

Archaeological Investigations of Lower Halawa Gulch, Halawa *Ahupua'a*, District of Kohala, Hawai'i
Island

Jesse W. Stephen, M.A.¹ & Julie Field

Prepared for:
The New Moon Foundation
Kohala, Hawai'i

April 6th, 2007

¹ Graduate Researcher and PhD. Student, Research Corporation of the University of Hawai'i, Manoa.
Department of Anthropology, Saunders Hall, 2424 Maile Way, Honolulu, HI 96822.

List of Figures

Figure 1: Windward Kohala Peninsula, Hawaii

Figure 2: Halawa Gulch

Figure 3: Area of archaeology investigations

Figure 4: Planimetric map of Lower Halawa Gulch: *makai* terraces

Figure 5: Profile of Lower Halawa Gulch *makai* terraces

Figure 6: Totals from Artifact Bag Inventory

List of Tables

Table 1: Totals from Artifact Bag Inventory

Chapter 1: Introduction

Several portions of Halawa *ahupua'a* were investigated in June of 2006 as part of the Hawai'i Archaeological Research Program (HARP). Under the direction of Drs. Michael Graves and Julie Field (University of Hawai'i at Manoa), the 2006 season incorporated an archaeological field school, which was attended by a class of 18 undergraduate students. This field school was partially funded by the National Science Foundation, and was focused on the education of students in archaeological field methods, and also the investigation of human-environmental interaction in the windward portion of the district of Kohala. The primary purpose of the fieldwork was to identify and document archaeological features, and sample the associated sediments for datable (e.g., radiocarbon) organic materials.

This report summarizes the activities and findings of archaeological research completed in Lower Halawa Gulch. Fieldwork was carried out between June 19th and July 7th. Global positioning system (GPS) points provided geographic coordinates for positions throughout the study area. Agricultural features were cleared and mapped in detail with a total station, autolevel, and with tape and compass. Four features were selected for subsurface testing, and four excavation units were completed. Small amounts of wood charcoal were recovered and will be submitted for radiocarbon analysis in the future. An assortment of other artifacts were also recovered, consisting primarily of historic glass, metal nails, and ceramics, as well as fragments of volcanic glass and lithics. Samples of sediment from the site were also collected and may be analyzed at a future date by Peter Vitousek (Stanford) for relative nutrient content.

The introductory section provides a brief description of the physical environment of Halawa *ahupua'a* and the Halawa Stream locale. Historic data collected from several published work are included. This is followed by a summary of the field methods utilized during the course of the investigation. In the second chapter, a detailed overview of the excavations performed at the site is presented. The final results and also the significance of the archaeology are assessed in Chapter 3.

Background

The *ahupua'a* of Halawa is located on the windward coast of the District of Kohala, Hawaii Island (Figure 1). It lies between 'A'amakao *ahupua'a* to the northwest and Halelua *ahupua'a* to the southeast. Route 270 passes over Halawa Stream nearby the well-known landmark of the Kamehameha Rock, and all the fieldwork summarized in this report took place downstream from that crossing. Public access to these lands is not established, however dirt roads and historic railway beds remain intact in Halawa Gulch and were used to access the *makai* portions of the *ahupua'a* with the permission of landowners.

Lower Halawa Gulch denotes the portion of Halawa valley, as cut by Halawa Stream, below Route 270 (Figure 2). Two detailed study areas were established in the lower gulch. The archaeology reviewed in this report, the first of the two detailed study areas, was conducted between the stream's terminus on the coastline at Hapu'u Bay and where it first narrows to an incised drainage with no valley floor (Figure 3) less than one kilometer upstream. This *mauka* (mountain/upland) boundary is otherwise ascertained on the ground where a cut but otherwise unimproved dirt roadbed leaves stream-level to climb up the northwestern side of the gulch. On the valley floor heading downstream, this roadbed runs directly alongside Halawa Stream and crosses it, and at this point one can look upstream to view a substantial *lo'i* (terrace) complex that is the focus of this report and which contains the archaeological features subsequently discussed.

