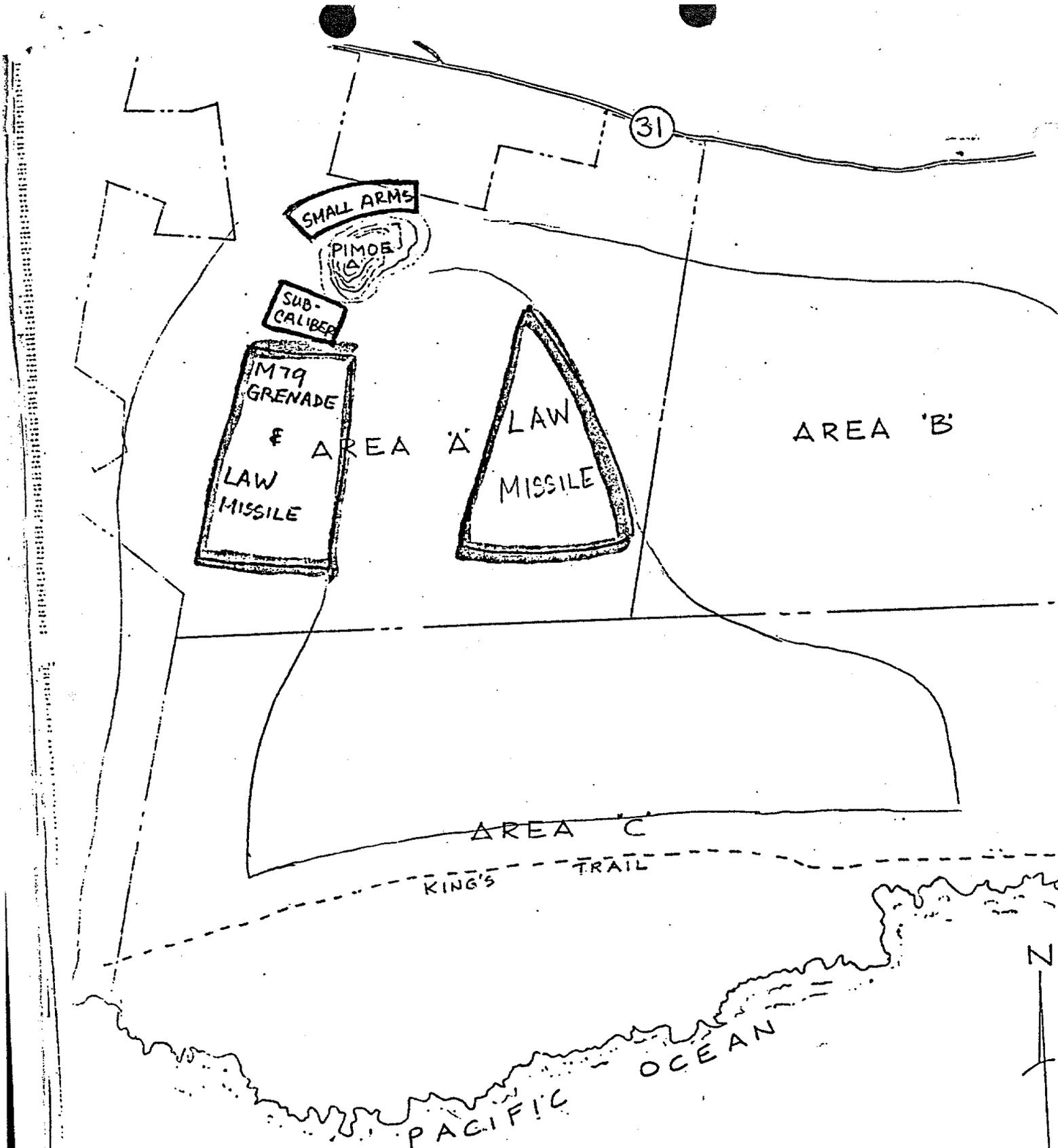
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MAR 10 1987

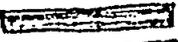
B...

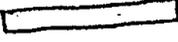
B-191

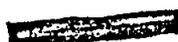
82



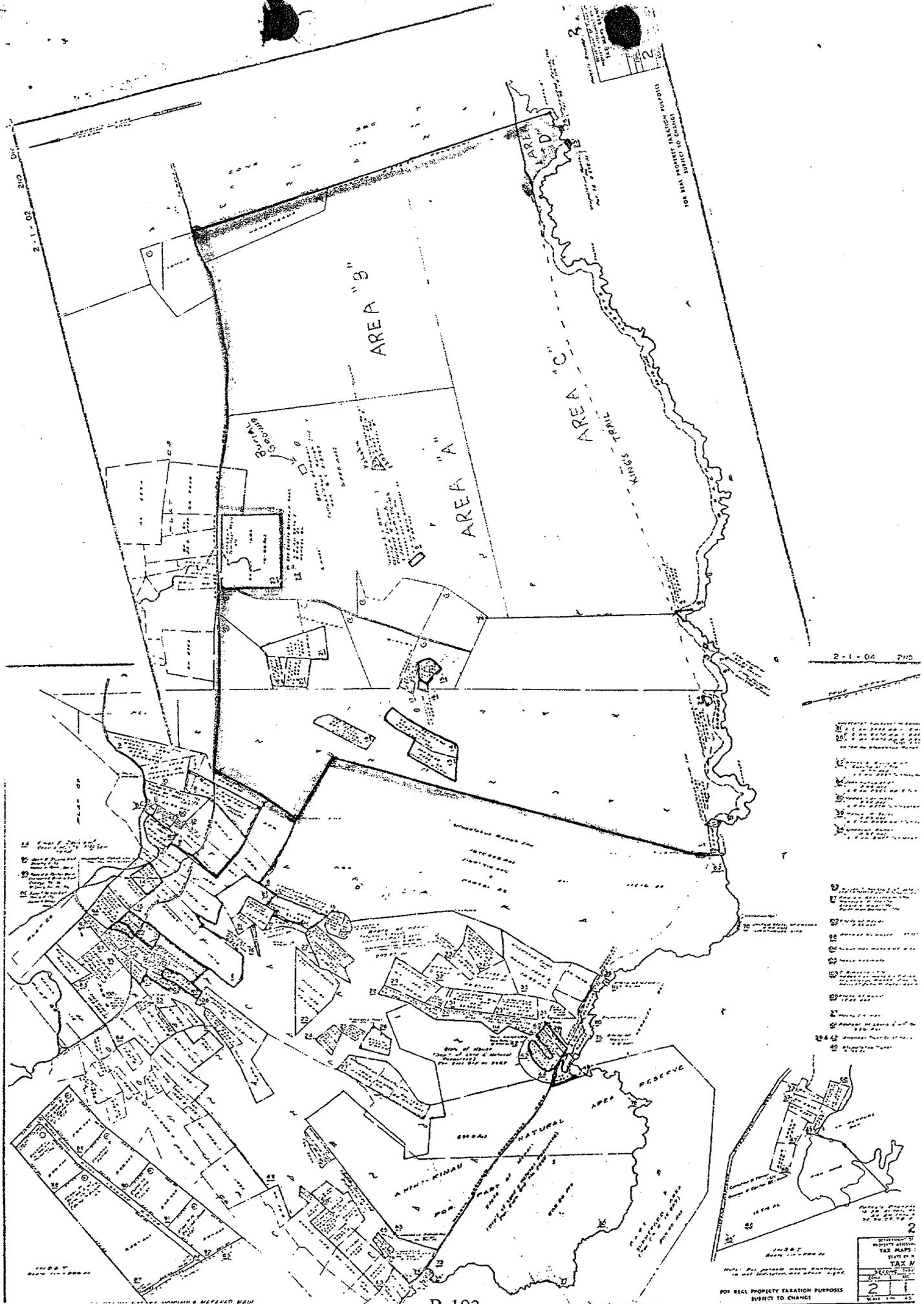
Legend

HAZARDOUS AREAS 

CLEARED AREAS 

SMALL ARMS & SUB CALIBER AREAS 

ENCL 1



2-1-04 PMS

- 1. ...
- 2. ...
- 3. ...
- 4. ...
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PROPERTY	2
TAX MAPS	
TAX #	
211	
DATE 1-1-25	

FOR REAL PROPERTY EXEMPTION PURPOSES  
SUBJECT TO CHANGE

# DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HIARS	Kanaio Range, Maui

~~XO~~ THRU CofS, STARC, HIARNG FROM Safety Manager DATE 2 Dec 87 CMT 1  
TO G3, ATTN: LTC Sheridan CW4 Lee/tig/732-2006

1. The annual inspections of the Kanaio Range impact areas where the boundary signs and barbed wire fences were installed revealed that practically all of the signs along the West side are missing or have been destroyed by vandals. On the East side, some signs are missing, but most are present. On both fenced impact areas of the East and West sides, some of the barbed wire fence line are missing.

2. The requirement for signs along the boundary and fencing-in of dangerous areas are a regulatory requirement. AR 385-63 contains these requirements. Failure to comply with AR 385-63, will expose the entire chain of command to untold liabilities in the event of an accident, or at the least, it would leave us vulnerable to criticism. A need exists to correct these deficiencies as soon as possible.

3. The HIARNG engineer has already taken steps to correct the boundary sign situation by designing a more permanent immovable concrete monument to mount the metal warning signs. A contract has been let to construct and pre-position 35 concrete monuments on the concrete pad at the Kanaio small arms range area. The contractor will complete his work on or about the first week of February 1988.

4. A preliminary estimate of the resources needed to under take this mission has been projected by this office and is furnished below.

a. Estimated time of project: 5 days.

b. Aviation Requirements

- |                        |                       |
|------------------------|-----------------------|
| (1) Aircraft           | 2, UH1                |
| (2) Aviators           | 4 Pilots (CW3)        |
| (3) Avn Safety Officer | 1WO (CW4)             |
| (4) Crew Chiefs        | 2 NC (E7)             |
| (5) Avn Fuel           | 3000 Gal (\$5,200.00) |

c. Ground Team Requirements

- |   |            |
|---|------------|
| (1) Two, 5-man teams                              | 10 EM (E4) |
| (2) One, acft Guard team                          | 2 EM (E4)  |
| (3) One medical aidman<br>(Range Medic Qualified) | 1 NC (E6)  |
| (4) One, NCOIC                                    | 1 NC (E7)  |
| (5) One, OIC                                      | 1 OFF (O4) |
| (6) One, Safety Officer                           | 1 WO (CW4) |

TOTALS: 14 EM, 1 WO, 1 OFF

d. Equipment Requirements

- (1) Vehicles
- (a) One 2 1/2 ton truck for shuttling ground team to airport and back to armory.  
(b) One 1/4 ton or similar vehicle for aircraft Guard team.

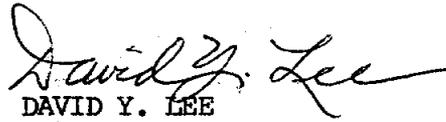
HIARS

SUBJECT: Kanaio Range, Maui

CMT 1

- (c) Two M880 or similar vehicle for air crews.
- (d) One sedan for OIC and general use.
  
