Kukuinui

The land division of Kukuinui is located across the stream from Makea. The survey took place on portions of TMK: 2-5-9-005:016 and -006:002 (see Figure 3.16 *i*). The former parcel is 3 acres in area and owned by the Francis Brown Trust. Approximately 0.9 acre of this property was surveyed. The latter parcel is the 8,540-acre plot owned by the State. Approximately 0.3 acre of this parcel was included in the survey block. Two *lo'i* complexes were identified in Kukuinui (see Figure 3.8). Kukuinui Makai is a smaller complex on the north, located within the survey block, and Kukuinui Mauka is an extensive system on the south, outside the survey area (Figure 3.53). The Kukuinui Mauka system was not intensively surveyed and was described on page 20. Only the Kukuinui Makai system will be discussed here.

Kukuinui Makai

The Kukuinui Makai complex is composed of at least 16 terraces on a small flat of land on the east side of Wailau Stream roughly 450 m inland (Figure 3.54). The east side of the complex is bounded by a possible historic road cut, and the cliff leading to Kukuinui Ridge is east of the road. The Wailau Trail snakes through the west side of the complex, eroding the terraces it passes through. The entire west edge of the complex has fallen into the stream, and wall faces are exposed where they meet the stream bank. Two of these exposed faces were excavated. Three additional excavation units were opened, for a total of five excavated units in the complex. Features KU-1 through KU-16 are all terraces. No *'auwai* could be discerned; it is likely that the *'auwai* once flanked the west side of the complex and has since eroded into the stream. Most of the complex is blanketed in *hau*. Despite the vegetation cover and the erosion on the west side, terraces are in fair to good condition.

Feature KU-1 is located on the east corner of the system. This terrace measures 25 m long and 11 m wide. The east wall is composed of stones averaging 20 cm in diameter stacked three courses to 55 cm tall.

Feature KU-2 steps up from KU-1 on the west. This terrace is 15.5 by 8 m in area and is open to terrace KU-3 on the northwest corner. A 7 m-long mounded stone wall is on the northwest side (Figure 3.55) and a large Java plum grows through the east wall.

Feature KU-3 steps up from KU-2 on the west. This terrace is 11 m long and 10 m wide and is open to KU-2 on the northeast corner. The east wall is composed of three courses of 25 cm-diameter stones stacked to 60 cm tall.

Feature KU-4 is a roughly pentagon-shaped terrace that steps up from KU-3 on the west. It measures

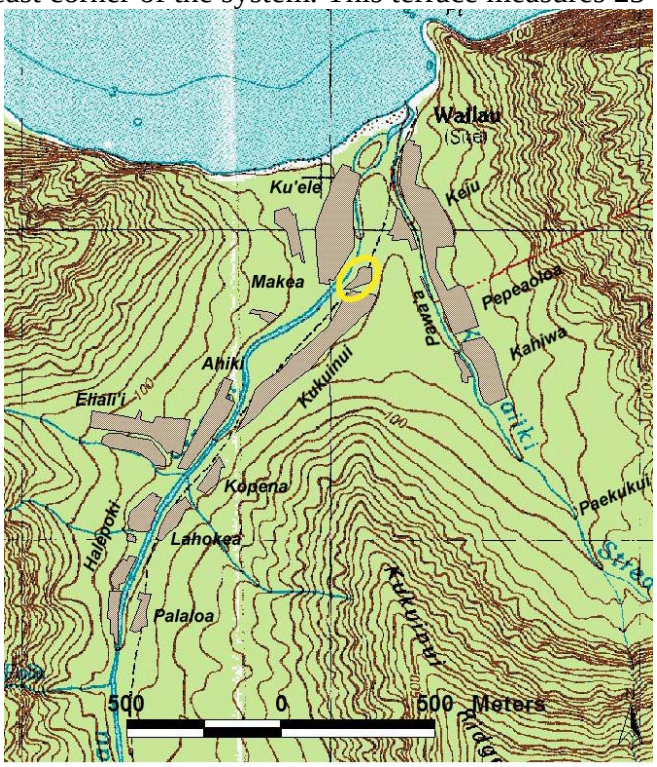

Figure 3.53: Location of the Kukuinui Makai *lo'i* system.

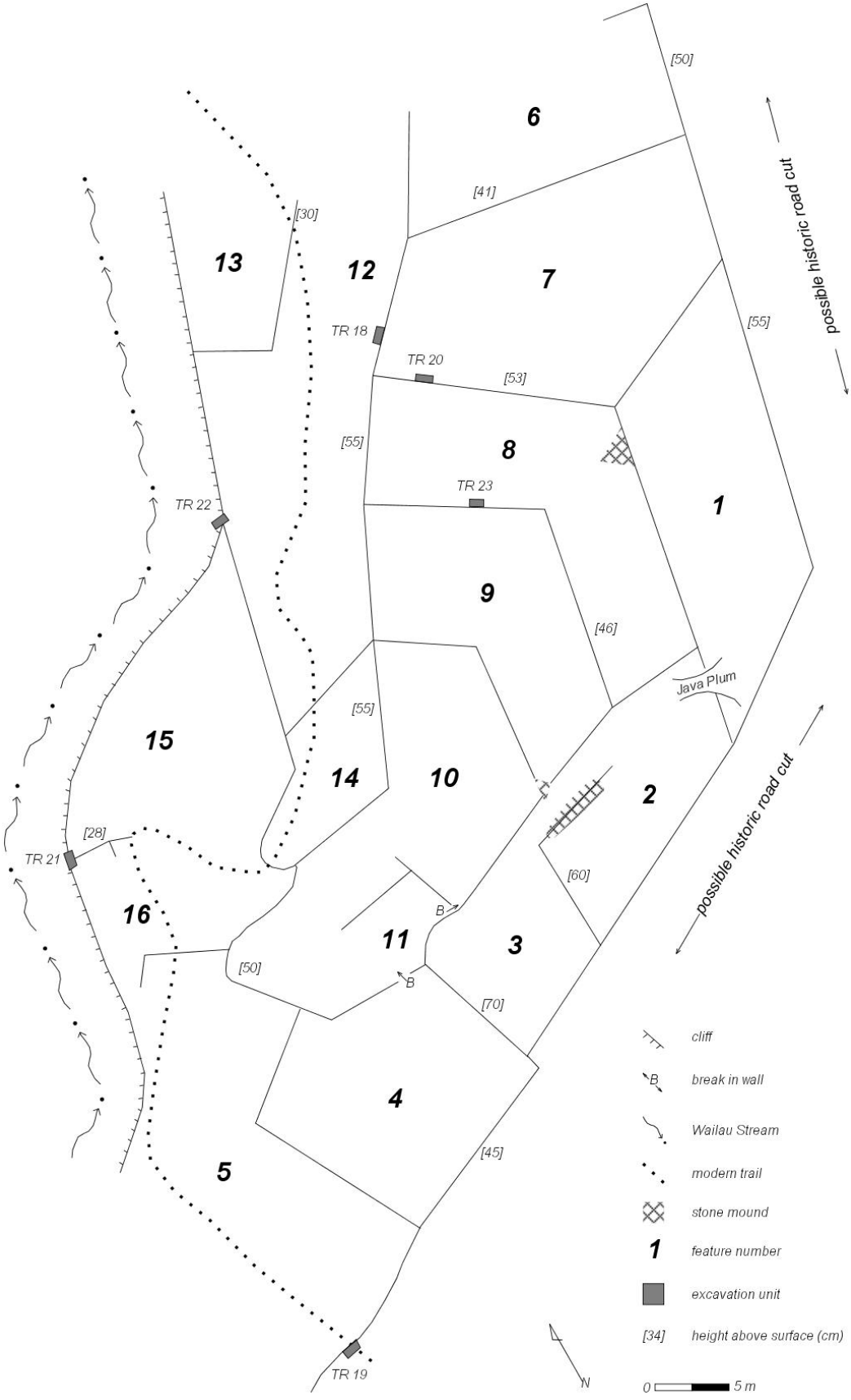

Figure 3.54: Schematic of the Kukuinui Makai *lo'i* system.

15 by 14 m in area. The east wall is 70 cm tall, composed of stones averaging 30 cm in diameter, stacked three courses. The south wall is composed of 20 cm-diameter stones stacked two courses to 45 cm tall. The north wall exhibits a break for drainage into the adjacent terrace, KU-11.

Figure 3.55: Feature KU-2, mounded stone wall, facing northwest.

Feature KU-5 steps up from KU-4 on the west. The terrace was probably once *L*-shaped, but the western portion has eroded into the stream. In its current eroded state, the terrace measures 20 m long and 8.5 m wide. The Wailau Trail cuts through the north and south walls, eroding them slightly. The north wall is composed of 25 cm-diameter stones stacked three courses to 50 cm tall. TR 19 was placed outside the south wall where the trail exposed the wall face.

Feature KU-6 is located on the northeast corner of the system. This terrace is 19 m long and 9 m wide. Only a 3 m-long section of the north wall remains. The other walls are intact. The east wall is made up of stones averaging 30 cm in diameter stacked two courses to 50 cm tall.

Feature KU-7 is a pentagon-shaped terrace that steps up from KU-6 on the south. It measures 25 m at its longest point and 15 m at its widest point. The north wall is composed of 15 cm-diameter stones stacked three courses to 41 cm tall. TR 20 was excavated within this terrace, along the south wall.