Figure 1: The Kohala Peninsula and the location of Halawa *ahupua'a*

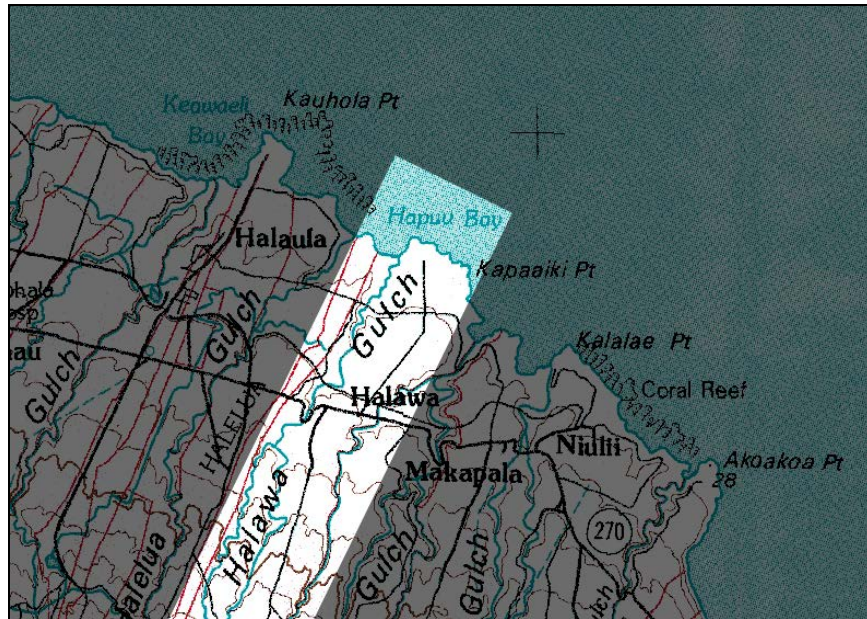


Figure 2: Halawa Gulch (scale = 1:100,000, north/south along vertical axis)

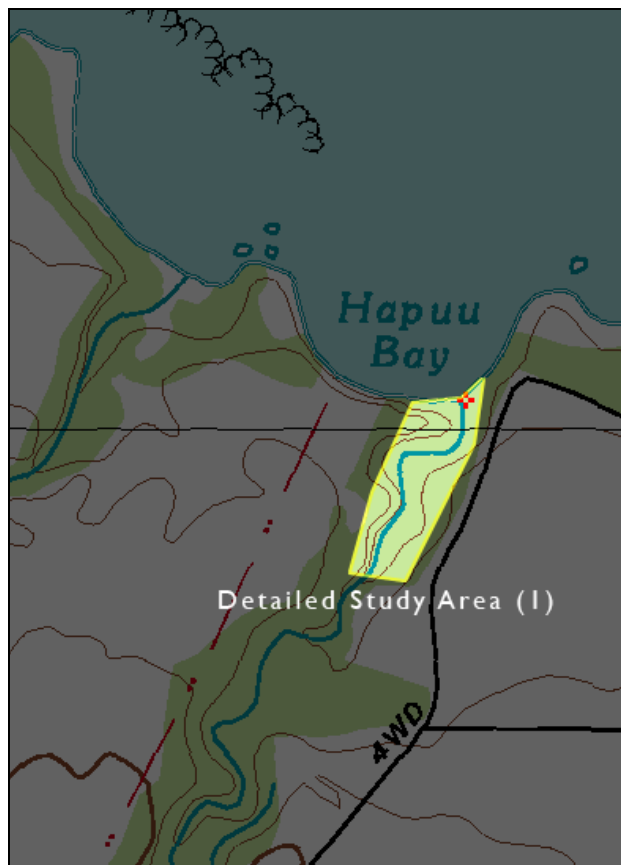


Figure 3: Area of archaeology investigations (scale = 1:24,000, north/south along vertical axis)

Physical Environment

Characterized by a distinctly windward context, the *ahupua'a* of Halawa is found on the northeast coast of the District of Kohala, located on the northernmost tip of Hawai'i Island. Running far up the side of Kohala Mountain from the rocky bay of Hapu'u, it well represents the traditional Hawaiian concept of *ahupua'a* for encompassing a diverse, and incrementally varied, set of environmental habitats and corresponding resources. Comparatively with respect to neighboring areas, the Halawa *ahupua'a* flaunts considerable quantities of water and sizeable areas of fertile land – two important variables for subsistence-based settlement.

The greater region receives a varied amount of rain during the year that is largely dependent on elevation, averaging around 59.46 inches at the coast, and 200 inches near Pu'u Kahena in the Kohala Mountain range. In general, the majority of the precipitation falls between November and March. The topography of the region consists of gentle slopes and deeply incised gulches, with a coastline of high headlands, rocky points, and cobble-lined embayments. The oldest geological strata on Hawai'i Island, the Hawi formation, and the Pololu formation, underlie the sedimentary deposits of the area.

Prior to Polynesian colonization, the landscape supported an endemic and indigenous mesic forest. Today, exotic vegetation predominates on all landforms. This includes ironwood, guava, lantana, and a variety of herbaceous climbing plants. In the historic period most of the open *mauka* region was used for sugarcane cultivation, and native stands of *ohia*, pandanus, and *kukui* were largely extirpated. Isolated populations of these plants survive in the gulches. Other cultivated plants and trees such as breadfruit, banana, mango, ti, *hala*, *hau*, and ginger were retained in association with gardens and house sites.

In most recent times, Lower Halawa Gulch has been cultivated for macadamia nut production. At present, a sizable portion of the valley floor remains occupied by groves of these trees, and harvesting was active in 2006. There are plans to develop a market for the nuts from Halawa, as well as surrounding valleys such as I'ole, as an organic product. The adjacent escarpments and ridgetops, following the halt of sugar cane production in modern times, have in many cases been repopulated by varied stands of vegetation or are maintained as grazing land for cattle or other livestock.