- (2) Ground Team Equipment
  - (a) Goggles (each individual)
  - (b) Leather gloves, gauntlet type (each individual)
  - (c) 8-inch line man's cutters (each ground team member)
  - (d) 8 each 36-inch crow bars
  - (e) 6 each portable FM radios

5. Request your office initiate the necessary actions to obtain the resources needed and to effect coordination and control for this project. The safety office will provide any assistance you may need.

  
DAVID Y. LEE  
CW4, HIARNG  
Safety Manager

CF:  
Cdr, 29th Inf Bde  
Cdr, 1st Bn, 299th Inf  
Engr O (LTC Tomoyasu)  
SAAO

DEPT. OF DEFENSE  
HIENG

NOV 32 3 31 PM '87

RECEIVED

2

CSO JM  
CS 2/28/81  
file 863

HIENG

18 July 1988

MEMORANDUM FOR RECORD

SUBJECT: Kanaio Range

1. On 17 July 1988, a meeting was held at PTA, HI to discuss the range cleaning project at Kanaio WETS. The following were present:

- |                 |         |
|-----------------|---------|
| a. COL Honjiyo  | G3      |
| b. LTC Hara     | 2/299th |
| c. LTC Tomoyasu | HIENG   |
| d. CW4 Lee      | Safety  |
| e. SSG Francher | 6th EOD |

2. The plan is to use 21 HIARNG and 3 EOD personnel for a period of five days. G-3 will be utilized.

3. Tentative schedule is 29 Aug 88 to 2 Sep 88. G-3 will finalize estimate of costs to verify that funding is available.

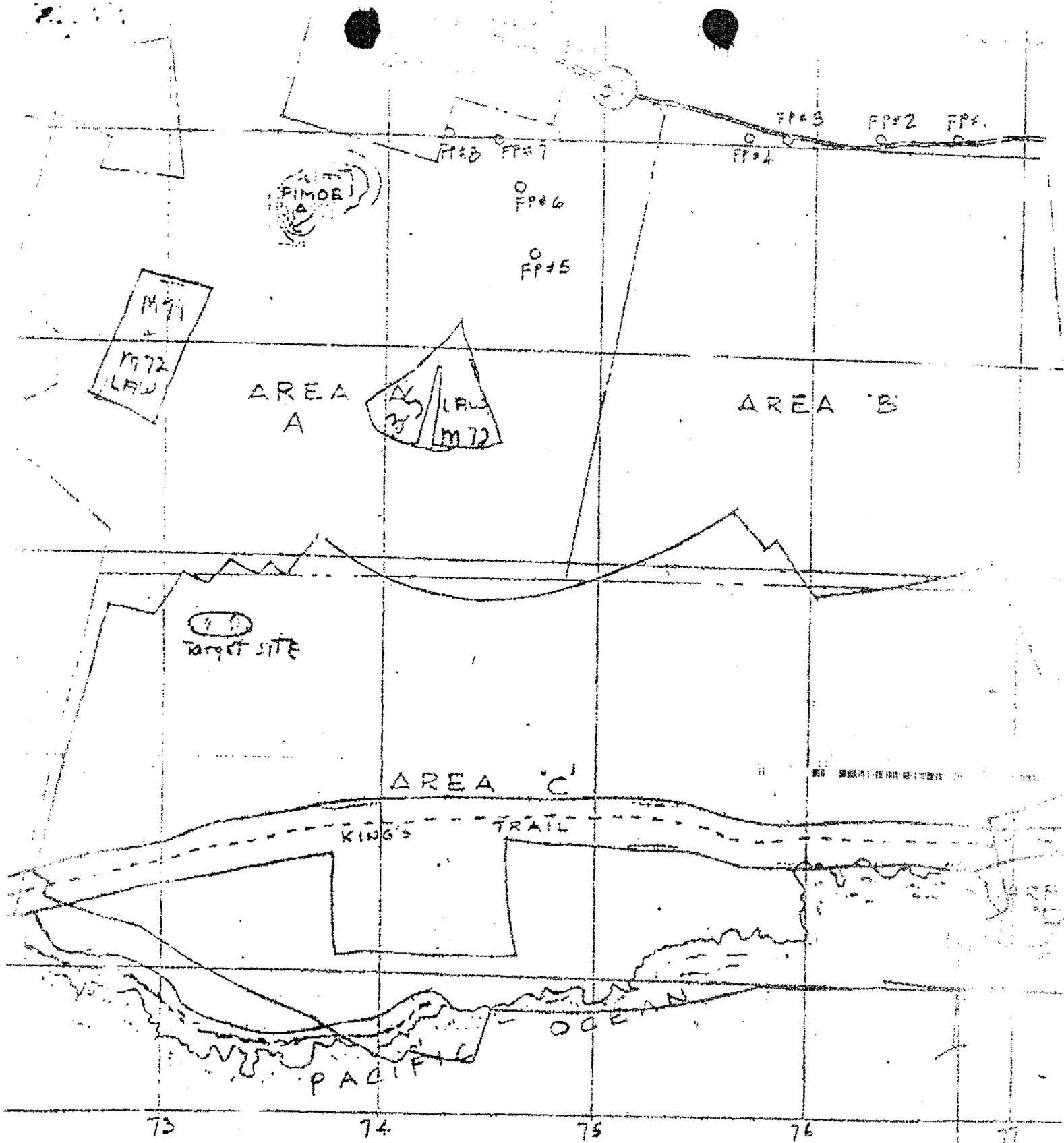
4. Explosive ordnance will be blown on site by 6th EOD if unsafe to move. Explosive ordnance that can be safely moved will be consolidated in a single location and blown. *Inert* ordnance will be consolidated into a single location and abandoned.

5. This location of basically scrap material must be designated on maps for future reference. 1/299th will be familiar with the exact location on the ground.

6. Replacement fence post (500 each) and stakes (100 each) must be on site at OMS #3, Paukukalo, Maui, by 26 Aug 88.

WAYNE R. TOMOYASU  
LTC, GS, HIARNG  
Fac Mgmt Officer

p.s. Telecon with Roy Iwamoto on 18 Jul 88 - advised of suspense requirements in paragraph 6 above.



SCALE 1:25,000

B-197

(85)

Incl 1



# Ulupalakua Ranch, Inc.

February 6, 1989

P. O. BOX 901  
ULUPALAKUA MAUI  
HAWAII 96790  
(808) 878-1202

Mr. William Paty  
Department of Land & Natural Resources  
P.O. Box 621  
Honolulu, HI 96809

Re: Kanaio Natural Area Reserve

Dear Mr. Paty:

For a number of years, I have been concerned about the deterioration of the Auwahi dryland forest. We did enter into agreements with the Nature Conservancy for enclosures within our Auwahi area but the kikuyu grass was too well established to allow any regeneration of the forest. The Native Hawaiian Plant Society has established several small enclosures on our land in an attempt to preserve several endangered species.

The best area for preservation of a remnant of the Auwahi dryland forest would be that proposed for inclusion in the State Natural Area Reserve System by Native Hawaiian Plant Society. The 250 acres proposed for the Reserve have been controlled by Ulupalakua Ranch for many years either under a lease or revocable permit. The area has no grazing potential and the nature of the terrain and soil conditions are such that it is not economic to improve the area for grazing or other agricultural usage.

Ulupalakua Ranch, Inc. strongly supports the proposal to include the 250 acres of Kanaio in the State Natural Reserve System. The withdrawal from the revocable permit will have no adverse economic impact on ranch operations and no reduction in lease rentals need by made.

Sincerely,

C. Pardee Erdman  
President  
Ulupalakua Ranch, Inc.

POS	INIT	DATE
CEO		
SEC		
CT1	1/7	5/18
CT2		
DT		
CA		
FMO	1/10	1/11
CE		
CE3		
EE		
WOC		
EMS		
CE		
FM		
BCE		
CEI		
GMSS		
BMW		
GLS		
JIII		
REPLY		
SUSP		
RECOM		
FILE	210 (all)	+
INFO		
SEE ME		
COORD		
SIGN		
DOC	WR740A	

Basic letter tail 1  
 MOLOKAI Army Project RP  
 Basic letter tail 2 in Maui Consolidated  
 Project RP  
 Basic letter tail 3 in KAHALOHOE RP  
 863 on Rical 6/3/89

HIENG

18 MAY 89

MEMORANDUM FOR RECORD

SUBJECT: Trip Report - Molokai, Maui - 16 May 89

1. On 16 May 89, the following visited Molokai and Maui:
  - a. BG D'Araujo
  - b. COL Silva
  - c. LTC Tomoyasu
  - d. MAJ Vogt (Maui only)
  - e. SGT Brede (Molokai only)
2. Molokai:
  - a. The purpose of the visit was a site inspection of the 12 acre USMC site adjacent to the Kaunakakai Airport, to determine if we should further pursue an armory/OMS at that location.
  - b. The USMC improvements are located on the SW end of the property. The eastern edge is proposed for construction of an expedition~~ary~~ helicopter airfield, which will probably be a grassed area.
  - c. The site is generally flat with underbrush throughout those areas not in active use.
  - d. Map and photograph (copy) of area at encl 1, received from USMC.
3. Maui Puunene Site:
  - a. MAJ Vogt again discussed site with Mr. Ed An<sup>S</sup>zai, Maui DLNR Land Agent. The earlier information regarding availability of the site and compatibility for HIARNG use is unchanged.
  - b. Water and electricity available on the highway.
  - c. Alexander and Baldwin pays rental for land in sugar cane but has airfield area at no cost.
  - d. Crop dusting operation (one plane) operating on area adjacent to highway.
  - e. MAJ Vogt's informal discussion with FAA - earlier request by flying club to reopen Puunene was denied. FAA will review closely any reopening of airfield. Crop dusting operation is acceptable because of single airplane.
  - f. This site comparable to Waikapu in location, travel time, ability to respond to natural disasters, etc. Major disadvantage of Waikapu is the \$1.5M real estate cost.

g. The state owned land at Puunene is larger than the Project District #10 area now being pushed by the County for State approval. The additional area is at the south end of PD #10, and is presently improved with sugar cane.

h. 1/299th information paper at encl 2.

4. Kanaio, Maui:

a. Old access road to range thru state property not used anymore since 10-15 years ago. Present access road is thru private property.

b. Washout on right side of rifle range target berm at base of PIMOE has a temporary berm constructed. Gully will advance toward main highway.

c. Area to west of Kanaio is good maneuver area. MAJ Vogt to informally touch bases with Ulupalakua Ranch for rental of area for AT or Bn FTX.

d. 1/299 proposal is to acquire all 6800 acres at Kanaio under Executive Order and sublet to Ulupalakua.

e. Improvements suggested by 1/299th are all temporary construction in nature and can be accomplished under present NGB Training Site Agreement regulations.

f. 1/199th Information Paper at encl 3.