Feature KU-8 is an *L*-shaped terrace that steps up from KU-7 on the south. The two extensions of the *L* are 18 m long and 17.5 m long, and the width is roughly 8 m. The west wall is constructed with 15 cm-diameter stones stacked four courses to 55 cm tall. A stone mound makes up part of the east wall. The mound is roughly triangular and measures 2.5 by 2.5 m in area.

Feature KU-9 is an *L*-shaped terrace that steps up from KU-8 on the south. The two extensions of the *L* are 17.5 m long and 12.5 m long, and the width of each extension is roughly 8 m. The east wall is composed of three courses of 20 cm-diameter stones stacked 46 cm tall.

Feature KU-10 steps up from KU-9 on the south. This is an irregularly-shaped terrace that is open to feature KU-11 on the southwest. This feature measures 16.8 m long, 10 m wide, and exhibits a 1 by 1 m triangular stone mound on the east corner. Construction of the other walls is similar to that of terrace KU-9.

Feature KU-11 steps up from KU-10 on the south. This is an irregularly-shaped terrace that is open to feature KU-10 on the southwest corner. The terrace measures 12 m by 5.5 m in area, and construction style is similar to that of terrace KU-9. A break in the east corner of the terrace allows drainage into the adjacent terrace, KU-10.

Feature KU-12 steps down from terraces KU-6 through KU-9 on the west. The northeast corner of the terrace is open, with no wall, and the Wailau Trail runs through the feature, crossing over its north and south walls. Much of the west side of this terrace

has been eroded by the stream. The terrace measures at least 23 m long and 11 m wide. The east wall is composed of four courses of 15 cm-diameter stones stacked 50 cm tall (Figure 3.56). TR 18 was excavated along the east wall and TR 22 was placed where the west wall eroded into the stream bank.

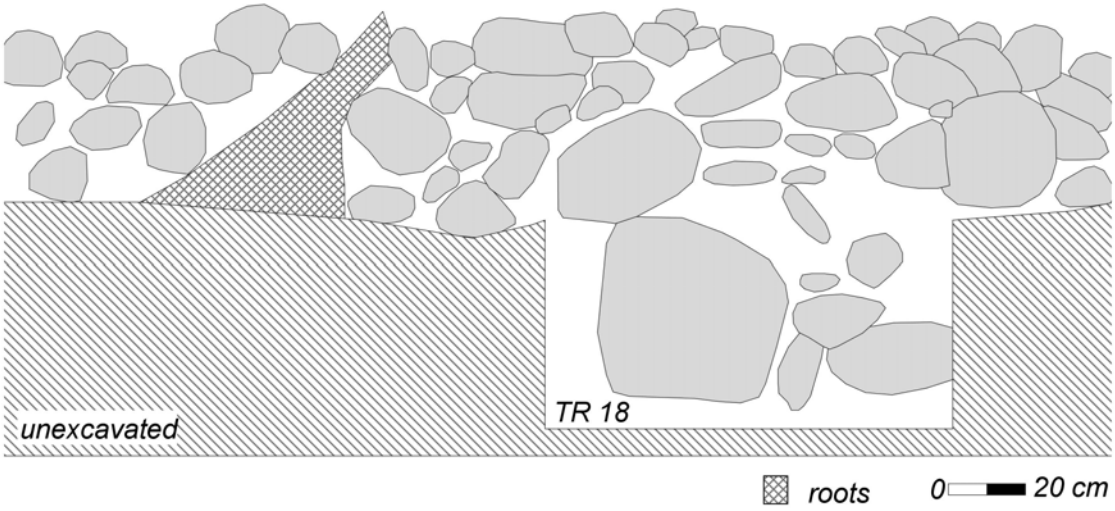

Figure 3.56: Terrace KU-12 portion of the east wall, east face profile near the north end of the wall.

Feature KU-13 steps up from KU-12 on the northwest. The north wall has been eroded by the Wailau Trail, and the west wall has fallen into the stream, leaving only the southeast corner of the terrace intact. The length of this terrace is at least 10.2 m and the width is at least 7.5 m. The east wall is composed of one course of stones averaging 20-30 cm in diameter.

Feature KU-14 steps up from KU-12 on the south. This irregularly-shaped terrace has a rounded west corner and measures 9 by 7.5 m in area. The Wailau Trail runs through the center of the terrace. Wall construction is similar to that of terrace KU-12.

Feature KU-15 steps up from KU-12 and KU-14 on the west. This irregularly-shaped terrace is eroded by the stream on the west and open to feature KU-16 on the southeast. The Wailau Trail runs through the area where the southeast wall should be and may have contributed to the erosion of this wall. Construction style is similar to that of terrace KU-12. TR 21 was excavated at the point where the south wall collapsed into the stream.

Feature KU-16 steps up from KU-15 on the south. Only the northeast corner of this terrace remains; all other walls have been eroded. The terrace is at least 13 m long and 7 m wide; the total dimensions could not be discerned because of erosion. The small intact section of the north wall is composed of stones averaging 15 cm in diameter stacked three courses to 28 cm tall.

Kukuinui Discussion

Two *loʻi* systems were found in Kukuinui. The Kukuinui Mauka system was discussed in the reconnaissance section; only the Kukuinui Makai complex was described here. This small complex consisted of at least 16 terraces, most of them irregularly-shaped. Many of the terraces have been affected by erosion, and no *ʻauwai* could be discerned. An historic road borders the complex on the south and east.

Eliali‘i

A total of 4 acres were surveyed in Eliali‘i on TMK: 2-5-9-005-073 and 2-5-9-006:002 (see Figure 3.16 *g*). Parcel 073 is owned by the Scott ‘Ohana and is 11.067 acres in area. Parcel 002 is part of an 8,540-acre parcel owned by the State. The survey block of Eliali‘i can be divided into two discrete areas: a lower slope along a side drainage known as Waikane or Waiakane Stream, and an upper slope above the drainage. The upper survey block is adjacent to the lower block on the north (Figure 3.57). TMK: 2-5-9-005-073 lies entirely in the upper region, while TMK: 2-5-9-006:002 spans both regions. A *heiau* with various features surrounding it and a small *lo‘i* system are found in Lower Eliali‘i. A massive *lo‘i* complex and a small historic house platform occur in Upper Eliali‘i. Surface artifacts include a basalt chopping tool from Lower Eliali‘i and ceramic sherds and slate from the historic house site.

Lower Eliali‘i

The features in the Lower Eliali‘i survey block are roughly 900 m from the coast, positioned on a slope that runs down to the east, just *makai* of a small side stream, known as Waikane or Waiakane Stream (Oversize Figure 4). This stream begins as a fresh water spring that spouts out of the cliff face on the west side of the valley and runs down (east) to meet Wailau Stream. At the top of the slope is the “Heiau at Kanane” described by Stokes (1909), and miscellaneous features surround the *heiau* (Figure 3.58). *Lo‘i* terraces occur just downslope of these features and step down to the east, down the slope along the stream. In general, the features of Lower Eliali‘i are in fair to poor condition, although the east face of the *heiau* remains largely intact. Many of the *lo‘i* terraces are heavily eroded, possibly affected by flooding and by foot traffic on modern trails that cross the terraces. A few of the lower terraces are in good condition.

Vegetation in the area consists of mountain apple, guava, and *kukui* with an understory of ginger, clidemia, and various ferns. Notably large ti leaf plants grow around the *heiau* and surrounding features. Some *kalo* and *‘ape* grow naturally within the terraces, but these are sparse. The entire survey block of Lower Eliali‘i is situated within TMK: 2-5-9-006:002. Two test units were excavated in Lower Eliali‘i: one just outside the *heiau* and another within one of the lower *lo‘i* terraces (see Chapter 4). The only surface artifact recovered during the Lower Eliali‘i survey was a basalt chopping tool. It was found among a scatter of natural stones and cobbles upslope of terrace E-11, not associated with a particular feature.

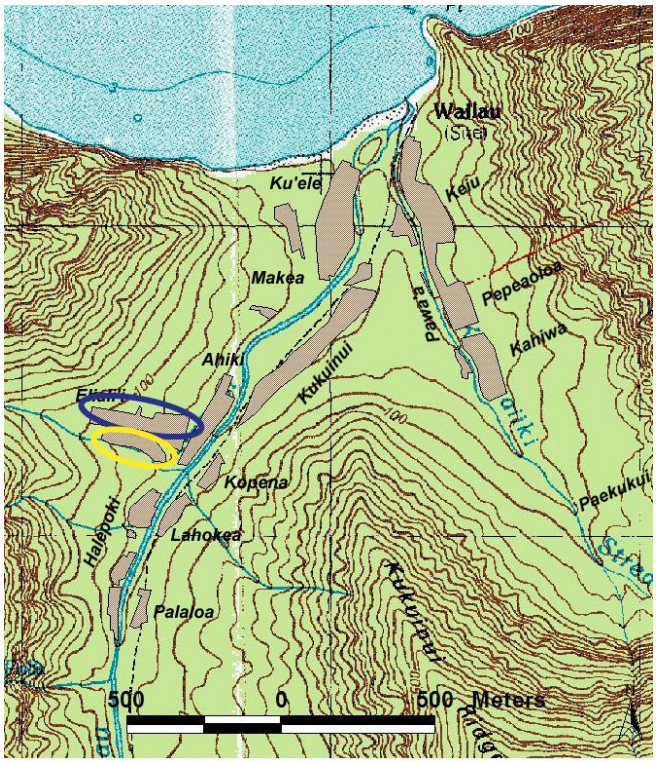

Figure 3.57: Location of the Lower Eliali‘i *lo‘i* system, in yellow, and the Upper Eliali‘i *lo‘i* system, in blue.