Oral History

Today Halawa Gulch, and the *ahupua'a* of Halawa more generally, are less prominent culturally and economically than they have been in the past. With abundant natural resources and a notable lineage of chiefs, Halawa was one of Kohala's most prominent lands in prehistoric times. This trend continued unabated into historic and modern phases, though this is not readily observable today given the district's contemporary state of relative seclusion.

Halawa likely attracted initial settlement with its bountiful natural resources. Whether by traditional agricultural practices, such as the construction of *lo'i* and the production of *kalo* (taro), or by the planting and harvesting of *ko* (sugar cane), Halawa long maintained itself as a prosperous regional location and a hub for politics, commerce, and culture. In 1835, at the time of the first missionary census, Halawa's permanent residents numbered 214 (Schweitzer and Gomes 2003:33) and opportunities for employment attracted immigrants from far-away corners of the world.

It was with the collapse of Kohala's sugar cane industry in the second half of the 20th century – and the rapid dispersion of its infrastructure and people – that Halawa slipped back into a quiet slumber, becoming now a place where an industrious past is largely forgotten in the relative isolation of the present. With the exception of a few storefronts along Route 270, no services or industries remain based in the district and employment is only to be found in nearby towns of Kapa'au and Hawi, or further afoot in Waimea or Kawaihai.

Accounts collected by Fornander (Fornander 1916-1920) indicate that in prehistoric times the district of Kohala unified following a series of battles led by the chief of Niuli'i, another valley that lies to the south and east of Halawa. Tomonari Tuggle (1988) suggests that this victory is representative of the dominance of the southern region of windward Kohala, encompassing an area from Wainaiia gulch to Awini Valley (which includes Halawa *ahupua'a*). Halawa as single district is undoubtedly most famous for its significance to King Kamehameha late in prehistory. Repeatedly during the course of his storied life, Kamehameha came to Halawa to rest, work, and plan. This was the district that he inherited from his parents (Ellis 1963) and so the lands of Halawa are the literal foothold from which he eventually exerted his tenure over the entirety of the Hawaiian Islands.

Kahmehameha left marks on Halawa that are still attributed to him today, several of which are within or congruent to the most recent archaeological investigations being reported upon here. At Kapanāia Bay – to the south and east of Hapu‘u Bay along the coastline – he cut a precipitous road across the cliff face, engineered for the purpose of easing access to the shoreline of one of his favorite places in all of the islands for surfing, swimming, and paddling (Kamakau 1991). A boulder, now famously known as the Kamehameha Rock, was said by Kohala’s late kupuna Marie Solomon to have been carried by him up from the bay (Schweitzer and Gomes 2003:35), now resting near Route 270 (dropped in its current place by an ill-fated attempt by the sugar company to move it). The king, a man who developed and tended his own *lo‘i*, also reputedly played a leading role in the maintenance and improvement of agricultural features in Halawa Gulch and the neighboring valleys, including extensive hydraulic undertakings such as the construction of *au‘wai* (irrigation ditches) and water tunnels.

Kamehameha’s life in North Kohala is also closely linked to a number of ceremonial sites that have been previously documented. This would include the *heiau* of Mo‘okini, near his birthplace at Kokoiki but also several smaller constructions in Halawa including Hale o Ka‘ili and Kapalama (see Stokes 1991). Hale o Ka‘ili (Hare o Tairi) was mentioned by Ellis (1963) to be the family *heiau* of Kamehameha, possibly dedicated to war. Finally, Hapu‘u is listed as the site of a battle that took place between Kamehameha and Kahekili, the chief of Maui, which Kamehameha won, previous to his string of successive military victories that led to his conquest of the Hawaiian Islands.

Land Use

The Kohala district was prosperous and densely populated in prehistory. Like much of Hawai‘i, the population was dispersed across the landscape into small villages, and subsistence was based upon the cultivation of taro and sweet potato (*kalo*, *u‘ala*), the gathering of native and introduced tree crops (papaya, bananas, mountain apple), and fishing. In Kohala, farmers produced large amounts of *kalo* in the gulches, and also atop some of the ridge tops. In his visit through the area in the early 1800’s, Ellis described the windward side of Kohala as ‘kept in good order, and well stocked with potatoes and other vegetables’ (Ellis 1969).

The introduction of European diseases in the 18th century resulted in a massive population decline in the Hawaiian Islands, including the windward portion of the Kohala District. A missionary census in 1832 recorded 8,014 individuals living in the area, and this number dropped to 6,175 over the next 3 years (Tomonari-Tuggle 1988). Populations were further dispersed following the land redistribution of the Great Mahele in the 1850s.