5. Action required:

a. Maui Real Property - HIARNG to brief TAG on Puunene Airfield. Chief of Staff wants to go over all areas considered.

b. Molokai - HIENG to informally discuss with USMC at working level before HIARNG discusses with TAG. Both subjects to be discussed concurrently.

3 Encl

  
WAYNE R. TOMOYASU  
LTC, GS, HIARNG  
Fac Mgmt Officer

STATE DEPARTMENT OF DEFENSE

HAWAII ARMY NATIONAL GUARD

FOR CAPITOL ROOM  
ADDY INPUT  
BY 1/299.

Information Paper

on

Development of Kanaio as a Major Training Areas

1. Recent trends throughout the State show a gradual loss of military training areas and firing ranges.
2. The State of Hawaii owns 6,800 acres of land at Kanaio, Island of Maui. The land is controlled by DLNR and sub-leased to Ulupalakua Ranch. A use agreement between Ulupalakua Ranch and the Department of Defense authorizes National Guard maneuver and live fire training up to 12 weekends per year. Currently 15-20% of the total land area is being utilized for training. The lack of roads prevents the use of the entire parcel.
3. DOD is obligated to maintain the impact area that, in previous years, was used for large caliber live fire training. The rough terrain, which is dominated by A'A Lava flows, precludes the economical and safe removal of all dud ammunition.
4. General public use of the contiguous land is very limited. Ulupalakua Ranch is the majority land owner in the area and uses the land for cattle grazing. There is one occupied dwelling adjacent to the training area. Fisherman transit the land in 4 wheel drive vehicles to reach the shoreline and dirt bikers use the area on occasion. The Ahihi-Kakanui nature reserve lies between the training area and the Wailea/Makena resort developments, effectively halting development.
5. With an improved road network the Kanaio area has potential as a battalion size maneuver area and squad through company live fire assault and defense ranges.

Fort Ruger, Hawaii A 15751 - GEOLOC: HKGN

**LOCATION:** Located in the city and county of Honolulu, 1st Congressional District. The nearest urban area is Honolulu, population 365,000, adjacent to the site. A commercial air terminal is available at Honolulu International Airport/Hickam AFB, 11 miles distant. Commercial bus transportation is available within the area.

**PROPERTY CONTROL:** State. (Parks Division, Department of Land & Natural Resources)

**DESCRIPTION:** This site consists of 18 acres, of which 6 are available for training. The area is within a dormant volcano crater and is a part of the Diamond Head State Monument. A State Parks Division permit is required. The terrain is flat and grassy. There are four buildings within the crater (FAA, USPFO, CSMS #1, and 150-person armory). One company-size combat arms or combat service support unit, conducting non-live firing exercises, can be accommodated at one time.

**FACILITIES:** A bivouac area to accommodate one company-size unit is available. No messing or latrine facilities are available. The nearest medical facility is the Queen's Medical Center about 6 miles distant in Honolulu.

**ARMY AVIATION FACILITY:** A helicopter pad is located within this area.

**RANGES:** None.

**STATE SUPPORT:** None.

**UTILITIES:** None.

**RESTRICTIONS:** Use of area is limited to military units and Government agencies.

**POINT OF CONTACT:** HQ HARNG, Duty phone: (808) 737-8550; after duty: (808) 261-1100.

Kanaio Training Area, Hawaii

**LOCATION:** Located in Maui County, 2d Congressional District. The nearest urban area is Wailuka, population 32,100, 20 miles distant. A commercial air terminal is available in Kahului.

**PROPERTY CONTROL:** Land is owned by the State, leased to private individual, and used by HARNG under a use permit. Conditions of permit restrict usage to 6 times per year and exclusively to the Hawaii Army National Guard.

**DESCRIPTION:** This site consists of 6,800 acres, and all are available for training. The terrain is open with hills and very rocky. Two company-size combat arms or combat service support unit, conducting non-live firing exercises, can be accommodated at one time.

**FACILITIES:** A bivouac area to accommodate 25 officers and 400 enlisted persons. There are field latrines available. There are no medical facilities. The nearest medical facility is Kula Sanatorium located in Kula, Maui. No other facilities are available.

**ARMY AVIATION FACILITIES:** None.

**RANGES:** The following ranges are available:

<u>Type</u>	<u>Number</u>	<u>Total Firing Points</u>
KD Rifle 25m	1	30
KD AR 25m	1	12
LMG 500"	1	6

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
P. O. BOX 621  
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

September 14, 1990

Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, HI

MAUI

Subject: Division of Forestry and Wildlife Requests  
Set Aside of State Lands at Kanaio, Makawao,  
Maui, Hawaii for Kanaio Natural Area Reserve,  
Tax Map Keys: (2) 2-1-02:Portion of 1 and  
2-1-03:Portion of 50

STATUTE: Section 171-11 and other applicable sections,  
Hawaii Revised Statutes, as amended.

APPLICANT: DEPARTMENT OF LAND AND NATURAL RESOURCES,  
DIVISION OF FORESTRY AND WILDLIFE

FOR: Set aside portions of the Government Land of  
Kanaio, situate at Kanaio, Makawao, Maui,  
Hawaii, being portions of parcels identified  
by Tax Map Keys: 2nd Division, 2-1-02:1 and  
2-1-03:50, as shown outlined in red on Tax Map  
Plat maps labeled Land Board Exhibits "A" and  
"B," respectively, appended to the basic file.

STATUS OF  
LAND TITLE: Both State-owned parcels are Subsection 5(b)  
lands of the Admission Act.

STATUS: Both State-owned parcels are presently  
encumbered under Revocable Permit No. S-6001  
to Ulupalakua Ranch, Inc. for pasture purposes.

ZONING: State Land Use Commission:

TMK: 2nd Div./2-1-02:1 - Conservation  
District, General  
Subzone

TMK: 2nd Div./2-1-03:50 - Agriculture  
District

APPROVED BY THE BOARD OF  
LAND AND NATURAL RESOURCES  
AT ITS MEETING HELD ON

SEP 14

ITEM F-6

B-204

County of Maui:

TMK: 2nd Div./2-1-02:1 - Conservation

TMK: 2nd Div./2-1-03:50 - Agriculture

LAND AREA:	<u>Tax Map Key</u>	<u>Area</u>
	2nd Div./2-1-02:1 (Por.)	281 Acres
	2nd Div./2-1-03:50 (Por.)	<u>595 Acres</u>
	Total Land Area	876 Acres, more or less

PURPOSE: Set aside to the Department of Land and Natural Resources, Division of Forestry and Wildlife, for Kanaio Natural Area Reserve.

IMPROVEMENTS: None

REMARKS: At its meeting held on April 12, 1990, under agenda Item H-9, the Board of Land and Natural Resources (Board) approved the Natural Area Reserves System Commission's (NARS) Conservation District Use Application for subdivision and the establishment of the Kanaio Natural Area Reserve at Kanaio, Makawao, Maui, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules and regulations of the Federal, State and County governments, and applicable parts of Section 13-2-21, Administrative Rules, as amended.
2. Prior to the installation of the perimeter fencing, the applicant shall coordinate with the Historic Preservation Program to determine the exact location of the fence so it will not affect any historic sites.
3. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of construction and landscaping plans and specifications (i.e. for fencing, etc.) to the Chairperson or his authorized representative, for approval of consistency with the conditions of this permit and declarations set forth in the permit application. Three (3) approved copies are to be returned to the applicant; plan approval by the

Chairperson (or authorized representative) is not to imply approval required of other agencies.

4. The applicant is required to use only such paint and landscaping material, as may be acceptable to this department, to be installed according to plans submitted to this department for approval.
5. Ground exposed or vegetation disturbed subsequent to this authorization shall be revegetated within ninety (90) days of the initiation of work at the site, unless otherwise provided in a plan (and schedule) on file with and approved by this Board or its authorized representative.
6. Appropriate measures shall be exercised to prevent construction materials, debris, petroleum derivatives, etc., from entering or polluting the surrounding area; upon the completion of construction, all debris, materials and equipment shall be removed.
7. Any work to be done on the land shall be initiated within one (1) year of the approval of such use, and all work and construction must be completed within three (3) years of the approval of such use.
8. The use of the property is limited to those articulated in the application.
9. A road reserve for a future 50-foot right-of-way (i.e. major agricultural roadway) shall be provided for the government road.
10. Failure to comply with any of these conditions shall render this Conservation District Use Application null and void; and
11. Approval is subject to other terms and conditions as may be prescribed by the Chairperson.

As required by Section 195-4, Hawaii Revised Statutes, as amended, NARS is now seeking the Board's and the Governor's approval for set aside of the proposed Kanaio Natural Area Reserve to the Department of Land and Natural Resources, Division of Forestry and Wildlife, under the auspices of a Governor's Executive Order.

Ulupalakua Ranch, Inc., long-time user of the subject State lands for pastures purposes under either a State lease or revocable permit, strongly supports the inclusion of the proposed Kanaio Natural Area Reserve within the State-wide natural area reserve system.

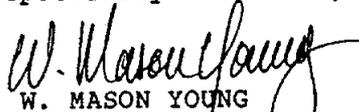
The proposed land withdrawal from Revocable Permit No. S-6001 will have no adverse economic impact on present ranch operations.

Further, Ulupalakua Ranch has waived its right to a pro rata reduction in the rental amount due each month to the State.

RECOMMENDATION: That the Board:

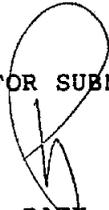
- A. Approve the withdrawal of the subject State-owned lands from Revocable Permit No. S-6001 to Ulupalakua Ranch, Inc. without a pro rata reduction in the monthly rental. Effective date of the withdrawal to be determined by the Chairperson.
- B. Subsequent to the withdrawal described in Paragraph A. above, approve of and recommend to the Governor issuance of an Executive Order setting aside the subject State-owned lands to the Department of Land and Natural Resources, Division of Forestry and Wildlife, for the Kanaio Natural Area Reserve, subject to the following terms and conditions:
  1. Disapproval by the State Legislature in any regular or special session next following the date of the Executive Order;
  2. Compliance with all applicable Federal, State and County laws, ordinances, rules and regulations relative to the occupancy and use of the set aside lands; and
  3. Such other terms and conditions as may be prescribed by the Chairperson.