Figure 3.58: Feature E-1 *heiau* and surrounding features, plan view. See Oversize Figure 4 for the relationship of these features to the Lower Eliali‘i *lo‘i* complex.

Heiau and Surrounding Features

Feature E-1 is the *heiau*. Stokes called this the “Heiau at Kanane” and described it as “a platform, partly demolished” (Stokes in Summers 1971:177). This is precisely how the *heiau* appears today. The east face and part of the north face are intact, while the west

side of the structure is poorly defined, and probably demolished (see Figure 3.58). The structure is triangular in plan, with the east wall measuring 20.5 m long. This is the most intact face, constructed of stones averaging 30 cm in diameter stacked seven courses to as tall as 2.2 m (Figure 3.59 and Figure 3.60).

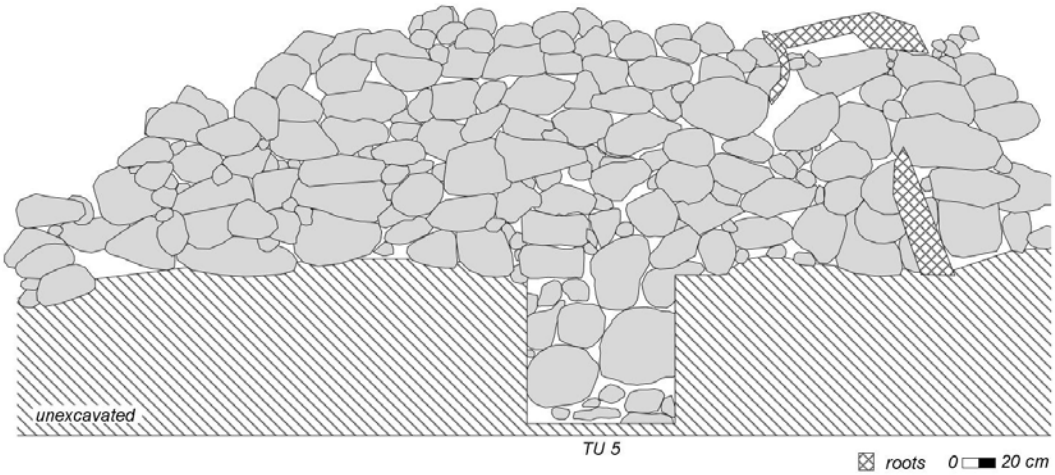

Figure 3.59: Feature E-1 *heiau*, portion of the east wall, west face profile at the south end of the wall.

Feature E-2 is a series of two small walls located just behind the north corner of feature E-1. The northernmost wall is 5 m long and parallels a dry stream bed at the west boundary of the survey block. It is composed of roughly piled stones and boulders 30-80 cm in diameter. The second wall abuts the first on the southeast. This wall is 2.8 m long and is composed of stones 20-40 cm in diameter stacked two courses high. A pyramidal upright occurs at the south end. Possible fallen upright slabs lie to the east. The function of this feature is unclear, although the north wall may be a remnant of a water control device.

Feature E-3 is a wall segment that runs along the north side of the dry stream bed. It is located 6 m north of the north corner of feature E-1. The wall is 11.5 m long and has a short perpendicular extension on the west end, so that it forms a slight *L* shape. Portions of the wall are made up of piled stones, and portions are stacked. The stacked areas are composed of three courses of 20 cm-diameter stones to form a 45 cm-high wall. A level area runs above the wall on the north at the base of a cliff. This may be an old *ʻauwai* or trail.

Figure 3.60: Feature E-1 *heiau*, facing northwest.

Feature E-4 is a large stone mound

located just east of the feature E-1 *heiau*, on the north end of the *heiau*. The mound is irregular in plan and covers an area of 9 by 4.5 m. Traces of eroded terracing remain, although the function of the mound is uncertain. It is possible that this feature and the walls of features E-5 through E-8 once formed a series of terraces that are now severely eroded.

Feature E-5 is a wall segment on the east side of the E-4 stone mound. The wall is 6.7 m long and is composed of stones roughly 30 cm in diameter, stacked three courses to a height of 50 cm. A low alignment runs northwest from the center of the wall.

Feature E-6 is a wall segment that abuts feature E-5 on the north. The wall is 2.9 m long, 50 cm tall, and runs perpendicular to the E-5 wall. The construction of the wall is the same as that of feature E-5.

Feature E-7 is a wall segment on the north side of feature E-6. It is 6 m long and constructed with stones and boulders stacked two courses to a maximum height of 95 cm.

Feature E-8 is a wall segment that curves in a *U* shape. It is located in the southwest corner of the survey block, 2 m south of feature E-5. The wall is composed of stones averaging 20 cm in diameter stacked three courses to a height of 60 cm.

Feature E-9 is a small terrace with a large boulder on top. It is located just east of the E-3 wall, between the dry stream bed and the cliff. The terrace measures 4 by 1.5 m in area and has scattered *ʻiliʻili* on its surface. This feature might be a shrine or grave, but further testing is needed to confirm this.

Loʻi Complex

The *loʻi* complex of Lower Elialiʻi is comprised of 20 terraces, an *ʻauwai* remnant, and two walls (see Oversize Figure 4). The terraces step down to the east (Oversize Figure 5) and the *ʻauwai* runs along the west side of the complex. Terraces are laid out along a gradual slope, bounded by Waikane/Waiakane Stream on the south and a cliff on the north. The upper portion of the system (features E-10 through E-20) is severely eroded, while parts of the lower section (features E-21 through E-28) are intact, although the bottom-most portion (features E-29 through E-32) is heavily eroded. Many of the lower terraces are still filled with water, and scattered *kalo* grows naturally within them. The water drains from one terrace to the next along the north side of the system, but no formal *ʻauwai* is present in this area. Additional features occur down the slope to the east, but these lie outside the survey boundaries and were not documented.

Feature E-10 is a possible terrace located 6 m downslope of feature E-7. The terrace is roughly 5 by 6 m in area and is severely eroded, with only remnants of the walls remaining. Stones and cobbles are scattered throughout the ground surface.

Feature E-11 is a terrace adjacent to feature E-10 on the east. This terrace is roughly triangular in plan, measuring 8 by 9 m in area. The most defined wall is on the east and is constructed with stones 30 cm in diameter and larger, stacked two to four courses to a height of 67 cm. Stones and cobbles are scattered throughout the surface of the terrace.

Feature E-12 is a remnant of an *ʻauwai* that runs along the north side of terraces E-11, E-13, and E-16. The *ʻauwai* runs for approximately 36 m at the base of the cliff that skirts the north boundary of the survey area. The *ʻauwai* is poorly defined and only identifiable by a slight ditch that cuts into the slope at the base of the cliff.

Feature E-13 is a small terrace that abuts feature E-11 on the east. The terrace is 10.6 m at its longest dimension, and 2.8 m wide. It is roughly *L*-shaped in plan because terrace E-15 cuts into the southeast corner. The most intact wall is on the south, dividing

this terrace and terrace E-14. This wall is constructed with 20 cm-diameter stones stacked atop larger stones and small boulders to a maximum height of 85 cm. Stones and cobbles are scattered throughout the ground surface.

Feature E-14 is a terrace adjacent to terrace E-13 on the south. It is 8.5 m long and 6 m wide. It exhibits four well-defined walls. The wall on the south is composed of 20-40 cm-diameter stones stacked four courses to a height of 140 cm. This wall is built directly on the stream bank. This terrace is in better condition than those that surround it, and the interior is flat and free of stones.

Feature E-15 is a terrace adjacent to E-14 on the south. It is 9 by 10.3 m in area. The south wall is the most defined, constructed with large stones and small boulders stacked three courses to a height of 65 cm. A short perpendicular wall segment extends north from the center of this wall. It may have been part of a dividing wall that was either unfinished or completed and now destroyed. Stones and cobbles are scattered throughout the surface of the terrace.

Feature E-16 is a possible terrace located on the south side of feature E-15. More than one terrace may be represented here, but it is impossible to tell by the remaining surface architecture. The walls are heavily eroded and a modern trail cuts through the feature. The dimensions of the terrace(s) cannot be discerned. Stones and cobbles are scattered throughout.

Feature E-17 is a terrace remnant located on the east side of feature E-16. The width of the terrace is 4 m, and the walls on the south side are relatively intact. A modern trail cuts through the feature, obscuring the north side of the terrace, thus the total length of the terrace is unknown. The east wall is composed of stones roughly 40 cm in diameter stacked two to three courses to a height of 70 cm.

Feature E-18 is a possible terrace adjacent to feature E-17 on the east. More than one terrace may be represented here, but the walls are heavily eroded and it is difficult to discern the terrace boundaries. The dimensions of the terrace(s) cannot be determined. Stones and cobbles are scattered throughout.

Feature E-19 abuts feature E-18 on the east. This terrace is 9.7 by 8.2 m in area. The east wall is in the best condition, composed of stones averaging 30 cm in diameter stacked four to five courses to a height of 140 cm.

Feature E-20 is a terrace adjacent to feature E-19 on the east. It measures 9.6 by 13.5 m in area. The east wall is composed of stones roughly 30 cm in diameter stacked six courses to a maximum height of 1.36 m (Figure 3.61).