The cultivation of sugar cane in the region began with the creation of the Kohala Sugar Company in 1863. This company emerged under the influence of Euroamerican settlers in the region, in particular Rev. Elias Bond and James Wight. The first mill opened in the vicinity of Halaula, and a few years later a second mill was opened in Halawa, just mauka of the present-day location of Route 270. Subsistence farming continued in small garden patches in the gulches, but all of the larger agricultural systems for the production of *kalo* and *u‘ala* were abandoned and transformed into cane field by the late 1880s.

The need for workers fueled the influx of migrants to the region during the late 1800s and early 1900s. Workers from Japan, China, Okinawa, Korea, and Portugal settled in the area, and were stationed in small camps on the plantation. In 1906 the construction of the Kohala Ditch transferred water from Pololu Valley to Hawi, and also cut off the water from the intervening gulches. Additional camps were started in the region to tend the ditch. A railroad was also constructed that transferred sugar to the port at Mahukona. For most of the inhabitants of Kohala, life centered around work at the mill or in the fields, with all goods bought at the local stores. Small parcels of land were leased for family gardens, and the gulches were often used for pasturing cattle. This lifestyle continued in the area until 1976, when the last mill in Kohala closed.

Previous Archaeology

The largest archaeological investigation in the region was conducted by David Tuggle and Tomonari-Tuggle, who ran a series of archaeological field schools in Pololu, Honokane, and Honopue valleys in the early 1970s. Only a small number of publications resulted from this work (Tuggle and Tomonari-Tuggle 1980); however, the research was scrupulously done and resulted in a vast collection of detailed notes, unpublished reports, maps, and manuscripts. These documents are on file at the Department of Anthropology, University of Hawai‘i at Manoa. Although their research did not extend to Halawa, they

documented a sequence of early deposits along the coastline of Pololu, (ca. AD 1200-1500) and a complex habitation and agricultural system in the interior of the valley. Undoubtedly, the chronology of Pololu reflects much of Kohala, with colonization and settlement of the landscape ca. AD 1000-1200.

Other archaeological investigations in the area include a survey of the Bond estate by Wolforth (Wolforth 2003), coastal areas in Waiapuka (Erkelens and Athens 1994), and areas in association with the old mill of Halaula (Erkelens and Athens 1994). Wolforth's report covers the land in association with the historic Girl's School on the Bond Estate, and also the prehistoric agricultural lands on 'Iole *ahupua'a*. The two reports by Erkelens and Athens focus on plantation-era properties, historic graves, and a late prehistoric early Hawaiian component.

Also of note is a survey map created for the Kohala Sugar Company, which details the location of *lo'i* within the gulches of Niuli'i, Makapala, and Waiapuka *ahupua'a*. This map was produced in 1935, and indicates the presence of agricultural features in nearly every drainage along Kohala's windward coast, including Halawa.

Methods

The archaeological investigations at Halawa Gulch were carried out between June 19th and July 7th. Julie Field, Ph.D., and Michael Graves, Ph.D. served as the principle investigators for the project, while Jesse Stephen, M.A., Brett Sheperdson, M.A., and Timothy Rieth, B.A. served as teaching assistants and crew chiefs. The 18 students that participated in the field school were mostly undergraduate students from the US Mainland, and also from the UH University System.

As these investigations were part of a field school, the work was performed at a slow pace, and emphasized student instruction and monitoring. The least invasive techniques for archaeological investigation were also emphasized, and to that end there was only a limited amount of excavation conducted at each site. Work began with clearing vegetation in order to facilitate survey and mapping, and this was focused on two distinct areas within Lower Halawa Gulch. Overhanging *hau* branches, smaller plants, and climbing vines were cut and trimmed back. Each area was then surveyed for features.

In Lower Halawa, work was initiated at one sizable agricultural complex – now referred to as the Makai Terraces. Datum points were established within the study area, and small three to four person crews were assigned to varying tasks. A total station was used to collect several sets of data, such as an elevation transect in order to plot a profile of the terraces as they slowly climbed up the valley floor. Using instrumentation to establish a coordinate system, points were shot in with the total station in order to begin creating a digital terrain model of the landscape.

Additional teams applied other mapping techniques complementarily, such as autolevel or tape and compass, and tied in their data by mapping to or from established datums. Four test excavation units were proposed, started, and dug. Test unit (TU) 1, 50 x 50 cm, was placed against the southern wall of feature/terrace two. TU 2, 50 x 50 cm, was placed on the western side of Halawa Stream on top of a foundation and hypothesized habitation terrace. TU 3, 1 m x 50 cm, went in against the eastern wall of feature/terrace three. TU 4, 50 cm x 50 cm, was placed between two parallel, embedded, upright rocks up above and east of the agricultural terraces. All features were numbered, mapped, and described using feature forms.

Test units were excavated with trowel and picks, and used arbitrary 10cm levels within natural layers. Plan view drawings and photos were taken at the end of each level. Artifacts that could be identified and collected in situ were plotted onto the plan view maps. All fill material was screened through 1/8th inch mesh, and any artifacts found in the screens were collected as a bulk sample for the level. Sediment characteristics were described using soil touch tests (Thien 1979), and Munsell color charts. Following each excavation, a stratigraphic profile was generated, and representative photographs were taken. Following the excavation, all sediment was replaced into the units, and corner datum stakes or nails were removed.