Respectfully submitted,

  
W. MASON YOUNG

Land Management Administrator

APPROVED FOR SUBMITTAL:

  
WILLIAM W. PATE, Chairperson

HIARFM

13 Jan 95

*JW*  
Kanaio file  
*MB*  
*863*

MEMORANDUM FOR RECORD

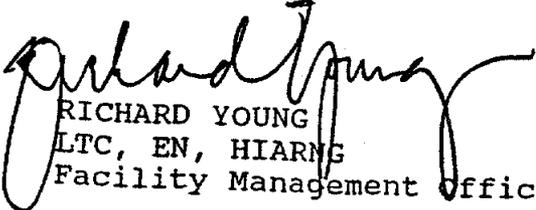
SUBJECT: Kanaio Firing Range

1. On 9 Jan 95, an aerial site recon of the Kanaio firing range was conducted by the following individuals:
  - a. LTC Richard Young FMO
  - b. MAJ Michael Tarpley 1/299th
  - c. LT Wesley Tanji G3
2. The purpose of the aerial recon was to inspect the following:
  - a. Condition of the fence line.
  - b. Concrete monuments.
  - c. Sinage around two impact areas.
  - d. Impact area for unexploded munitions.
  - e. Condition of the entry gate.
3. The fence line, concrete monuments and sinage on the west side are in good condition.
4. There are six signs on the east side that are faded and requires replacement. One concrete monument is shot up. A small portion of the east fence line requires patching. Routine maintenance is required.
5. The north and south fence lines requires routine maintenance.
6. The overall conditions of the fence and sinage is good.
7. There were no unexploded munitions observed.
8. The entry gate is a galvanized pipe gate. About 25-feet on either side of the gate provides an additional barrier. The entry system cannot prevent any illegal entry.
9. This aerial recon can satisfy 1/299th Infantry Battalion's annual range safety survey. The following was agreed:
  - a. The FMO will fund for the new signs and wire.
  - b. 1/299th Infantry Battalion will forward the request for materials and mandays, and schedule the work. It is the undersigned opinion that aviation ~~support is not required~~ for the work.
  - c. G3 will pursue the funding for the mandays.

HIARFM  
Subject: Kanaio Firing Range

10. Suspense to complete the work is 31 Mar 95.

11. POC is the undersigned, 735-4659.

  
RICHARD YOUNG  
LTC, EN, HIARNG  
Facility Management Officer

CF:  
CofS  
G3  
✓ Safety Officer  
1/299th IB (S)



HEADQUARTERS  
STATE AREA COMMAND

HAWAII ARMY NATIONAL GUARD

3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

January 31, 1995

HIARFM

Mr. Philip Ohta  
Acting Maui Land District Agent  
Division of Land Management  
Department of Land and  
Natural Resources  
54 South High Street, Room 101  
Wailuku, Hawaii 96793

Dear Mr. Ohta:

This is in response to your letter of January 3, 1995, relating to illegal entry into the subject area.

It is our understanding that Land License Number 1-65 was issued for our use for not more than 12 weekends per calendar year. During this period, we are bound by the terms and conditions of the subject license. As such, we follow Headquarters, 1st Battalion, 299th Infantry's, standing operating procedures for the Kanaio Training Area and Range to ensure due care for public and private safety. This includes, but is not limited to, the posting of guards at various locations during live firing and leaving the area in a clean and orderly condition. We feel these safety measures that were implemented during our usage are sufficient.

On January 9, 1995, my staff conducted an aerial survey of our Kanaio firing range to inspect the entry gate and the fencing and signs around the impact zone. The entry system is a galvanized pipe gate with 25-foot pipe fencing on each side. The entry gate is intact. The survey also revealed that the barbed wire fencing and signs on the west side of their impact zone are in good condition. Portions of the fencing on the east side require patching. Six signs are faded and need to be replaced. One concrete holder is shot-up and requires patching.

We are scheduling our unit personnel to repair the fence and signs around the impact area. We will modify our gate with reinforcements to include a lock box.

B-210

911

FILE



DEPUTIES

JOHN P. KEPPELER, II  
DONA L. HANAIKE

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
54 SOUTH HIGH STREET, 1ST FLOOR Rm. 101  
WAILUKU, HAWAII 96793

AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES CONSERVATION AND ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

January 3, 1995

Colonel Gerald J. Silva  
General Staff  
Hawaii Army National Guard  
Department of Defense  
Office of the Adjutant General  
State of Hawaii  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

2178

Dear Colonel Silva:

Subject: Security Problems with Land Under Land License No. 1-65 Issued to the Department of Defense, Tax Map Key: 2-1-02: Portion 01, Kanaio and Kaunuahane-Kaloi Government Tracts, Maui.

This is in reference to Land License No. 1-65 issued to the Department of Defense for defense training purposes located at Tax Map Key: 2-1-02: Portion 01, Kanaio and Kaunuahane-Kaloi Government Tracts, Maui.

The Maui District Land Office has received complaints that the entry into the subject license area is not properly secured and that unauthorized personnel are entering through this area for illegal hunting and access purposes. The illegal hunting is a major concern because the private residences within this area are threatened almost everyday with stray and careless firing of weapons. Fortunately no serious accident has occurred yet, but the chances of it happening is inevitable.

The subject license was issued with the understanding that the Department of Defense would use the premises with due care for public and private safety. Apparently, the existing safety measures implemented are not sufficient.

To prevent illegal entry onto the premises, a lock box gate should be provided at the main entry. Fencing should be installed around the perimeter of the subject license area with "no trespassing" and warning signs posted. Due to the nature of this situation, a prompt response to address this concern is warranted.

Colonel Gerald J. Silva - Land License 1-65  
January 3, 1995  
(Continued) Page 2

If you may have any questions, please contact this office at  
the above address or by telephone at 243-5352.

Very truly yours,

  
\_\_\_\_\_  
PHILIP OHTA  
(Acting) Maui District Land Agent

cc: Mr. W. Mason Young  
Mr. W. Kennison  
DOCARE (Maui)  
Ulupalakua Ranch

JOHN WAHEE  
GOVERNOR OF HAWAII



KEITH W. AHUE  
~~WILLIAM W. PATY~~, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER, II  
DONA L. HANAIKE

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
54 SOUTH HIGH STREET, 16<sup>TH</sup> FLOOR Rm. 101  
WAILUKU, HAWAII 96793

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

January 3, 1995

Ulupalakua Ranch, Inc.  
P.O. Box 901  
Kula, Maui, Hawaii 96790

Dear Sir:

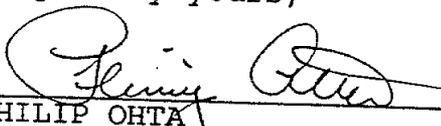
Subject: Revocable Permit No. S-6001.

Reference is made to the attached January 3, 1995 letter to Colonel Gerald J. Silva, Department of Defense, regarding security concerns on land under Land License No. 1-65 with the Department of Defense, which is a portion of land under Revocable Permit No. S-6001 with Ulupalakua Ranch, Inc.

Ulupalakua Ranch, Inc. is also required to provide due care for public and private safety on the subject premises. To avoid illegal entries and use of said property, adequate fencing and gates are to be immediately installed around and/or within the boundaries of the subject permit area.

If you may have any questions, please contact this office at the above address or by telephone at 243-5352.

Very truly yours,

  
PHILIP OHTA  
(Acting) Maui District Land Agent

Encls.

cc: Mr. W. Mason Young  
Mr. W. Kennison  
DOCARE (Maui)  
Department of Defense

BENJAMIN J. CAYETANO  
JOHN WAINAEE  
VERNOR



EDWARD V. RICHARDS  
MAJOR GENERAL  
ADJUTANT GENERAL  
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3940 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

HIENG

DATE: Feb 28, 1995

FACSIMILE COVER LETTER

TO: Maj Tanpley

FAX NO: 737-0461

ATTN: \_\_\_\_\_

NO. OF PAGES: 3  
(Including this cover letter)

SUBJECT: \_\_\_\_\_

WE ARE SENDING YOU: Copy of the letter to Mr Ohta at DLNR  
regarding Kanaio. Paragraph # 4 is for your  
action  
Thank you

NOTE: IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CONTACT US AT 735-4659 OR FAX  
US AT ~~735-2675~~  
737-3575.



[Signature]  
(Signature of Sender)

THE NATIONAL GUARD

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
DEC 6 11 11 AM '96

**Ulupalakua Ranch, Inc.**

P.O. Box 901, Ulupalakua  
Maui, Hawaii 96790

Phone (808) 878-1202

Fax (808) 878-2178

TO: Administrator  
FOR: Info & Files  
FROM: MOLO  
Original in Maui

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
1996 DEC -5 PM 3:50

December 3, 1996

Mr. Phil Ohta  
Department of Land and Natural Resources  
54 S. High St.  
Wailuku, Hawaii 96793

Dear Phil:

I regret to inform you that Ulupalakua Ranch, Inc., has made the decision to exit from its right to revocable permit S-6001, covering Tax Map Keys 2-1-02:01 and 2-1-03:50. The Ranch maybe interested in the mauka lands, if they were seperated. however, at this point and time we can no longer justify our use of this permit.

It is our intention to have our livestock and equipment out of the leased area by January 1, 1997. However, the issue over our water easement through TMK 2-1-03:50 has not been yet been resolved. We hope to continue to have a positive and neighborly relationship with you in the future.

If you have any questions, please do not hesitate to contact me at (808) 878-1202 or by fax at (808) 878-2178.

Sincerely,

  
Sumner P. Erdman,  
President



HEADQUARTERS  
STATE AREA COMMAND

HAWAII ARMY NATIONAL GUARD

3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

HIENG (ENV-97-01)

14 JAN 1997

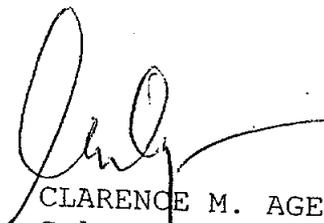
MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Environmental Restrictions for Kanaio Training Area (KNTA), Ulupalakua, Maui

1. Training restrictions are hereby issued for KNTA due to the presence of the endangered 'ohai (*Sesbania tomentosa*) plant.
2. Potential threats by Guardsmen include direct human impacts (e.g., trampling and cutting), fire threat, and the introduction of alien plant species.
3. The following restrictions apply at KNTA:
  - a. Pu'u Pimoe is off-limits for any type of training due to the presence of 'ohai.
  - b. No smoking of any kind is allowed.
  - c. Use of any fire and/or signal flares is prohibited.
  - d. Cleaning and visual inspection of all clothing, boots, gear, and equipment for seeds, eggs, and larvae prior to entry into Kanaio is recommended. This is to minimize the potential for introduction of new invasive alien plants.
4. Commanders will follow these environmental restrictions and inform subordinate units of the above stated constraints.
5. POC is MAJ Ron Swafford, 733-4214 or Ms. Melissa Dumarán, 733-4265.