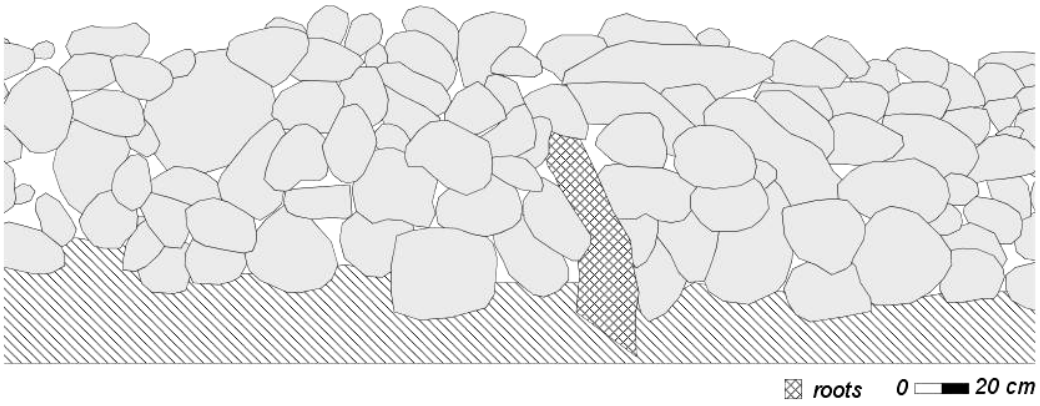

Figure 3.61: Feature E-20, portion of the east wall, west face profile near the center of the wall.

Feature E-21 abuts feature E-20 on the east. This terrace is 12 m long and 4 m wide. The east wall is the most defined, constructed with stones averaging 40 cm in diameter stacked six courses to a height of 1.1 m.

Feature E-22 is adjacent to feature E-21 on the east. This terrace is 10 m long and 6.4 m wide. The west, south, and east walls are all in good condition. The east face is composed of 40 cm-diameter stones stacked four to six courses to 1.6 m in height.

Feature E-23 is a terrace located on the east side of feature E-22 (Figure 3.62). This terrace is 9 by 6.5 m in area, and the west, south, and east walls are all well defined. The east face is constructed with stones averaging 30 cm in diameter, stacked six courses to a height of 1 m. TU 19 was placed within this terrace at the base of the west wall.

Feature E-24 is adjacent to feature E-23 on the southeast. This terrace measures 5.9 m long and 5.4 m wide. The east wall is composed of stones roughly 30 cm in diameter stacked four courses to a height of 60 cm.

Feature E-25 is a small terrace adjacent to feature E-24 on the north. It measures 4 by 2.3 m in area. The north wall is on a modern trail and has been heavily eroded. The east wall is composed of stones and small boulders stacked and piled one to two courses.

Feature E-26 is a possible terrace at the southeast corner of feature E-24. It measures 3 by 1.5 m in area. The interior is littered with scattered stones and is heavily overgrown. The stream runs along the south side of the terrace.

Feature E-27 abuts feature E-26 on the north. This terrace measures 4.5 by 2.3 m in area. The terrace walls are well defined but low, consisting mostly of a single alignment of large stones and small boulders.

Feature E-28 is a terrace that abuts feature E-27 on the north. It measures 3.5 by 2.3 m in area. The north wall is on a modern trail and has been heavily eroded. Wall construction is the same as that of terrace E-27.

Feature E-29 is a possible terrace that abuts features E-27 and E-28 on the east. The south wall is a single alignment of large stones and small boulders, 6.5 m in length, and the other walls have been significantly eroded. The interior of the terrace is sloping down to the east and littered with boulders and stones.

Feature E-30 is a possible terrace adjacent to feature E-29 on the east. The dimensions of this terrace are roughly 3.4 by 2.6 m, but only the east wall is well defined. This wall is 3.7 m long and constructed with 40 cm-diameter stones in a single alignment or roughly piled.

Figure 3.62: Terraces E-20 through E-23, facing southwest. The east wall of feature E-20 is in the background, and the interior of terrace E-23 is in the foreground.

Feature E-31 is a wall segment located 3 m southeast of feature E-30. It is 5.5 m in length and composed of stones averaging 40 cm in

diameter piled to a height of 1.2 m. This wall may have once been part of a terrace that is now mostly destroyed by the trail that cuts through the north side of the complex.

Feature E-32 is a wall segment located 2 m south of feature E-31. It is 2.5 m long and skirts the edge of the stream. The wall is composed of stones roughly 30 cm in diameter piled to a height of 60 cm. The wall may have been part of a terrace that was destroyed by erosion.

Upper Eliali‘i

The Upper Eliali‘i survey block lies within TMK: 2-5-9-005:073 and 2-5-9-006:002. The survey area is approximately 800 m from the coast, adjacent to the Lower Eliali‘i survey zone, on the top of the cliff that marks the north boundary of Lower Eliali‘i. The topography is gently to steeply sloping, and the entire survey area is terraced. The survey zone is bounded by cliffs on the south and east sides, and additional terraces extend north and west into heavily overgrown regions. The west survey boundary was drawn at the edge of a dense growth of bamboo; the north boundary follows the edge of terraces E-43 through E-55 on the upslope portion of the survey block and was arbitrarily drawn on the downslope side. The south and east boundaries follow the perimeter of the *lo‘i* complex.

An historic house platform, an *‘auwai* remnant, and 63 terraces were documented in the survey area (Figure 3.63). These features are generally in good to excellent condition, although many are obscured by vegetation. Terraces step down the slope, highest on the west and lowest on the east (Oversize Figure 6). The interior of each terrace is flat and free of stones. Walls that run north-south are generally taller and more pronounced than the east-west-running walls that divide the large terraces. The upper terraces (features E-33 through E-55) have been cleared and many are now under cultivation of *kalo* and watercress. The original stonework has been preserved for this cultivation, and has been minimally altered where pvc pipe facilitates irrigation. The lower features (E-56 through E-98) are heavily overgrown with *hau*. Other vegetation in the survey block includes bamboo in the upper reaches, ginger, clidemia, ferns, and/or short grass in the terraces that have been cleared but are not under cultivation, and sugarcane, banana, papaya, *noni*, *kukui*, and large ti leaf fringing the terraces on the north and south. Most of the upper zone and a portion of the lower zone were mapped in detail (Oversize Figures 4 and 7). Dense tangles of *hau* precluded detailed mapping of much of the lower section, and wall lengths and orientations were recorded to produce a schematic of the survey area (see Figure 3.63).

Terraces are watered from the fresh water spring known as Waikane or Waiakane, which spouts ice-cold water from a majestic cliff beyond the head of the *lo‘i* complex. Remarkably, taro leaf-shaped imprints can be seen on the cliff face, carved out naturally by erosion (Figure 3.64). No *‘auwai* are visible at the upper terraces, but the landowners state that the original irrigation ditch surrounds the head of the system (in bamboo outside the west survey boundary) and runs along both the north and south sides of the terraces, in places that are now heavily overgrown. The only visible *‘auwai* segment was found in the center of the lower terraces (feature E-60).

Feature E-33 is a terrace at the southwest corner of the survey block. It is 7.4 m wide and roughly 20 m in length. The north side is obscured by a dense growth of bamboo, thus the total length of the terrace could not be measured accurately. Walls are

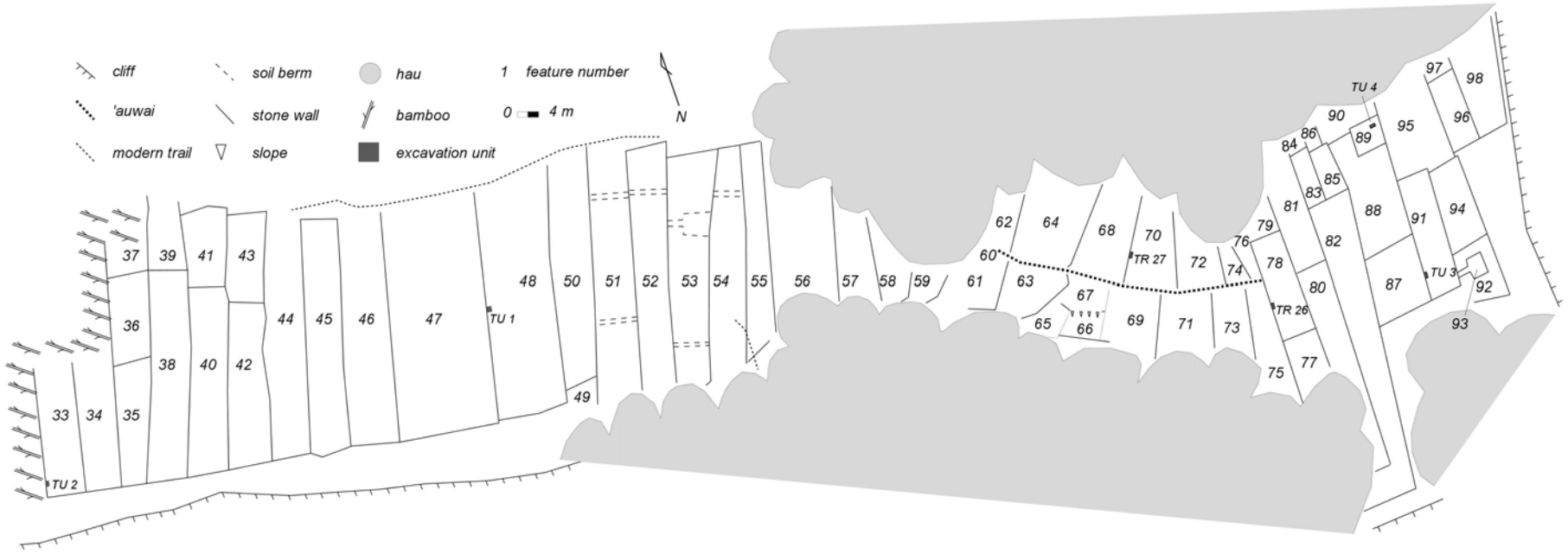

Figure 3.63: Schematic of Upper Eliali‘i.