Chapter 2: Results

This chapter presents the results of field mapping, feature descriptions, and excavation in Lower Halawa Gulch (*makai* complex). Of note is that separate activities were undertaken at “The Bridge Site” upstream – they are not included in this report. The Lower Halawa Gulch *makai* complex consists of eight features; six distinct *lo‘i* (features 1-6), one possible *au‘wai* (feature 7), and one dry laid stone foundation (feature 8).

Field Mapping Results: Lower Halawa Gulch, the makai complex

Figure 4 depicts presents a planimetric perspective of the *makai* complex in Lower Halawa Gulch. The terraces are oriented roughly North-South, and extend for approximately 72 meters. Figure 5 reveals the general topography of the landscape, and also shows in detail the change in elevation between the terraces as they descended downhill. At its highest point, the *makai* complex lies at 34 meters above sea level. At the other end, it drop to 30 meters, allowing for a total elevation change of 4 meters across the six terraces.

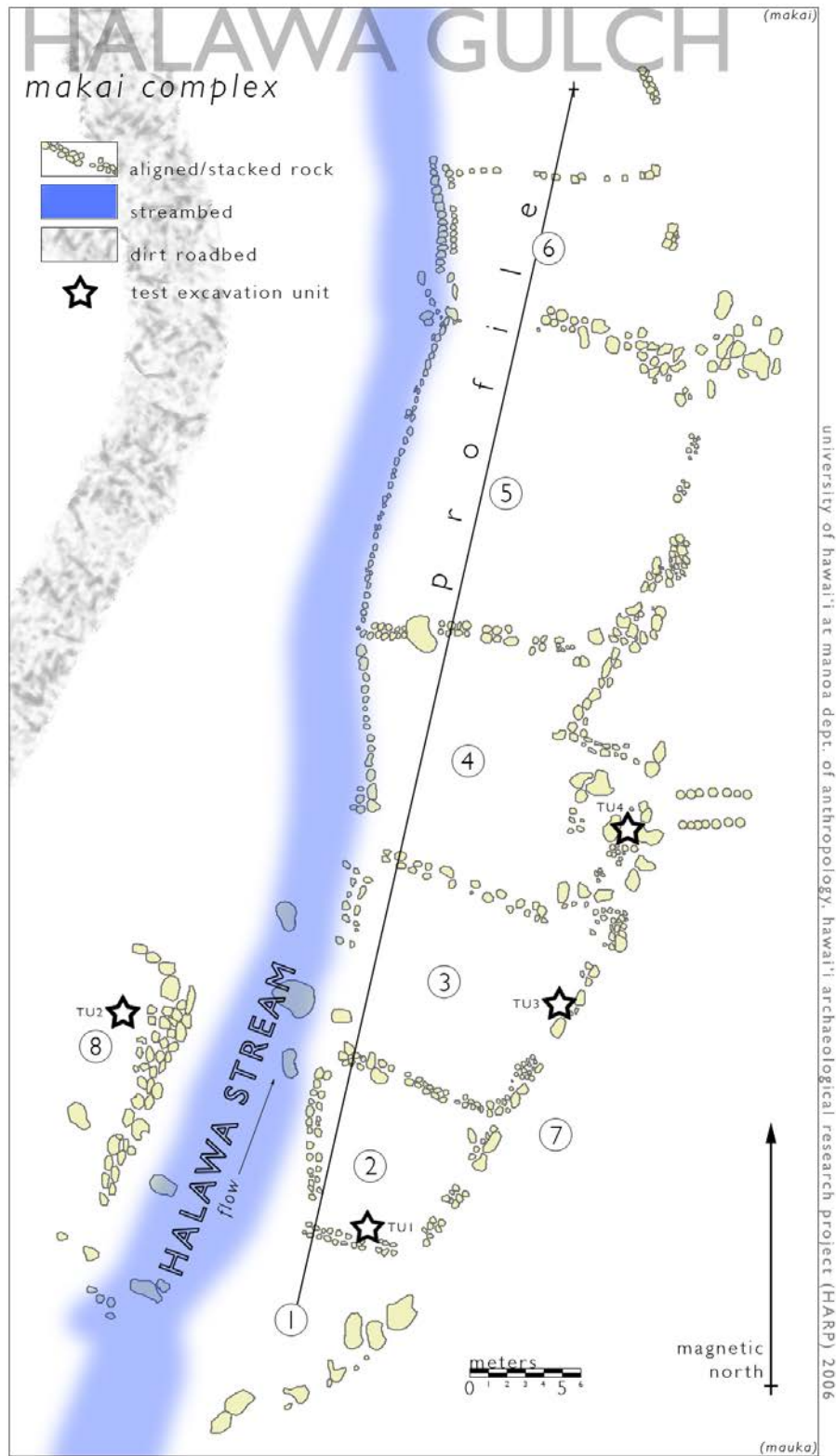


Figure 4: Planimetric map of Lower Halawa Gulch, makai terraces, features numbered