FOR THE COMMANDER:

- 3 Encls
1. Photograph
  2. Site Map
  3. Memo, FWS, 10 Dec 96

  
CLARENCE M. AGENA  
Colonel, GS, HIARNG  
Chief of Staff

HIENG (ENV-97-01)

SUBJECT: Environmental Restrictions for Kanaio Training Area  
(KNTA), Ulupalakua, Maui

DISTRIBUTION:

Cdr,

29th Sep Inf Bde (Enh)

103d Trp Cmd

117th PAT

HQ Det, STARC

111th Army Band

Cmdt, PMTB

CF:

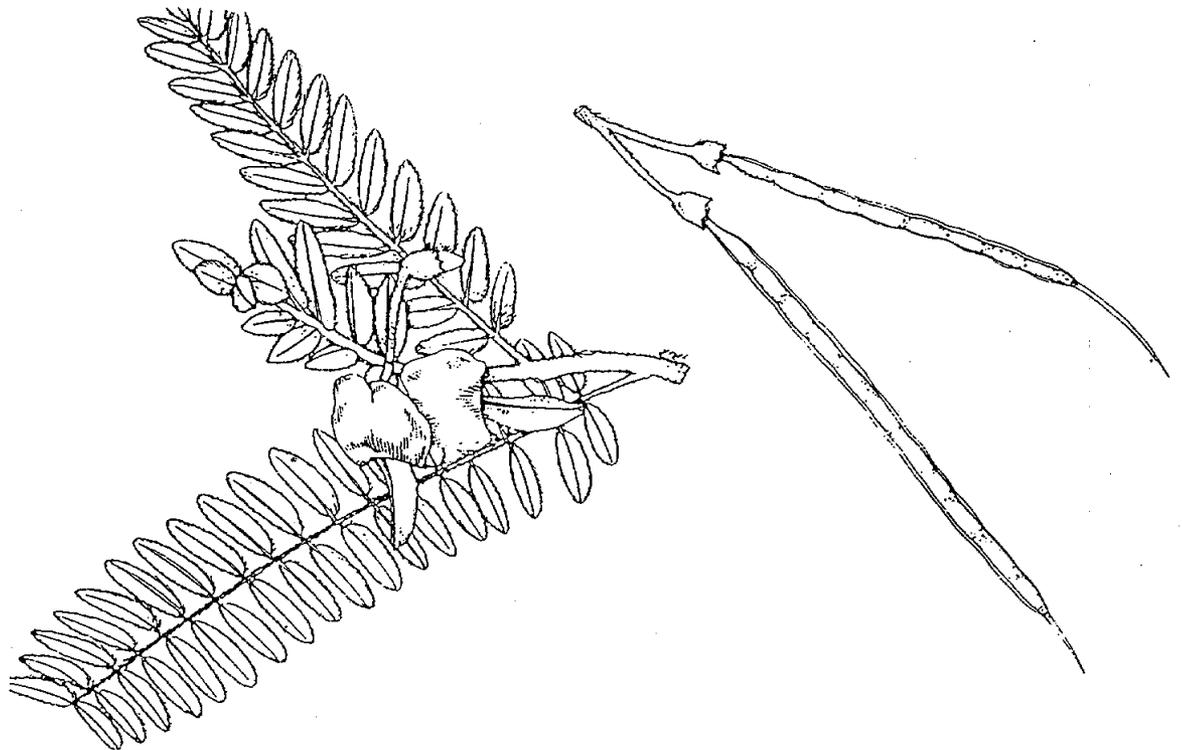
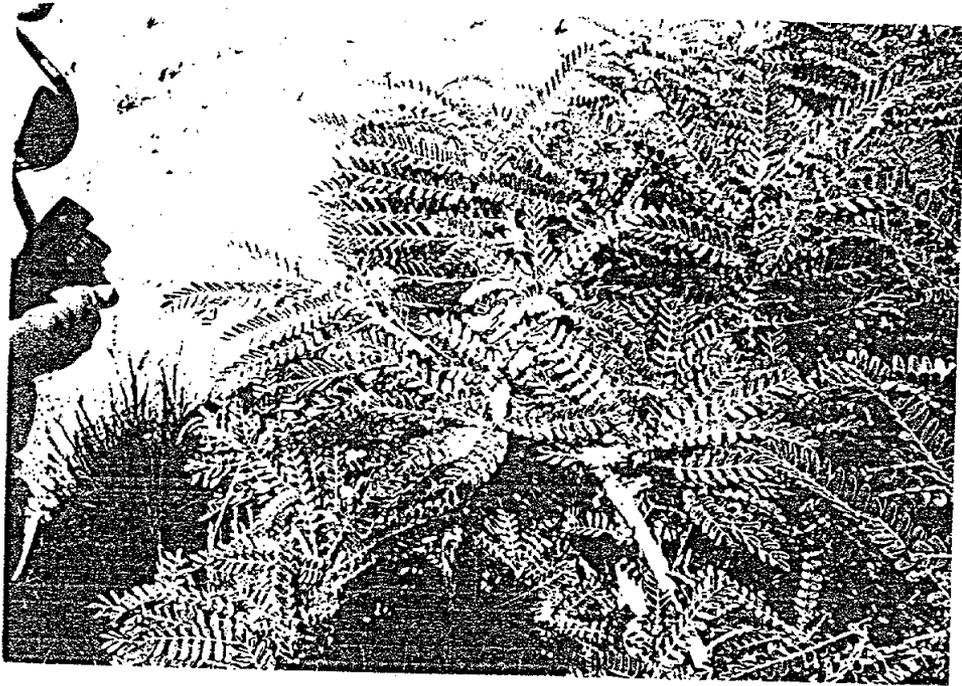
G3

~~Cdr~~, Co C, 2/299th Inf

# 'Ohai

## *Sesbania tomentosa*

**Description:** Listed endangered species. Population of 13 individuals found on the eastern slopes (1700 ft.) of Pu'u Pimoe. Endemic to the Hawaiian Islands. Extremely rare, arborescent (tree-like) variety thought to be endemic to Molokai. Only other population of this variety in the world is found on Molokai.



# Map 2: Natural Resources of KNTA

Figure 5  
Rare Plant and  
Animal Locations  
Kanaio Training Area

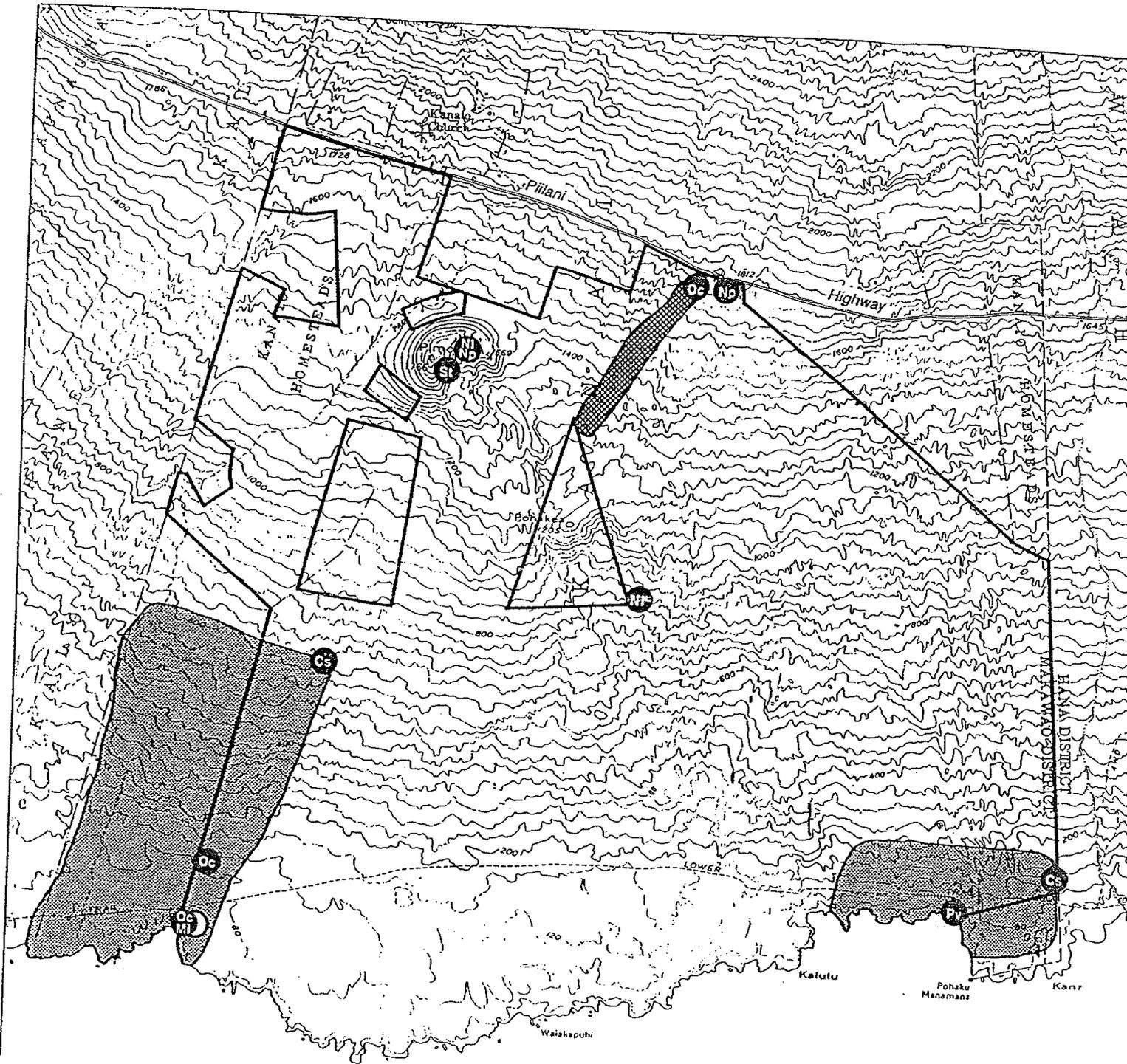
● Location Specific (w/in 0.33-mi radius)

- Plants:  
Cs = *Capparis sandwichiana*  
Np = *Nesoluma polynesicum*  
NI = *Nothocestrum latifolium*  
Oc = *Ophioglossum concinnum*  
Pv = *Portulaca villosa*  
St = *Sesbania tomentosa*

- ▨ *Capparis sandwichiana* Distribution  
▨ *Ophioglossum concinnum* Distribution

- Animals:  
MI = *Metabetaeus lohena* (Anchialine Pool Shrimp)

— Survey Area Boundary





# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Ecoregion

300 Ala Moana Blvd, Room 3108

P.O. Box 50088

Honolulu, HI 96850

phone: 808-541-3441; fax: 808-541-3470

In Reply Refer To: MSS/CAR

DEC 10 1996

Lt. Colonel Richard Young  
Hawaii Army National Guard  
Facility Management Officer  
Department of Defense  
3949 Diamond Head Road  
Honolulu, HI 96816-4495

Re: Informal section 7 interagency consultation for listed endangered species located on Kanaio National Guard Training Area, East Maui; and Review of Natural Resources Management Plan: Kanaio National Guard Training Area, Island of Maui, Hawaii

Dear Lt. Colonel Young:

This responds to your October 30, 1996, letter requesting informal section 7 consultation under the U.S. Endangered Species Act of 1973, as amended (ESA), regarding the effects of the Hawaii Army National Guard (HIARNG) training activities on listed endangered species at Kanaio National Guard Training Area (KNTA), East Maui. The U.S. Fish and Wildlife Service (Service) also acknowledges your request for our review of the August 1995 Natural Resources Management Plan: Kanaio National Guard Training Area, prepared by the Biological Resources Division of the U.S. Geological Survey (formerly, National Biological Service) on behalf of HIARNG.