Figure 3.64: Terraces of Upper Eliali‘i, facing west (feature E-47 in foreground). Note the natural erosional features on the cliff face that resemble taro leaves.

constructed with stones averaging 20 cm in diameter, stacked eight to twelve courses to 1.68 m tall (Figure 3.65). TU 2 was placed along the west wall of the terrace. Additional terraces occur upslope (west) and north of this terrace but these are outside the survey boundaries and were not documented.

Feature E-34 is adjacent to feature E-33 on the east. This terrace is 25.2 by 7 m in area. Wall construction is similar to that of terrace E-33, although the east wall stands only 1.3 m tall at its maximum height. The north side of the terrace is overgrown with bamboo.

Feature E-35 is a terrace that steps down from feature E-34 on the east. It measures 23.7 by 7.3 m in area and is constructed in a similar fashion to the terraces described above.

Feature E-36 is adjacent to feature E-35 on the north. This terrace is 17.8 m long and 7.5 m wide. Walls are constructed with 20 cm-diameter stones, stacked seven courses to 1.5 m tall.

Feature E-37 abuts feature E-36 on the north. This terrace measures 14.2 by 7.8 m in area. It is partially overgrown with bamboo. Wall construction is the same as that of terrace E-36.

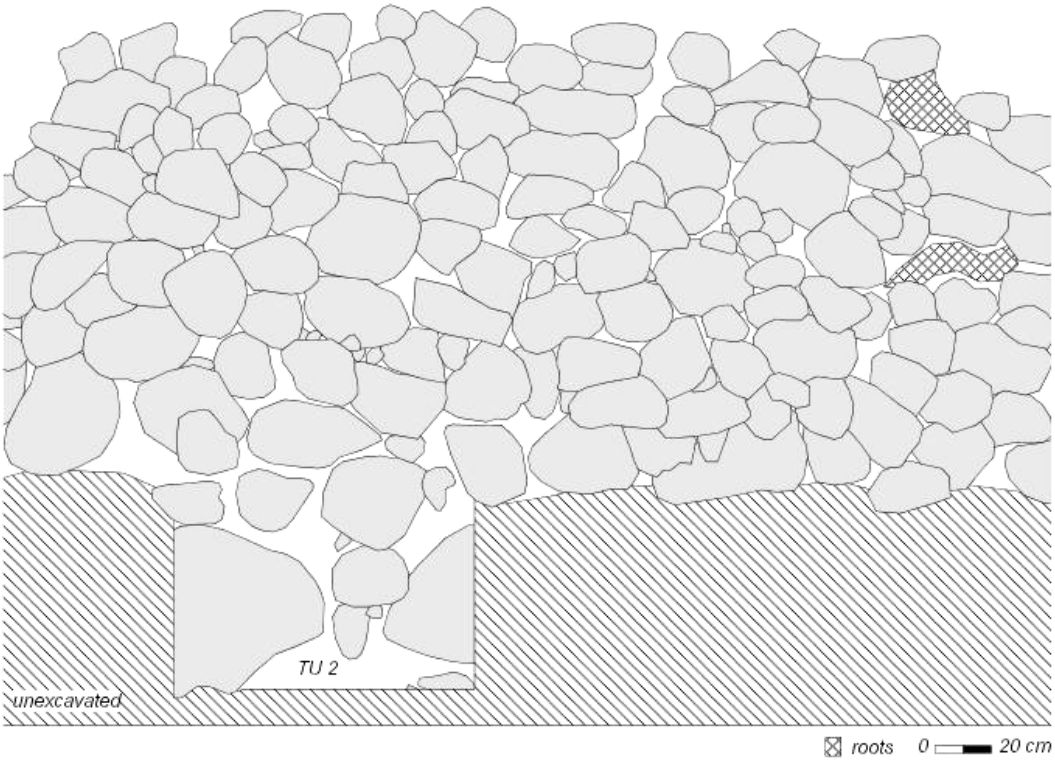

Figure 3.65: Feature E-33 portion of the west wall, west face profile near the south end of the wall.

Feature E-38 is adjacent to features E-35 and E-36 on the east. This terrace measures 38 by 7 m in area. Walls are composed of stones averaging 20 cm in diameter stacked seven courses to 1.4 m tall.

Feature E-39 abuts feature E-38 on the north. This terrace measures 13.2 m in length and 7 m in width. Construction is similar to that of terrace E-38.

Feature E-40 is a terrace that steps down from feature E-38 on the east. It measures 35 by 7 m in area. Walls are typically seven courses of 30 cm-diameter stones stacked to 1.2 m. Some sections of the wall are constructed with rectangular slabs at the base with rounded stones on top (Figure 3.66).

Figure 3.66: Feature E-40, east wall near the north end of the terrace. Orientation is to the west.

Feature E-41 is adjacent to feature E-40 on the north. This terrace measures 14.5 by 6.2 m in area. Construction of the east wall is similar to that of feature E-40. The wall that divides terraces E-40 and E-41 is composed of 20 cm-diameter stones stacked four to five courses to an average height of 80 cm.

Feature E-42 steps down from feature E-40 on the east. This terrace measures 30.5 by 7.6 m in area. Walls

are typically composed of six courses of stones that average 20 cm-diameter, stacked to 1.2 m tall.

Feature E-43 abuts feature E-42 on the north. This terrace is 16 by 6.5 m in area. Wall construction is similar to that of feature E-42. The wall that divides terraces E-42 and E-43 is composed of 20 cm-diameter stones stacked three to four courses to a height of 70 cm.

Feature E-44 is adjacent to terraces E-42 and E-43 on the east. The terrace measures 45.5 m long and 8.6 m wide. The east wall is constructed with 20 cm-diameter stones, stacked seven courses to 0.9 to 1.2 m tall (Figure 3.67).

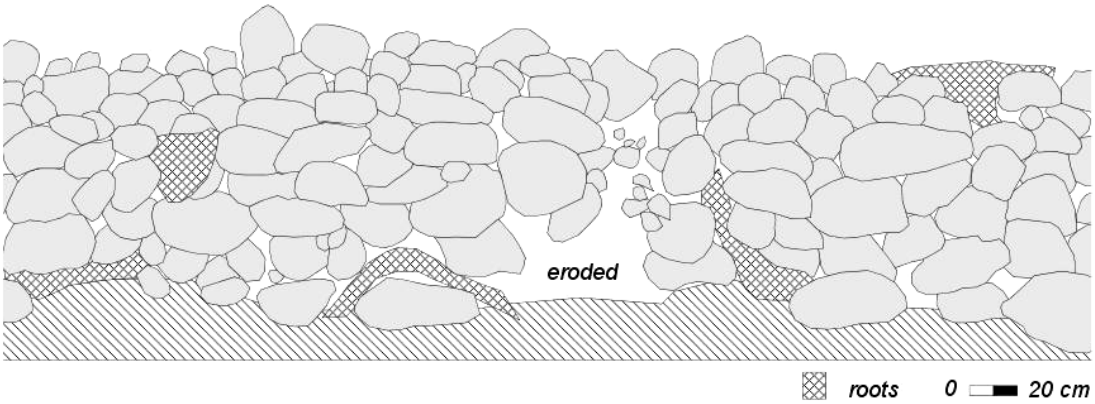

Figure 3.67: Feature E-44, portion of the east wall, west face profile near the north end of the wall.

Feature E-45 is a terrace that steps down from feature E-44 on the east. It measures 43.5 by 5.4 m in area. The east wall is composed of stones averaging 20 cm in diameter stacked seven courses to a maximum height of 1.1 m. Portions of this wall are overgrown and many sections are eroding down the slope.

Feature E-46 steps down from terrace E-45 on the east. This terrace is 44 by 8 m in area. The east wall is eroded so that rocks now lie on a slope, and are not stacked vertically. The wall is constructed with 20 cm-diameter stones and larger, once stacked six courses but now sloping out to the east. The maximum height to the top of the slope is 1.4 m.

Feature E-47 is adjacent to feature E-46 on the east. This is the largest and tallest terrace in the system, measuring 56.5 by 17 m in area, with a 2.3 m-high east wall. This wall is constructed with stones averaging 30 cm in diameter, stacked 12-15 courses (Figure 3.68). The southern 44 m of the terrace lies within the survey area, while the northern 12.5 m extends out of the survey boundaries into heavy vegetation.

Feature E-48 steps down from terrace E-47 on the east. This terrace measures 45.5 by 12 m. The east wall is composed of 30 cm-diameter stones, stacked five to six courses to 1.2 m tall.

Feature E-49 is a small possible terrace that steps down from feature E-48 on the east at the south end of the complex. It is roughly 3.5 by 7 m in area, although the south side is overgrown and difficult to discern. A low wall divides this terrace from feature E-50 on the north. The dividing wall is constructed with 20 cm-diameter stones, stacked one to two courses to 30 cm tall. A 70 cm-diameter boulder marks the west end of this low wall.