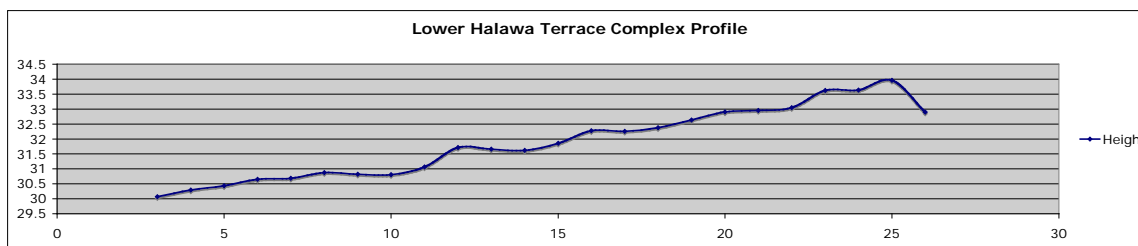


Figure 5: Profile of Lower Terraces from 24 points

Feature Descriptions

Feature 1

Directed by the natural constriction of the streambed as it advances upslope, this terrace occupies the southernmost area of level ground in the complex. It measures 10.3 meters in length, 7.9 meters wide, and 1.9 meters high. With the narrowing of the drainage, this feature's surface area is somewhat more triangular than rectangular; in this respect it is an anomaly from the remainder of the terraces, which each have four distinct sides.

Along the west wall of this terrace, or the eastern bank of Halawa Stream, runs a retaining wall of stacked stone. In just a few places, courses of 3-5 stones remain intact, but overall this retaining component is in poor condition. Erosional processes seem likely to have been amplified by flooding episodes – this particular wall would bear the brunt of any heavy flows in, and over, the adjacent streambed. Heavy vegetation is also affecting the integrity of the terrace's western wall – the roots of trees and lesser vegetation are thoroughly embedded in the stonework.

The southeastern edge of the terrace abuts a natural rock outcrop. A modest cliff of 3-6 meters depending on where it is measured, the outcrop shows no indications of shaping or modification by humans. Of some importance, however, is the base of the outcrop – where the course of an *au'wai* would have had to have run (discussed later as feature 7), if one was employed to deliver water to the complex downslope as the valley bottom opens up. Several large boulders, likely originating in the rock outcrop, lie proximate to the base of the cliff, another testament to the ongoing erosion at this feature.

The potential of this terrace for agricultural production is unclear. Due to its position at the upstream end of a closing drainage, it may or may not have been employed as a fully functional *lo'i*. Regardless, its construction and configuration are observably related to the greater complex – irrespective of whether or not it was a primary growing surface.

Feature 2

Moving downslope and trending north-northeast, a second terrace is encountered. It measures 10.7 meters in length. Once again constrained by Halawa Stream to the west and the valley escarpment to the southeast, it spans the width of the eastern side of the valley floor. It exhibits definitive walls on four sides. To the north, a retaining wall drops away to the next terrace. To the east, a retaining wall (30-78 cm) climbs up to the level of the potential *au'wai*. To the south, a retaining wall (30-90 cm) climbs up to feature one. To the west, a readily observable stacking forms a retaining wall alongside the stream.

Again, erosion is an active agent. Large trees in both the northern and western corners have displaced many of the stones and there are gaps in the wall, possibly the result of grazing cattle moving over the stacked rock with errant hooves. Wall-fall extends into the interior of the feature for 1 – 1.5 meters. Basalt stones, the primary construction agent, appear to be utilized as in situ elements – often when they are very large in size – as well as through transport, though likely from the immediate vicinity.

One small test excavation unit was placed near the center of the southern retaining wall in an attempt to recover charcoal beneath the wall stones for potential radiocarbon dating. The agricultural

utility of his feature is highly evident – it's appears to be the first in a sequence of five fairly typical terraces that would have been engineered to facilitate wetland farming.

Feature 3

Continuing downstream, the terraces persistently increase in size along most every dimension. At feature three, the terrace's retaining walls incorporate higher quantities of coursed stone, in some places exceeding 8 levels. Again, the feature exhibits four definitive retaining walls. The northern wall, a retaining feature that is shared by feature 4, is constructed with noticeably larger boulders. In addition, it appears that smaller rocks may also have been used as fill or a sort of irregular mortar.

Similar causes and effects of erosion appear to be having an affect on this component of the complex as well. Significant damage has been caused by processes that collapse walls, but also by parent material eroding out of the eastern escarpment and covering the feature with sediment.

With its sizable rectangular shape and completely flat and open interior, this terrace is well engineered for agricultural practices. The suspected *au'wai* continues to run along its eastern edge, above a retaining wall, parallel to the contours of the terrain.