According to the information provided in your letter and follow-up telephone conversations with Ms. Melissa Dumaran of your staff, HIARNG has a use permit from the lessee, Ulupalakua Ranch, for weekend military training activities that take place six times per year. KNTA is a 6,000 acre site located on the lower southwest rift of Haleakala, ranging in elevation from sea level to 550 meters (1,804 feet); and composed of volcanic rock and relatively undeveloped soils. The habitat is generally arid and wind-swept. Currently, training activities by HIARNG include land navigation maneuvers, live fire and subcaliber target practice. According to map #4 that was included with your October 30 letter, all of these activities are carried out around the base of Puu Pimoe.

Informal section 7 interagency consultation for listed endangered species located on Kanaio National Guard Training Area, East Maui; and Review of Natural Resources Management Plan: Kanaio National Guard Training Area, Island of Maui, Hawaii

Informal section 7 consultation

The only Federally listed endangered species known to exist at KNTA is 'ohai (*Sesbania tomentosa*). A small population of this endangered shrub has been reported from the upper slopes of the basin of a pit crater on the eastern side of Pua Pimoe. This species was listed as endangered under the ESA on November 10, 1994, without critical habitat (59 F.R. 56350). Threats to this population of 'ohai include wildfire, grazing and trampling by ungulates, direct human impacts (e.g., trampling and cutting), competition with and increased fire threat from alien plant species, predation by introduced insects, and possible lack of pollinators.

HIARNG has designated Pua Pimoe off-limits to the National Guard units during training exercises to minimize the potential effects of direct human impacts, such as trampling and cutting. Nevertheless, training by HIARNG around the perimeter of the Pua may increase the likelihood of wildfire and the spread of invasive alien plant species in this arid, wind-swept environment. According to Ms. Dumarán, HIARNG believes the threat of wildfire as a result of live fire and subcaliber target practice at KNTA is minimal, due to the use of blanks, rather than live rounds, and adaptors to suppress the explosive flash. Ms. Dumarán was not aware of any restrictions on smoking by units of the HIARNG while at KNTA; nor was she aware of any particular conditions imposed on the HIARNG units to ensure that their clothing, boots, weapons, etc., are free of plant parts (such as seeds, flowers, and fruits) before entering KNTA. However, she informed us that the equipment used during training activities at KNTA is not shared with other HIARNG units or other training sites, thus minimizing the potential for the introduction of new invasive alien plants via the equipment.

To avoid adverse effects to the 'ohai population, the Service recommends that HIARNG enforce strict rules against smoking of any kind by HIARNG units while training at KNTA. We further recommend that fires and the use of signal flares and the like be prohibited. In addition, to minimize the introduction of new alien plants and insects to KNTA, we recommend that vehicles, boots, clothing, gear, and equipment be cleaned and visually inspected for seeds, eggs, larvae, etc., prior to entry into KNTA.

If these recommendations are adopted and implemented by HIARNG, we will concur with a determination that HIARNG training activities at KNTA are not likely to adversely affect federally listed threatened or endangered species under Service jurisdiction. Based on this determination, we believe that the requirements of section 7 of the ESA have been satisfied. However, obligations under section 7 of the ESA must be reconsidered, if: 1) new information reveals impacts of HIARNG training activities that may affect listed species or critical habitat in a manner that was not previously considered; 2) HIARNG training activities are subsequently modified in a manner not

Section 7 Interagency Consultation for listed endangered species located on Kanaio National Guard Training Area, East Maui; and Review of Natural Resources Management Plan: Kanaio National Guard Training Area, Island of Maui, Hawaii

previously considered in this assessment; or 3) a new species is listed or critical habitat determined that may be affected by HIARNG training activities.

Review of Natural Resources Management Plan: Kanaio National Guard Training Area, Island of Maui, Hawaii

The Service applauds HIARNG for the preparation of the Natural Resources Management Plan for KNTA. This plan will provide guidance for HIARNG's long-term management of KNTA's natural resources and includes tasks such as fencing the 'ohai population for protection from ungulates and removal of alien plants within the fenced area(s); prevention of the introduction of fountaingrass (*Pennisetum setaceum*) seeds; propagation and outplanting of 'ohai; protection and management of 'A'ali'I (*Dodonaea viscosa*) Shrubland which provides important habitat for rare native species, such as the koa bug (*Coleotrichus blackburniae*), Blackburn Hawkmoth (*Manduca blackburnii*), and maiapilo (*Capparis sandwichiana*) and 'ihi (*Portulaca villosa*); and, biological inventories of the lava tubes in the area.

According to your October 30 letter, HIARNG proposes to fence the entire base of Puu Pimoe, rather than construct woven wire exclosures around the 'ohai plants within the pit crater, to exclude feral goats and domestic cattle. We wholeheartedly support fencing the base of Puu Pimoe and recommend that the proposed fence also be deer-proof to minimize threats from axis deer. Axis deer have not been observed in KNTA yet, though they have been reported up slope from KNTA and it is likely that their range will eventually extend into KNTA. We also recommend that a weed-free corridor be maintained around the perimeter of the fence to serve as a possible fire-break. In addition, **subsequent monitoring** within the fenced area of the 1) native woody vegetation, including 'ohai to document results of ungulate removal and 2) alien vegetation, particularly grasses such as molasses grass (*Melinis minutiflora*) **is needed**. By periodically monitoring, HIARNG will be able to determine the need for alien plant removal within the fenced area to lessen potential threats from fuel build-up and competition with the endangered 'ohai. The Service concurs with the other recommendations made in the Plan regarding 'ohai management in KNTA, including construction of a fenced exclosure and outplanting of 'ohai on Pohakea cinder cone to establish a second population at KNTA, and restriction of military activities at both sites.

The Service appreciates the opportunity to informally consult with HIARNG under section 7 of the ESA on training activities at KNTA, and to provide comments on the Natural Resources Management Plan. Once funding is available and specific portions of the Plan are to be implemented by HIARNG, we wish to be notified of pending actions so that we may continue to provide you

Section 7 Interagency Consultation for listed endangered species located on Kanaio National Guard Training Area, East Maui; and Review of Natural Resources Management Plan: Kanaio National Guard Training Area, Island of Maui, Hawaii

with guidance on avoiding adverse effects to the endangered 'ohai and other native species at KNTA. If you have any questions, please contact our Program Leader for Interagency Cooperation, Ms. Margo Stahl, or Fish and Wildlife Biologist, Christa Russell at 808/541-3441.

Sincerely,

  
for Brooks Harper  
Field Supervisor

Enclosure

cc: Dr. Carolyn Corn, DLNR (DOFAW)  
Mr. Bob Hobdy, DLNR (DOFAW-Maui)  
Dr. Lloyd Loope, Haleakala National Park Field Station (U.S.G.S., Biological Resources Division)

RP 6001

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY  
GILBERT S. COLOMA-AGARAN

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
54 SOUTH HIGH STREET, ROOM 101  
WAILUKU, HAWAII 96793-2198

AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT  
WATER RESOURCE MANAGEMENT

March 17, 1997

**MEMORANDUM**

TO: Ms. Anne Y. Furuuchi, Fiscal Management Officer  
Fiscal Office

THROUGH: Mr. Dean Y. Uchida, Administrator  
Land Division *[Signature]*

FROM: Philip Ohta, District Land Agent  
Maui District Land Office *[Signature]*

SUBJECT: Cancellation of Revocable Permit No. S-6001.

MAR 19 8 43 AM '97  
DIVISION OF  
LAND MANAGEMENT

This is to inform you that the subject Revocable Permit No. S-6001 with Ulupalakua Ranch, Inc. has been canceled, effective March 12, 1997. If needed, please deduct any rent monies owing from the collateral security deposit and refund the remaining to Ulupalakua Ranch, Inc..

Thank you for your assistance. Should you have any questions regarding this matter, please contact the Maui District Land Office at (808) 984-8100.

APPROVED:

*[Signature]*  
DEAN Y. UCHIDA

MAR 18 1997  
DATE

cc: Mr. W. Kennison

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY  
GILBERT S. COLOMA-AGARAN

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF LAND MANAGEMENT  
54 SOUTH HIGH STREET, ROOM 101  
WAILUKU, HAWAII 96793-2198

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT  
WATER RESOURCE MANAGEMENT

June 5, 1997

Lt. Col. Richard S.W. Young  
Facility Management Officer  
Hawaii Army National Guard  
State of Hawaii Dept. of Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

Dear Lt. Col. Young:

Subject: Request for a Right of Entry by the Hawaii Army National Guard, on State Lands Identified as TMK: 2-1-02: por. 01, Situate at Portion of Kaunuahane, Kaloi, Kanaio, Honuaula, Makawao, Maui

This acknowledges receipt of your May 30, 1997, facsimile requesting a right of entry for the Hawaii Army National Guard to enter State lands identified as Tax Map Key: 2-1-02: por. 01, situate at Portion of Kaunuahane, Kaloi, Kanaio, Honuaula, Makawao, Maui. The request encompasses the "AREA A" as designated in former license agreement between Ulupalakua Ranch and Department of Defense of the State of Hawaii.

Entry on the subject parcel will be for the purpose of training and live fire exercises.

A right of entry is hereby granted subject to the following terms and conditions:

1. The right of entry will be effective as of June 6, 1997 and expire on December 5, 1997.
2. That the Hawaii Army National Guard (HIARNG) shall notify the Maui District Land Office 48 hours in advance of their intent to enter the subject lands.
3. HIARNG shall indemnify and hold the State of Hawaii, Department of Land and Natural Resources (DLNR) harmless against all claims for personal injury, death or property damage caused by or in any way connected with the permission granted herein.

Hawaii Army National Guard - Right of Entry

June 6, 1997

Page 2

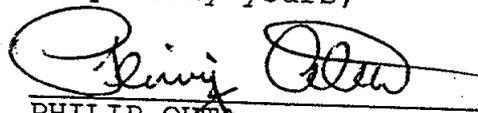
4. HIARNG shall take whatever reasonable precautions necessary to inform the general public and secure the area during the training exercises.
5. The applicant shall be responsible for restoring any disturbed lands created by this training to their original condition or a condition satisfactory to the Department of Land and Natural Resources, Division of Land Management, upon work completion.
6. HIARNG shall be responsible for cleaning any trash, litter, etc., created by their training.
7. All tools, equipment, improvements and other property brought or placed upon the subject properties by HIARNG shall remain the property of same and be removed within a reasonable time upon expiration of the subject right of entry.
8. HIARNG shall comply with all applicable rules, regulations, ordinances and statutes of the County, State and Federal governments relative to the use of the subject lands, including those relating to public health and safety.
9. The Maui District Land Office reserves the right to terminate the right of entry at any time if deemed necessary.
10. Non-compliance of any of the terms and conditions of the subject perpetual right of entry shall automatically terminate the right of entry approval.
11. The Department of Land and Natural Resources, Division of Land Management and its Chairperson reserve the right to impose additional terms and conditions, if deemed necessary.

Please indicate your acceptance and compliance with the above terms and conditions by placing your signature in the space provided on the next page and return a copy to this office.