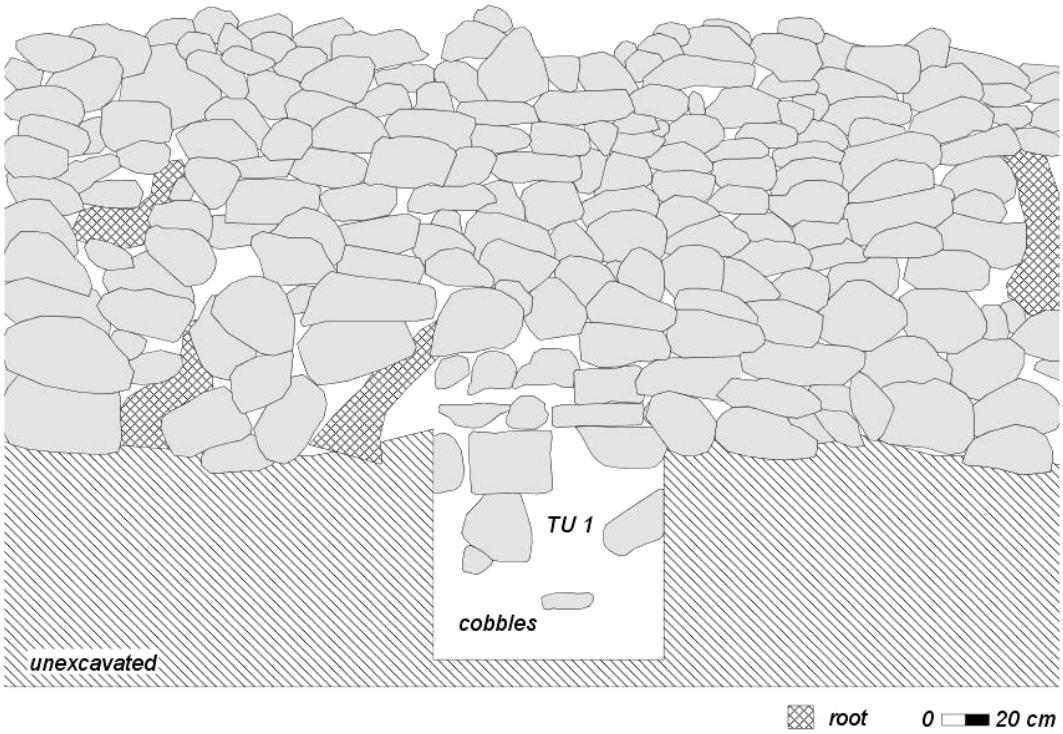

Figure 3.68: Feature E-47 portion of the east wall, west face profile near the center of the wall.

Feature E-50 is a terrace that abuts feature E-49 on the north. It measures 42.5 m long and 7 m wide. The east wall is composed of 20 cm-diameter stones stacked six to eight courses to a maximum height of 1.2 m. The northern half of this terrace is currently irrigated and planted in *kalo*.

Feature E-51 steps down from feature E-50 on the east. This terrace is 46 m long and 6.2 m wide. Wall construction is similar to that of terrace E-50, although the east wall of this terrace is lower, rising 75 to 90 cm in height. Two soil berms partition this terrace into three pondfields planted in *kalo*.

Feature E-52 steps down from feature E-51 on the east. This terrace measures 45 by 6 m in area. Walls are constructed with stones averaging 30 cm in diameter, stacked four to six courses to a maximum height of 1.2 m. A soil berm divides the terrace on the north side, creating two *loʻi kalo*: a long rectangular one on the south, and a square one on the north.

Feature E-53 is a terrace that is adjacent to feature E-52 on the east. It measures 43 by 7.5 m in area. The east wall is composed of stones averaging 30 cm in diameter, stacked seven courses to 1 m in height (Figure 3.69). A soil berm and platform serve as a stand for a modern flagpole and divide the terrace into two irrigated areas planted in *kalo* and water lilies.

Feature E-54 steps down from feature E-53 on the east. This terrace measures 41.5 m long and 6 m wide. Wall construction is similar to that of terrace E-53. A soil berm partitions the terrace on the north side, creating two irrigated pondfields: a long rectangular one on the south, and a roughly square one on the north.

Feature E-55 is a terrace that abuts feature E-54 on the east. It is 36 by 5 m in area, and wall construction is similar to terraces E-53 and E-54. The terrace is cleared of large plants and irrigated but overgrown in ginger, grass, and ferns.

Figure 3.69: Feature E-53 west wall, north end of the wall, facing west.

Feature E-56 steps down from feature E-55 on the east. This terrace is 13 m wide. The length of the terrace is uncertain because it is heavily overgrown with *hau* and ferns. The east wall is composed of 40 cm-diameter stones, stacked eight courses to 1.5 m tall.

Feature E-57 is adjacent to feature E-56 on the east. This terrace is 7 m wide. The length of the terrace could not be discerned due to heavy vegetation. The east wall is composed of stones averaging 20 cm in diameter, stacked five courses to 1 m in height.

Feature E-58 is a terrace that abuts feature E-57 on the east. It measures 6 m wide, and the length is uncertain due to heavy overgrowth of ferns, *hau*, and guava. At the southeast corner, the east wall is constructed with stones roughly 20 cm in diameter stacked five courses to 74 cm tall. Segments of the wall have eroded and are now fallen.

Feature E-59 is a terrace that steps down from terrace E-58 on the east. At the southeast corner, the east wall is composed of stones averaging 30 cm in diameter, stacked two to three courses to 50 cm tall. The southeast corner is disturbed, and the rest of the terrace is heavily overgrown with ferns, *hau*, and guava.

Feature E-60 is the *ʻauwai*. It runs down the center of the lower terraces on the north side of terrace E-61. The east side ends at terrace E-78, while the west side ends somewhere between terrace E-61 and terrace E-55, in an area of heavy vegetation. The *ʻauwai* is typically 80 cm wide and 40 cm deep, but is as deep as 70 cm along terrace E-62. In most places it is composed of a single course of 30 cm-diameter stones.

Feature E-61 steps down from feature E-59 on the east. This terrace measures 8 by 9 m in area. The north and south walls are overgrown, but the northeast and southeast corners are clearly defined. The east wall is constructed with stones averaging 30 cm in diameter, smaller at the top and larger at the base of the wall. Stones are stacked five courses to 95 cm tall. The *ʻauwai* runs along the north side of the terrace, but the drainage to/from the *ʻauwai* could not be discerned.

Feature E-62 is adjacent to the *ʻauwai* on the north, on the north side of terrace E-61. The dimensions of this terrace could not be measured due to heavy growth of ferns, *hau*, and guava. Only a 12 m portion of the east wall is visible at the south end of the terrace. The most defined section of the wall is composed of stones roughly 30 cm in diameter stacked five courses to 1.15 m tall, although much of the wall has eroded. A

boulder alignment occurs within the terrace, 1.5 m from the east wall. It is composed of four boulders in a single alignment, parallel to the east wall. The boulders are 60 cm in diameter and spaced roughly 75 cm apart. The function of the alignment is not clear.

Feature E-63 is a terrace that steps down from feature E-61 on the east. It is 10.5 m in width, and the length could not be determined due to heavy vegetation on the south side. The *ʻauwai* runs along the north side of the terrace but it is heavily eroded there. The location of drainage to/from the *ʻauwai* could not be discerned. The east wall is mostly eroded but appears to have once been stacked three courses. It stands 70 cm tall.

Feature E-64 is a terrace that abuts the *ʻauwai* on the north, on the north side of terrace E-63. It measures 11 m in width, and the length could not be discerned due to heavy overgrowth. A drainage intake occurs on the southwest corner of the terrace.

Feature E-65 is a small, eroded terrace stepping down from feature E-63 on the southeast. It measures 4.5 by 4 m in area. Walls are heavily eroded consisting of a single alignment of 30 cm-diameter stones and a few boulders. Much of the south wall has eroded down the cliff to the south.

Feature E-66 steps down from terrace E-65 on the east. This terrace measures 6.5 by 4 m in area. The most intact wall is on the south, composed of 30 cm-diameter stones, stacked three courses to 70 cm tall.

Feature E-67 is adjacent to features E-65 and E-66 on the north. It is irregular in plan and measures roughly 6 by 8 m in area. The *ʻauwai* runs along the north side of the terrace, although no drainage canal into or out of the terrace could be discerned. The south wall is almost completely eroded, consisting of only a 45 cm-tall earthen slope. A small pyramidal upright is positioned along the west wall at roughly the center of the terrace. The upright stands 30 cm tall and is embedded in the earth just in front of a large triangular boulder.

Feature E-68 is adjacent to the *ʻauwai* on the north, just north of terrace E-67, and stepping down from terrace E-64. The terrace measures 8.5 m in width, and the length could not be determined due to heavy vegetation. A 10 m-long segment of the east wall is visible, and the southeast corner is well defined. At this corner, the wall is composed of stones roughly 20 cm in diameter, stacked four courses to 85 cm tall. In other places, the wall is heavily eroded. The location of drainage to/from the *ʻauwai* could not be identified.

Feature E-69 is a terrace that steps down from terraces E-66 and E-67 on the east. It is roughly square in plan, measuring 8 by 8.5 m in area. The *ʻauwai* runs along the north side of the terrace, and it is well defined on the west side and heavily eroded on the east. A drainage canal that might connect the terrace to the *ʻauwai* could not be discerned. The east wall of the terrace is constructed with 30 cm-diameter stones stacked two to three courses to 56 cm in height. This wall and the south wall are overgrown in ferns, guava, *hau*, and clidemia.

Feature E-70 is a terrace adjacent to the *ʻauwai* on the north, just north of terrace E-69, and stepping down from terrace E-68. This terrace does not line up with terrace E-69, and is offset approximately 1 m to the east (see Figure 3.63 and Oversize Figure 7). The terrace is 8 m wide, and the length could not be measured due to tangles of *hau* that obscured the wall. A 5 m portion of the east wall is within the survey block. It is constructed with 20 cm-diameter stones stacked two to three courses to 59 cm tall. The intake/outtake to the *ʻauwai* could not be discerned. TR 27 was excavated at the west wall, but little cultural material was found.