Feature 4

In the heart of the complex lies feature four. Measuring 15.6 meters in length and 15 in width, it is another highly probable agricultural terrace. It is delineated by wall construction on all four sides, though its eastern wall is punctuated by a corner from a possible structure or other construction immediately upslope. This eastern retaining wall is a tall wall, reaching heights of 3.8 meters in places. The top of the wall is lined with large boulders that are angular in shape and standing upright, indicators that there may have been a ceremonial or habitation feature integrated into the small amount of open space above the terraces.

This notable wall beings on the northern border of the terrace, about four meters from the northeast corner. From there it makes a right angle turn and heads south, down the eastern edge of the feature. Wall-fall has occurred in many sections of the wall. In areas where wall-fall has not accured, there are large clusters of medium-small rocks that make up the bulk of the wall's mass.

The retaining wall along the terrace's southern border is approximately 0.4 meters tall. In the northeastern corner, where the two walls meet, it is about 1.2 meters tall. The northern border of the terrace consists of a retaining wall that drops approximately one meter below the level of the terrace and serves as the southern boundary of terrace five. The wall consists of medium-sized stones stack 2-4 courses high.

The typical rectangular layout of this terrace is interrupted on its eastern side by a mound of soil that rises approximately two meters above the level of the terrace and runs approximately 4 meters north/south and 2.5 meters east/west. The soil mound is topped on its eastern side by two parallel rows of medium-sized stones running north/south the length of the mound and extending an additional four meters south along the top of the terrace's eastern wall.

The interior of feature four is characterized by a very flat surface composed of fine grain silt.

Feature 5

The fifth terrace, though the largest, is not as robustly constructed as feature four. It still, however, does display the same general range of techniques summarized above. The south wall incorporates small and medium boulders stacked 2-3 courses high on the western half, and also uses a large (1.2 meter) in situ boulder as a foundation piece. On the eastern half of the southern wall, there are four sections of collapsed rock. The eastern wall, in its southern half, has intact portions approximately 2 meters above the level ground. It incorporates medium/large boulders with small rocks and cobbles, many of which are angular basalt. There is a four meter section of collapse near the corner, followed by two meters of stacked wall 6-7 courses high. The remaining terrace edge is mostly earthen slope with a small section of stacked rock. The northern walls runs along a roughly straight line and is built using small to medium bouders that remain stacked in a few places, but are highly deflated. The western wall, in the northern half, is a straighn alignment of small boulders, 1-2 courses high. The southern half of the wall continues along the same path.

The interior of feature five is characterized by a very flat surface composed of fine grain silt, classified as Munsel 10yr2/1: clay/silt and humus.

Feature 6

The final terrace, furthest downstream, is of semi-rectangular shape, without much slope. Its southern terrace wall connects to feature five, and is composed of 1-2 stacked stones forming a wall less than ½

meter high. There is little to no level difference between features five and six. To the west there is an eroding retaining wall along the bank of Halawa stream. To the east, the escarpment of Halawa gulch climbs away, but in the southeast corner 3-4 large stacked boulders remain. There is a large gap between these rocks and the northeastern wall, possibly due to erosion. In the northeast corner, medium-sized rocks are stacked 2-3 courses high. To the north, there is a small rock alignment. There is no stacking present.

Feature 7

Pending further analysis of the soil samples collected on the six terraces, there will remain some question as to whether or not these were irrigated agricultural parcels. Excavation did show the soils in the terrace interiors to be of high clay concentration, with humus and alluvial silt intermixed. Other samples were collected at Keokea, a known irrigated site, which might be useful for comparative purposes in the future.

However, given their configuration, construction techniques, and location in Halawa Gulch, these lots could be fed by a canal, or *au'wai*, in a relatively straightforward manner. Diverting from Halawa Stream just above a small waterfall, a canal could hug the side of the gulch where it opens up in order to carry water to a shelf above the first four terraces. Delivery would be gravity fed.

The archaeological feature itself is an alignment of angular and round cobbles running in a single line parallel to the retaining walls of the terraces. However, it is a distance of 14 meters from the juncture of the stream and bedrock outcrop to the beginning of a discernable rock alignment. There are 1-2 courses of stone visible, but erosion is highly evident, and other courses may be obscured by the decomposing slope directly overhead. Many stones appear to be displaced and scattered along the area between the east retaining walls of the terraces below and to the west. A linear configuration of stonework persists, running across the top of the terraces.

Feature 8

Located on the western side of Halawa Stream, this drylaid stone platform measures some 11 meters long and 4 wide. It is constructed out of relatively large basalt boulders, creating a surface that appeared habitable. It is a retaining feature, flush with the original ground form on the upslope side, but filled downslope (3-4 meters up from its foundation). Other features that may suggest habitation are to be found, most notably cupboards at its base. As mentioned above, a test unit (TU 2, indicated to left with a rectangle) was placed on top of the plausible habitation surface, and its findings are summarized below.