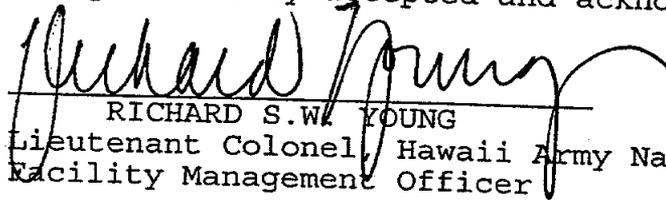
Hawaii Army National Guard - Right of Entry  
June 6, 1997  
Page 3

If you should have any questions, please contact this office at the address described on the letter head or by telephone at 984-8100.

Very truly yours,

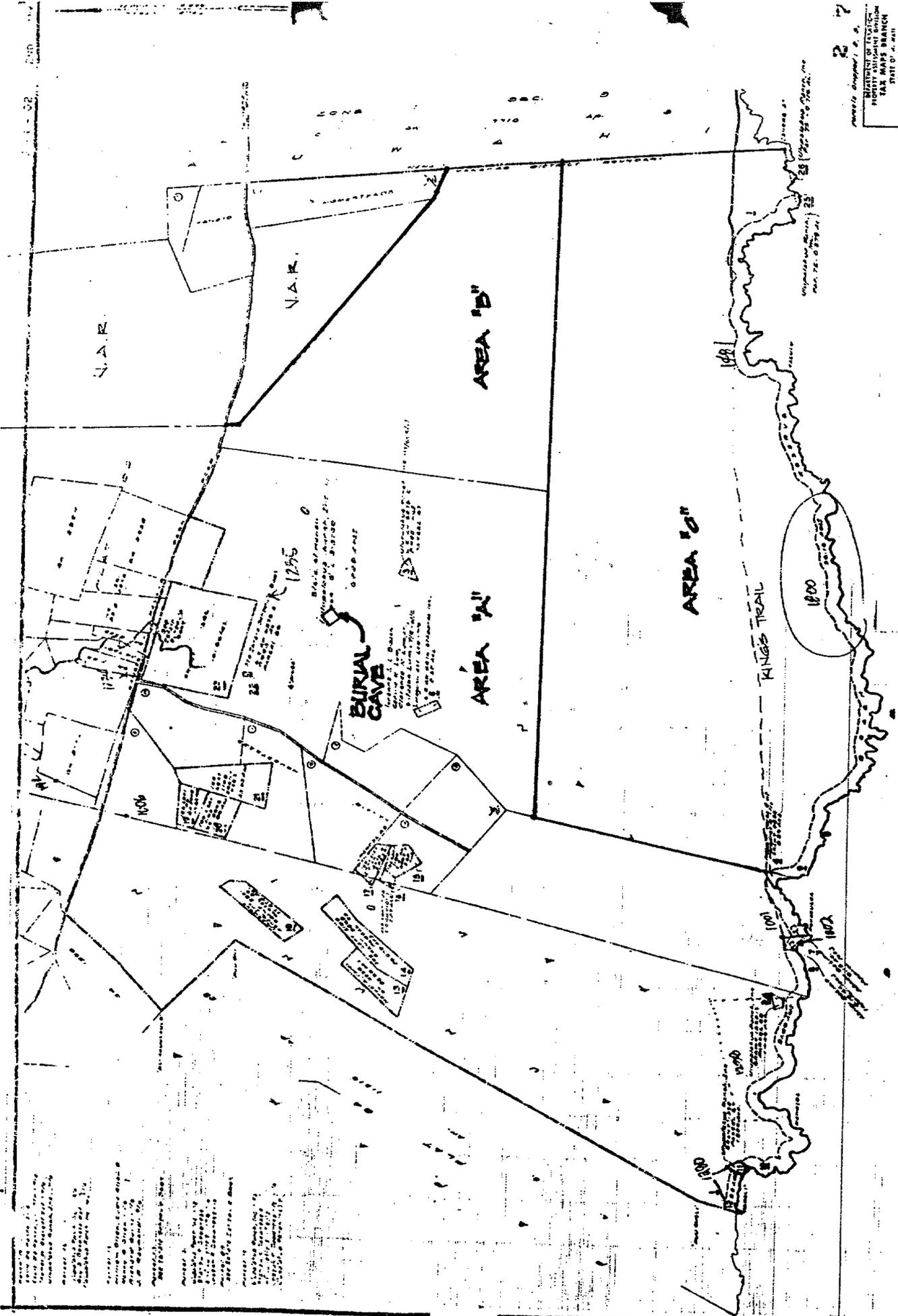
  
PHILIP OHTA  
Maui District Land Agent

The foregoing terms and conditions of the above described right of entry is hereby accepted and acknowledged:

  
RICHARD S.W. YOUNG  
Lieutenant Colonel, Hawaii Army National Guard  
Facility Management Officer

DATE \_\_\_\_\_

cc: Mr. D.Y. Uchida  
Mr. W. Kennison  
Maui DOCARE



RECORD SECTION 8-2006		2	1	02
TAX MAP		2	1	02
PROPERTY STATEMENT DIVISION				
TAX MAPS BRANCH				
STATE OF HAWAII				
MINISTRY OF LANDS AND NATURAL RESOURCES				

KANAIO TRAINING AREA  
 comprises Areas A, B, & C  
 ISLAND OF MAUI, HAWAII

FOR BIAL PROPERTY TAXATION PURPOSES  
 SUBJECT TO CHANGE



**GOODFELLOW BROS., INC. — GENERAL CONTRACTOR —**

P.O. BOX 220 ■ PHONE (808) 878-5205 ■ FAX (808) 879-3674 ■ KIHEI, MAUI, HI 96753-0220

**received**  
NOV 16 1998

*PHL - 11-20-98  
Let's You BE ISSUING  
R.O.E?*

November 12, 1998

Department of Land and Natural Resources  
Division of Land Management  
54 S. High Street, Suite 101  
Wailuku, Hawaii 96793

Attn: Mr. Phil Ohta

Subject: Ordnance Removal, Hawaii Army National Guard, Kanaio Training Area,  
Uluhalakua, Maui, Job No. HI08592003

Dear Mr. Ohta:

This letter is to inform you that we will be starting work on the Ordnance Removal project for the Hawaii Army National Guard on November 30, 1998. The work involves clearance or removal of unexploded ordnance and environmental restoration to allow the safe use of the Kanaio Training Area. The project is expected to be completed one month after the start date.

Please call me at 242-0813 if you have any questions.

Sincerely,

*Ken Gift*  
Ken Gift

GOODFELLOW BROS., INC.

cc: Ronald R. Swafford, LTC., HIARNG  
file

CGN-3

BENJAMIN J. CAYETANO  
GOVERNOR



EDWARD V. RICHARDSON  
MAJOR GENERAL  
ADJUTANT GENERAL

~~ORLAN L. PETERSON, JR.~~  
~~COLONEL~~  
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE ADJUTANT GENERAL  
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

HIARFM

04 MAY 1999

MEMORANDUM FOR Environmental Programs Directorate, NGB-ARE-EC  
(ATTN: COL De Kramer), 111 South George Mason  
Drive, Arlington, Virginia 22204-1382

SUBJECT: Executive Order for Kanaio Training Area

1. Reference letter, State Department of Land and Natural Resources, 9 Apr 99, subject: Request for an Executive Order, Kanaio Training Area (enclosed).
2. Request validation of Kanaio Training Area (KNTA) as a mission-essential training area.
3. The 4,900-acre training area is the largest HIARNG training area available for use by all units of the Guard. KNTA can support a battalion size unit to conduct non-live firing exercises.
4. Mission requirements mandate obtaining the parcel actively used by the Guard since 1965 via Executive Order from the State. Currently, this land is on the Facilities Inventory and Stationing Plan and an unlimited use-permit is in place until superceded by the Executive Order. Non-validation of KNTA projects breaches State authority for compliance with local, State and Federal laws relating to natural and cultural resources.
5. POC in Hawaii is LTC Ron Swafford, (808) 733-4214.

EDWARD V. RICHARDSON  
Major General, HIANG  
Adjutant General

Encl

Internal document  
Natural Resources & ITAM  
FY 03 Work Plan Nov 2002

### III. MAUI

#### Kanaio National Guard Training Area (KNTA)

##### KANAIO POINTS OF CONTACT

- Alvin Yoshinaga, Lyon Arboretum, 988-0469, [alviny@hawaii.edu](mailto:alviny@hawaii.edu)
- Anna Palamino, Hoolawa Farms 575-~~1487~~ 5099
- Art Medeiros, USGS-BRD [acm@aloha.net](mailto:acm@aloha.net)
- Bob Hobdy, Maui-DOFAW, 984-8100
- Bryon Stevens and Bill Evanson, Maui-NARS, 572-9724
- Eric Bernard, MISC 579-2115, [maui.invasivespecies@gte.net](mailto:maui.invasivespecies@gte.net)
- Fern Duval, Maui-DOFAW, 873-3502, [mawild@aloha.net](mailto:mawild@aloha.net)
- Forest and Kim Starr, USGS-BRD, 572-4472, [fstarr@hawaii.edu](mailto:fstarr@hawaii.edu)
- Ilima Loomis, Maui News, 244-3981
- Jeff Powell (volunteer from Hana) 248-8689
- Jennifer Crummer, Ducks Unlimited, 242-6623
- Jeremy Gooding, NPS-EPMT, 281-1542, [Jeremy\\_gooding@nps.gov](mailto:Jeremy_gooding@nps.gov)
- Joel Lau, Hawaii Heritage Program, 956-2608
- Ken Manuel, Kahului Armory, 873-3553
- Lance Nakamura, Maui County Land Use & Codes, 270-7379
- Louis Wada, DLNR Maui Land Management, 984-8105
- Mahealani Kaiaokamalie, Ulupalakua Ranch, 878-2851
- Matt Kier, Army Environmental, 656-7641
- Melissa Chimera, The Nature Conservancy 572-7849 x26 29
- Mike Escueta, HIARNG Blackhawk pilot, 933-0942
- Mike Richardson, USFWS entomologist, 541-3441, [mike\\_richardson@fws.gov](mailto:mike_richardson@fws.gov)
- Mike Robertson, Wailani Drilling 572-2673
- Pete Oboyski, UC Berkeley, entomologist (510)847-0360, [pt\\_oboyski@hotmail.com](mailto:pt_oboyski@hotmail.com)
- Rose Buxton, HIARNG Real Property Clerk, 733-4043
- Ted Rodrigues, NPS feral animal control, 572-4482
- Tony Durso, Ulupalakua Ranch 878-1202
- Trevor Lu, USDA Wildlife Services, animal control 872-3878

Handwritten notes and scribbles in the top right corner.