Feature E-71 is a terrace that steps down from terrace E-69 on the east. It is 8.5 m in width, and the length could not be determined because of heavy vegetation on the

south side of the terrace. The *ʻauwai* runs along the north edge of the terrace but it is almost completely eroded and barely visible. A 10 m segment of the east wall lies within the survey boundaries. This segment is in good condition, composed of stones 20 cm in diameter and larger, stacked three to four courses to a height of 75 cm.

Feature E-72 is a terrace adjacent to the *ʻauwai* on the north, just north of terrace E-71, and stepping down from terrace E-70. Like terrace E-70, it is offset from the terraces to the south. The terrace measures 8.7 m wide, and the length could not be determined because it was obscured by *hau*. A 2 m-long segment of the east wall is well-defined at the southeast corner. This segment is composed of stones averaging 30 cm in diameter, stacked three courses to 80 cm tall. The *ʻauwai* that runs along the south side of the terrace is almost completely eroded and barely visible.

Feature E-73 steps down from feature E-71 on the east. This terrace is 5.5 m wide, and the length could not be measured because it is obscured by dense vegetation on the south side. The *ʻauwai* runs along the north edge of the terrace and is barely visible on the west half of the terrace. On the east half, the *ʻauwai* is pronounced, running along a 38 cm-tall wall that forms a defined northeast corner of the terrace. No intake or outtake for the *ʻauwai* could be identified along this wall. The east wall is heavily eroded, although a 12 m-long segment is visible in the brush. The most intact portion is composed of 40 cm-diameter stones stacked two to three courses to 70 cm tall.

Feature E-74 is a narrow terrace adjacent to the *ʻauwai* on the north, on the north side of terrace E-73, and stepping down from terrace E-72. Like the other terraces on this side of the *ʻauwai*, it is offset from the southern terraces by about 1 m. The terrace is 4 m wide, and the length could not be measured because it is almost entirely obscured by a tangled mass of *hau*. The southeast corner of the terrace is well defined, but the location of drainage to/from the *ʻauwai* could not be discerned.

Feature E-75 steps down from terrace E-73 on the east. The terrace is 4.2 m wide on the north end and 6 m wide near the south end. The length of the terrace could not be determined because the south end is covered in *hau*. A 27 m-long segment of the east wall was visible, composed of 20 cm-diameter stones stacked three to four courses to 60 cm tall. The *ʻauwai* runs along the north side of the terrace and stops abruptly at the northeast corner of the terrace. It is not clear where the *ʻauwai* drains into/out of the terrace.

Feature E-76 is a narrow terrace adjacent to the *ʻauwai* on the north, just north of terrace E-75, and stepping down from terrace E-74. Like the other terraces on this side of the *ʻauwai*, it is offset from the southern terraces. This terrace is 2 m wide. The length could not be determined due to dense *hau* obscuring nearly the entire feature. This terrace and feature E-79 might possibly be a single terrace, but this could not be confirmed because of the dense vegetation.

Feature E-77 steps down from terrace E-75 on the east, on the south side of the complex. This terrace is 5.2 m wide. The length could not be measured because of *hau* obscuring the south side of the terrace. The wall that divides this terrace and feature E-78 is low and eroded. The east wall is composed of stones averaging 20 cm in diameter stacked four courses to 1 m tall.

Feature E-78 abuts terrace E-77 on the north. This terrace is 12 m long and 5.2 m wide. Wall construction is similar to that of feature E-77. TR 26 was excavated along the west wall of the terrace, but little cultural material was recovered.

Feature E-79 is a terrace adjacent to feature E-78 on the north. It is 2.5 m in width. The length could not be determined because of heavy vegetation. Wall construction is similar to that of features E-77 and E-78.

Feature E-80 steps down from terraces E-77 and E-78 on the east. This terrace is 6 by 26.8 m in area. The wall that divides this terrace and feature E-81 to the north is low and eroded. The east wall is constructed with stones averaging 20 cm in diameter stacked four to six courses to 1.05 m tall.

Feature E-81 is adjacent to feature E-80 on the north. This terrace is 6 m wide. The length of the terrace could not be discerned due to a dense tangle of *hau* on the north side. Wall construction is similar to that of terrace E-80.

Feature E-82 steps down from terraces E-80 and E-81 on the east. This is a long, narrow terrace, 27.2 by 6.2 m in area. The east face is eroded and sloping in many places. It is typically composed of 20 cm-diameter stones stacked five courses to 1.6 m tall with sloping dirt between the courses. A large triangular upright is incorporated into the construction near the southeast corner.

Feature E-83 is a small terrace adjacent to feature E-82 on the north, and stepping down from terrace E-81. It measures 11 m in length and 3.7 m in width. Wall construction is similar to that of terrace E-82.

Feature E-84 is adjacent to feature E-83 on the north. This terrace is 3.7 m wide. The length could not be measured because the terrace is almost entirely covered in *hau*. Wall construction is similar to that of terraces E-82 and E-83.

Feature E-85 is a small terrace adjacent to feature E-82 on the north and E-83 on the east. It measures 9.5 m long, 5 m wide on the south, and 4 m wide on the north. Wall construction is similar to that of the adjacent terraces.

Feature E-86 abuts feature E-85 on the north. This terrace is 3 m wide. The length could not be discerned due to a dense overgrowth of *hau*. Wall construction is similar to the adjacent terraces.

Feature E-87 steps down from feature E-82 on the east. This terrace is 13 m long and 11.1 m wide. The east wall is composed of stones averaging 20 cm in diameter stacked four to five courses to 1.2 m tall. This wall is eroded, with sloping dirt between the courses in many places. The wall that divides this terrace and terrace E-88 is low and eroded.

Feature E-88 is a roughly *L*-shaped terrace adjacent to feature E-87 on the north. It measures 25 m at its longest dimension, and 5 m at its shortest dimension. Wall construction is similar to that of terrace E-87.

Feature E-89 is a small square terrace set within the northeast corner of terrace E-88. This terrace is lower than E-88 but higher than the other adjacent terraces (E-90 on the north and E-95 on the east). The terrace is 5.7 by 6 m in area, and wall construction is similar to that of terraces E-87 and E-88. TU 4 was placed within this terrace to determine its function, but the excavation yielded no information useful to this endeavor.

Feature E-90 is adjacent to terraces E-88 and E-89 on the north. This terrace is 12 m wide. The length could not be discerned because of dense vegetation covering almost the entire terrace. Wall construction is similar to that of the adjacent terraces.

Feature E-91 steps down from terraces E-87 and E-88 on the east. This terrace is 23.8 by 6.5 m in area. Walls are typically eroded and sloping. The east wall is composed of stones averaging 20 cm in diameter, stacked four to five courses to 1.3 m, with sloping earth between the courses. TU 3 was placed within this terrace against its west wall.

Feature E-92 steps down from terrace E-91 on the east. This terrace measures 12.5 by 7.4 m in area. Walls are typically eroded. The east wall is constructed with 25 cm-diameter stones, stacked two courses to 60 cm tall. Feature E-93, an historic house platform, lies within this terrace against the west wall and a large Java plum tree stands in the southeast corner of the terrace.

Feature E-93, the historic house platform, is roughly square in plan, with a linear extension that meets the west wall of terrace E-92. The dimensions of the platform were not measured. Surface artifacts were gathered from the area by local residents and placed at the foot of the Java plum tree. These were collected and analyzed (see Chapter 5). They included Japanese, Chinese, and English/American ceramics and a fragment of slate.

Feature E-94 abuts terrace E-92 on the north. This terrace measures 16 m long and 7.4 m wide. Wall construction is similar to that of terrace E-92. These two terraces are the last terraces on the south side of the complex. Downslope (east) of these terraces lies 7.8 m of flat land leading to a steep cliff, with Wailau Stream below and to the east.

Feature E-95 is adjacent to terraces E-91 and E-94 on the north and E-88, -89, and -90 on the east. This terrace is lower than terraces E-88 through E-91 and the same height as terrace E-94. It measures 12.7 m wide. The length could not be determined due to a dense cover of *hau* on the north side of the terrace. Wall construction is similar to that of the adjacent terraces.

Feature E-96 steps down from terrace E-95 on the east. This terrace is 9 m in length and 5.6 m in width. Wall construction is similar to that of the adjacent terraces.

Feature E-97 abuts terrace E-96 on the north. This terrace is 5.6 m wide, and its length could not be determined because of heavy vegetation. Wall construction is similar to that of the adjacent terraces.

Feature E-98 steps down from terraces E-96 and E-97 on the east. This terrace is 6.1 m wide, and its length was not measured due to heavy vegetation. The east wall is composed of stones 30 to 60 cm in diameter aligned in a single course. Just beyond this wall is a steep drop leading to Wailau Stream.

Eliali‘i Discussion

In sum, 98 features were found within the Eliali‘i survey zone. Of these, 32 were in Lower Eliali‘i and 66 were in Upper Eliali‘i, just above and to the north of the Lower Eliali‘i survey block. The Lower Eliali‘i features are laid out on a slope along Waikane/Waiakane Stream, with a *heiau* at the top of the slope, miscellaneous features surrounding the *heiau*, and remnants of an agricultural system below. A sizeable *lo‘i* complex occurs in Upper Eliali‘i, and an historic house platform was built on one of the terraces at the base of the complex. The terraces step down to the east and the upslope terraces tend to be larger than those near the base of the slope. Six test units were excavated in Eliali‘i: one at the *heiau*, and five in terrace features. One charcoal sample from Upper Eliali‘i and one from Lower Eliali‘i were submitted for radiocarbon dating.