In contrast to the eastern bank of Halawa Stream, the western bank had far less evidence of human activity. Feature eight was mapped in relative isolation – there were no congruent features, such as was the constant case across the stream. It should be noted that the western escarpment has a high percentage of highly sloped surface area, and that the presence of a dirt roadbed reminds that the landform's prehistoric and early historic integrity has been compromised. Any material remains that may have once existed on the western bank further downstream – still within the detailed study area – would have had a high chance of destruction through vehicular, livestock, or other disturbances.

Test Unit Excavations

Material	Quantity
Ceramics	5
Charcoal	26
Obsidian	10
Bone	4
Metal	7
Seeds	2
Glass	4
Lithics	5
Other	3

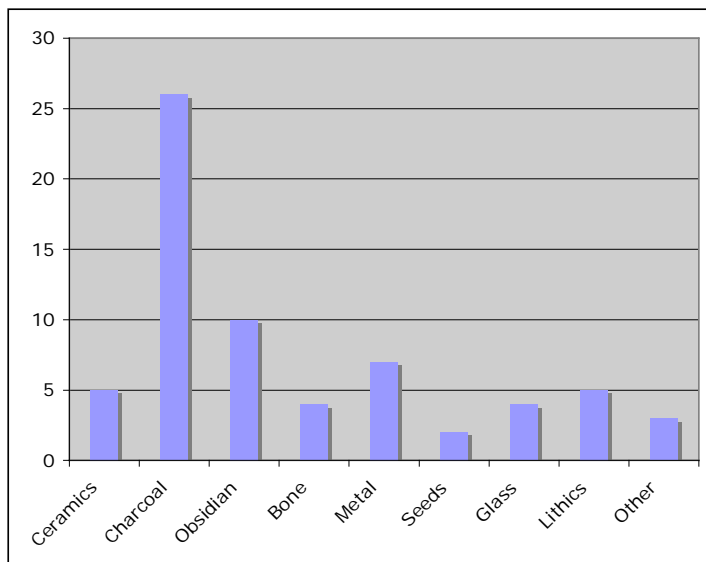


Table 1 & Figure 6: Totals from Artifact Bag Inventory

TU 1

Excavated from the 12th to the 14th of July, this excavation unit was placed directly against a dry laid stone wall associated with one of the terraces (feature 2, south wall) in the Lower Halawa Gulch *maikai* complex. The unit was excavated to a depth of 60 centimeters below the original ground surface. A summary of the materials recovered follows, see appendix for level maps showing artifact locations:

Surface: Sediment type was clay (Munsell 10 YR 211) with estimated 1% silt content

0-10 cmbs: Organics, clay, removed some surface rock, minimal silt

11-20 cmbs: Clay, small rock particles, increasing silt (Munsell 5 YR 313), charcoal, organics

21-30: Large rock on southern wall, abundant coarse cobbles (Munsell 5 YR 312), charcoal, red ochre, one basalt/obsidian flake

31-40: Angular cobbles suspended in clay (Munsell 10 YR 312), obsidian flakes (3), charcoal

41-50: Silt increasing, but still a creamy clay (Munsell 7 YR 312), charcoal, 2 obsidian flakes

51-60: Sterile, sub-surface C horizon soils (7.5 YR 314), increasing silt, pebbles, iron-rich angular stones

Ellis, W. (1969). Polynesian Researches. Rutland, Charles E. Tuttle Co.

Erkelens, C. and J. S. Athens (1994). Archaeological inventory survey of the seaward portions of Waiapuka, Makanikahio 1, and Makanikahio 2, North Kohala, Hawaii. Honolulu, International Archaeological Research Institute.

Erkelens, C. and J. S. Athens (1994). Archaeological Inventory Survey, Kohala Plantation Village, North Kohala, Hawaii. Honolulu, International Archaeological Research Institute.

Kamakau, S. M. (1991). Ruling Chiefs of Hawaii. Honolulu, Kamehameha Schools Press.

Stephenson, L. K. (1977). Kohala Keia: Collected Expressions of a Community. Kapa'au, Kohala Library Fund.

Thien, S. (1979). "A flow diagram for teaching texture-by-feel analysis." Journal of Agronomic Education 8: 54-55.

Tomonari-Tuggle, M. J. (1988). North Kohala: Perception of a Changing Community. A Cultural Resource Study, Division of State Parks, Outdoor Recreation and Historic Sites, Department of Land and Natural Resources.

Tuggle, D. and M. J. Tomonari-Tuggle (1980). "Prehistoric agriculture in Kohala, Hawaii." Journal of Field Archaeology 7: 297-312.

Wolforth, T. R. (2003). An Archaeological Inventory Survey for the Proposed New Moon Retreat Center in 'Iole, North Kohala, Hawai'i (portions of TMK: 5-3-5:5 and 10): Investigations into the Changing Patterns of Water Control in teh Uplands of 'Iole. Honolulu, HI, Scientific Consultant Sercies Inc.