873-3506

Ted-Rodrigues@nps.gov  
cc: Ron-Nagata@

#### 1) A'ALI'I KIPUKA RESTORATION

##### Field Work

##### Inspect & maintain fenceline to ensure no animal ingress into protected areas [JAN 03, MAR 03, MAY 03]

Inspect entire fence as often as you can to make sure there are no holes where animals can slide under. Animals are definitely making game trails around the outside of the fence. By keeping the fence apron tight and flush to the ground with rocks, goats will have a harder time working their way under the fence. \*\*If animals do make their way into the enclosure call the following people to assist in hunting them out: **Melissa Chimera, Mahealani, Jeremy Gooding, Bryon Stevens or Bill Evanson.** We will help out as much as we can to kill whatever gets inside.

##### Kipuka weed control, especially grasses! [JAN 03 - MAR 03]

Spray Fuscillade with surfactant (read label for mixture or call **Matt Kier**) on grass *Cenchrus ciliaris*, *Setaria verticillata* inside of makai enclosure. This is a grass specific herbicide. Kill this grass before it becomes more established. Be very careful of non-target damage. You may have to wait for the wet season to spray because the grass should be actively growing when it is sprayed.

264-0414 crew super  
280-0377 Kace cell

### **Build catchment for tanks in upper and lower exclosures [JAN 03]**

Currently, all materials have been put on order to sling-load in additional tanks and build catchment for all 12 tanks. Ken Manuel at Kahului Armory will be storing the additional tanks until it becomes feasible to fly them in. Meanwhile, coordinate with MISC or EPMT to sling-load the catchment materials within the fences while on a fountain grass survey mission. The operation should be conducted as follows:

- coordinate with Haleakala National Park (**Ted Rodrigues**) or EPMT (**Jeremy Gooding**) to borrow two sling load nets. Two loads will be prepared: one each for the mauka and makai exclosures.
- Identify a helispot where the rigging staging area and sling-load hook-up can take place ***as close to the fences as possible to save on helicopter time. REMEMBER: the helicopter costs \$750+ per hour. If Jeremy or Eric agrees to support this, then every effort should be made to save time and ensure a safe, efficient operation!!!***
- Have sling-load trained personnel at the drop zones to receive the loads.

### **Rare plant management**

- Vigna o-wahuensis. [JAN 03]** The last monitoring took place in Oct 02, when I found 2 plants in the makai exclosure (I haven't checked the upper exclosures). Scatter available seed in the kipukas. Continue to monitor population quarterly. Seed scattering just before the start of the wet season might avoid predation by mice and rats. Collect seed for scattering when available. Presently we have 24 seeds from *Vigna-o-wahuensis* in storage with **Alvin Yoshinaga** at Lyon Arboretum, and more in **Mike's desk**. These can be used whenever you see fit. Seeds should be collected for scattering inside veg. plots, for propagation/outplanting by other conservation agencies including Bryon Stevens and **Fern Duval** from DOFAW, **Forest/Kim**, **Art Medeiros**, **Anna Palamino**, and **Mahealani Kaiaokamalie**, and for storage. Each of these people have protected areas into which *Vigna* can be outplanted.
- Sesbania tomentosa monitoring & seed collection. [JAN 03]** The last monitoring took place in Aug 02. Continue monitoring wild population quarterly. Collect seed when it is available. F1 seeds should be given to Anna and grown for outplanting. Continue monitoring outplanted populations 2 times per year (measuring vigor, height, basal diameter, noting fruit/flower). Remove all cages from around plants.
- Sesbania tomentosa & Nothocestrum latifolium out-planting. [FEB 03]** The last and only out-planting of `ohai took place in Feb 02. To continue bolstering existing `ohai populations at Kanaio and also to provide potential habitat (i.e., host tree) for the endangered *Manduca blackburni* moth, we recommend planting additional `ohai and `aiea trees in the mauka and makai exclosures. We have all materials in place (tanks borrowed from Ukumehame project, catchment, and donated plants from **Anna Palamino**) as well as volunteer support (Haleakala's Resources Management crew -- POC **Ted Rodrigues**, EPMT, MISC and Ulupalakua Ranch) to support this out-planting. ***All we need is HIARNG Aviation approval of the Blackhawk from Hilo to support this sling-load mission.*** The approving official If granted, then the operation should be conducted as follows:
  - Meet with the Blackhawk pilot (**Mike Escueta**) to discuss long-line and sling-load rigging and operations. Bring a copy of the topo map, your rigging equipment and a water tanks (currently stored at KMR) to show him and the load master. Bring the helicopter operations information paper and list of questions.
  - Coordinate with **Tony Durso** at Ulupalakua to make sure that the landing/staging zone below Mahealani's house is okay to use for the proposed dates. Be aware that the Ranch often moves its cattle to different areas, so you don't want to have helicopter operations conflict with this.
  - Contact **Mahealani**, **Anna Palamino**, **Ted Rodrigues**, **Jeremy Gooding**, **Bryon Stevens**, **Bob Hobdy**, **Eric Barnard** and **Melissa Chimera** to round up volunteer support. The sooner the better, since people have busy schedules and

they would be donating their time and staff time. You should be able to round up 15 – 30 volunteers for the actual day of sling-loading & planting. Designate at least two experienced helicopter personnel at three locations: makai and mauka exclosures, and the Ranch landing/staging zone.

- Coordinate with **Anna Palamino** to finalize the #s of plants. Ensure that they are sanitized before going into the field.
  - The week before the out-planting: construct heavy duty palettes, select the drop zones in the mauka exclosure, rig all equipment, finalize all your contacts, make your equipment list, and contact the media (**Ilima Loomis**). Don't forget to bring the helicopter PPE, first aid kits, planting tools, etc.
- d. **Additional rare plant searches. [JAN 02]** When time permits or if helicopter time is available scope out additional Kipuka throughout KTA for rare plants, caves, etc. These surveys should also be used to determine additional sites for future fencing, outplanting, and protection. Use aerial photos to reference areas. Invite **Joel Lau** and **Rick Warshauer**. (When helicopter time is available)

#### **Annual vegetation plot monitoring [JUN 03]**

Conduct Braun Blanquet and woody species counts in 100 plots at makai exclosure to measure recovery of the dryland species over time. Two teams of 3+ people are needed for a minimum of five days of field work. See "Kanaio Dodonaea Kipuka Monitoring and Experimental Restoration" report for details on methodology, and also "Status Report 2002." Enter field data into Excel program in "KANAIO TRAINING AREA" folder, "Kipuka Restoration Experiment" subfolder.

#### **Ulupalakua Ranch work/Anna's Nursery [MAR, JULY 03]**

Coordinate inter-agency service trips with **Mahealani** and **Anna Palamino** to work on Ranch and at Anna's Nursery twice per year.

#### 2) FOUNTAIN GRASS SURVEYS

##### **Conduct surveys for fountain grass surveys with Maui Invasive Species Committee and Haleakala Exotic Pest Management Team. [FEB 03]**

Survey along all roads and trails within KNTA. Coordinate 2-3 days of aerial fountain grass surveys with **Eric Bernard** from MISC and **Jeremy Gooding** of the Exotic Plant Management Team (EPMT). Their schedule and survey frequency may change from year to year.(per EPMT's schedule).

#### *Administrative*

#### 1) KANAIO EXECUTIVE ORDER (E.O.) LAND TRANSFER

##### **Submit Kanaio E.O. and final plat maps to the Governor for signature [ONGOING]**

This is an on-going saga since 1998, when I first became involved as the main point of contact for pushing this land transfer through. The upshot: National Guard Bureau will not fund Kanaio projects until an Executive Order (EO) for 4,707 acres is signed by the governor. Although they provided initial funds in 1998 (\$100K+) to build fences and conduct research, they have not provided any funds since. ***This means that we cannot legally spend any money at this site (fences, helicopter, plants, etc.) until the EO is signed.*** The good news: the HIARNG is 90% there to gaining approvals (DLNR the land owner has approved the transfer). The only step that remains is to revise the existing plat maps to satisfy the Maui County Land Use and Codes Division (**Lance Nakamura**) requirements and edits to the maps. Ask **Rose Buxton** (HIARNG Real Property clerk) to help you, although the NRM will be the main person who cares at all about this, and therefore the only one pushing this through. The following needs to be done/followed up on:

- follow up with **Louis Wada**, Dept. of Land and Natural Resources to determine whether the 4-wheel drive road from the main highway to Kanaio Beach needs to be depicted on

the final plat maps. This is a legal access issue that can only be decided by the land owner, DLNR. We requested their opinion on the matter on 8 Oct 02.

- Contract out a new Scope of Work to revise the existing plat maps. The old contractor (Mike Laroue) produced terrible maps and we cut him loose earlier this year. A new contract will need to be cut to fix these maps. If there is a requirement to show the mauka-makai road, then the original Scope of Work will need to be revised to add this requirement, and then sent out to vendors for quotes. Talk with LTC Richard Young (733-4215) to get names of surveyor companies. I also recommend that you give the contractor **3 months to do the job**. This is plenty of time, since most of the work has been done already. They just need to produce final subdivision maps that satisfy the County and State requirements.
- Send the new maps to **Lance Nakamura**, Maui County Land Use and Codes, for approvals. Once they sign off on this, then the whole package can get forwarded to the State Dept. of Accounting and General Services for approval, who will then forward it up to the governor. For this last step, call **Louis Wada** at DLNR Land Management to assist you.
- As soon as the E.O. is signed, fax it and mail a copy to **Derek Halberg**, Natural Resources Program Manager at National Guard Bureau. He has promised that he then will approve our Kanaio projects. This means \$\$\$\$ and long-term management of Kanaio!!!

## 2) SUPPORT THE MAUI INVASIVE SPECIES COMMITTEE'S GRANT REQUEST

**Write MISC support letter for National Fish and Wildlife Foundation (NFWF) grant request. [OCT 03]**

For the past four years, we have been a supporter of the Maui Invasive Species Committee's efforts at survey and control of fountain grass in the Kanaio Area. Every year, MISC seeks continued funding from NFWF. In order to qualify for Dept. of Defense funds through NFWF, HIARNG must continue writing support letters validating MISC's fountain grass eradication efforts. MISC will solicit a support letter from HIARNG each year. Prepare a letter for the General's signature (**electronic copies can be found in "Grants" folder → "NFWF" subfolder → "MISC support letters"**) You will need to provide a copy of MISC's e-mail requesting the HIARNG support letter.

## **New Projects**

*NOTE: As explained above, technically there is no money to support new projects at Kanaio. Everything that we have done and currently do out there is as a follow-up to 1998 projects that were previously approved and funded by National Guard Bureau. As soon as the E.O. is signed, undertake the following projects:*

### 1) CAVE SURVEYS

Locate caves which were surveyed by The Nature Conservancy, FWS, and BRD. Identify threats and initiate management (weeding, cleaning of garbage, etc.). Invite Entomologists (**Pete Oboyski, Mike Richardson**) to help identify insects and recommend management. GPS locations.

### 2) CHAMAESYCE CELASTROIDES SHRUBLAND

Collect seed, propagate and establish a population of this rare habitat inside lower portion of makai enclosure. Talk to **Mahealani** about a population located to the east of KNTA. The only other population occurs near Kanaio beach.

### 3) MOU WITH KANAIO PARTNERS FOR LONG-TERM MANAGEMENT