The Lower and Upper Eliali‘i features are very close to each other and are likely associated. The only dividing feature is a natural cliff that separates the two areas, with Upper Eliali‘i on top and Lower Eliali‘i below. Habitation structures were observed both north and south of the survey blocks, but the investigation of these is outside the scope of this research.

The Upper Eliali‘i terraces are truly impressive, some standing over 2 m high. It is possible that these terraces once fed the elite residents of Wailau, as the place name suggests (*eli* means to dig, and *ali‘i* are the chiefly class of traditional Hawaiian society). The Eliali‘i water source is possibly the best in the valley, originating from a spring that spouts from the cliffside, colder than the stream water, and not as dependent on rainfall or as susceptible to flooding as the rain-fed streams in the valley. The presence of the *heiau* adds to the evidence that the area was associated with *ali‘i*. The location of the *heiau*,

below the upper terraces is curious, however. It seems possible that the *heiau*, at the head of the smaller *lo‘i* complex, was used as a tribute platform for the *ali‘i* that utilized the massive *lo‘i* above, although further evidence is needed to support this.

Halepoki

The land division of Halepoki lies just inland of Eliali‘i, approximately 1,100 m from the coast. The Halepoki survey block lies entirely within the 8,540-acre TMK: 2-5-9-006:002, owned by the State. Roughly 2.8 acres were intensively surveyed. Three *lo‘i* systems were found in Halepoki: Halepoki Makai on the north, Halepoki Mauka on the south, and Halepoki Central between the two. Halepoki Central and Halepoki Mauka were not intensively surveyed and were described on pages 22-26. Only Haleopki Makai fell within the survey block and will be discussed here.

Halepoki Makai

The Haleopki Makai *lo‘i* is a large complex bounded by Wailau Stream on the east, a steep slope on the west, and an unnamed side stream on the south (Figure 3.70). A dry gulch parallels Wailau Stream in front of the complex. Possible habitation or dryland cultivation areas are on the north and southwest sides of the *lo‘i*. Waikane/Waiakane Stream is on the north side of the complex. The complex is composed of 62 terraces, an *‘auwai*, and a long wall (Figure 3.71). The land slopes down gently from west to east toward Wailau Stream, and terraces step down from west to east and south to north. Walls paralleling Wailau Stream are taller and more substantial than perpendicular walls. All features are in good condition. Vegetation consists of clidemia, *kukui*, guava, Java plum, and ti leaf. Four units were excavated within the *lo‘i* system.

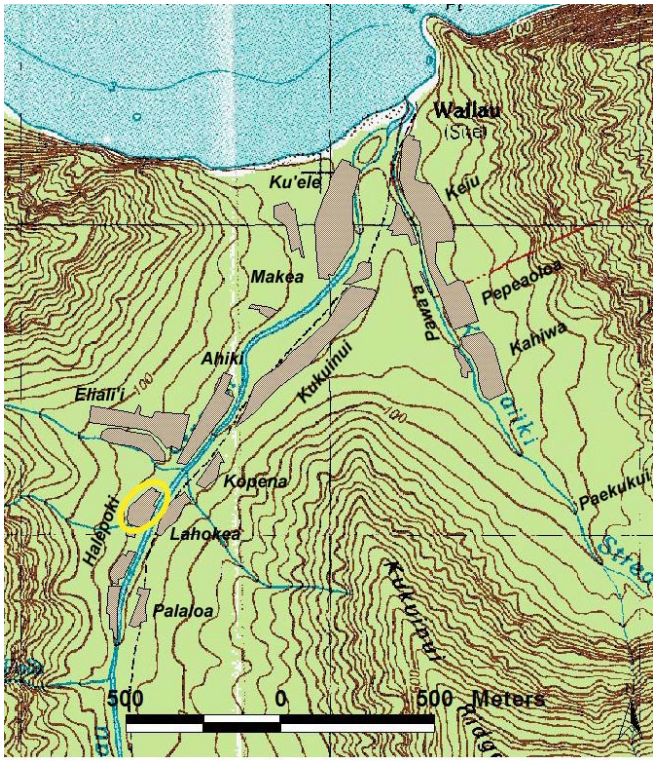

Figure 3.70: Location of the Halepoki Makai *lo‘i* system.

Feature H-1 is one of two large terraces in the northeast corner of the system. It is 50 m long and 16.8 m wide. The east wall is composed of 30 cm-diameter stones stacked six to eight courses to 1.5 m tall. This wall is possibly stepped in places, although it is difficult to tell because it is obscured by a dense growth of clidemia and parts of the wall are eroded.

Feature H-2 is the other large terrace on the north side of the complex. It steps up from feature H-1 on the west. This terrace measures 54 m by 16 m. The west wall is composed of stones 20 cm in diameter and larger stacked three to four courses to 60 cm tall.

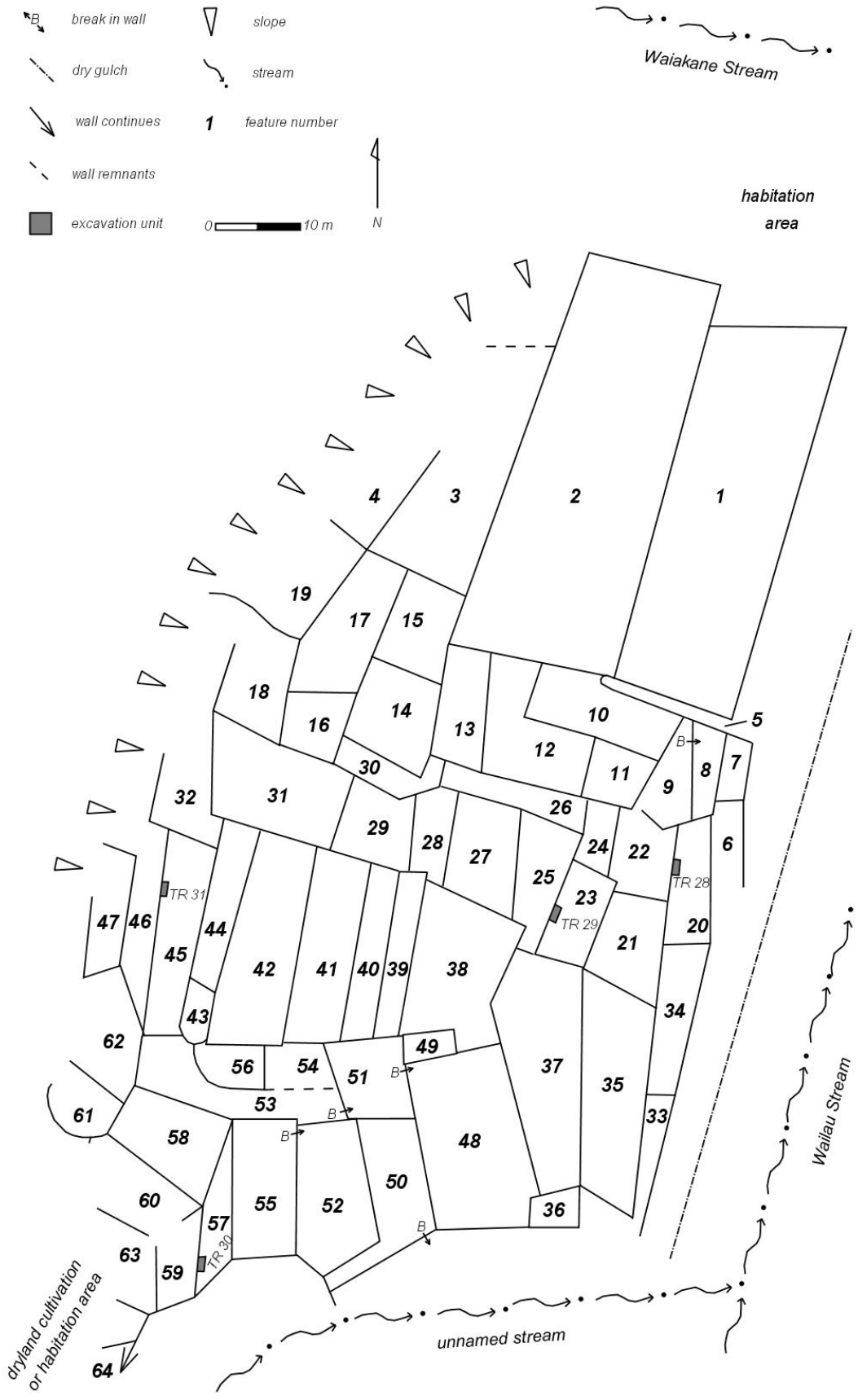

Figure 3.71: Schematic of the Halepoki Makai *lo'i* system.

Feature H-3 steps up from terrace H-2 on the west. This terrace is 31 m long and 11 m wide. The northwest corner is open to the slope on the west, and only remnants of the north wall remain. The west wall is 15 m long.

Feature H-4 is adjacent to terrace H-3 on the west. This terrace measures 15 by 8 m in area. The north and west walls are absent so that this terrace abuts the slope on the west.

Feature H-5 is the *ʻauwai*. It runs along the south side of terrace H-1 and ends near the southeast corner of terrace H-2. The *ʻauwai* is 20 m long, 1.5 m wide, and as deep as 70 cm (Figure 3.72). No drainage breaks occur in the walls surrounding the ditch, thus it is unclear how this feature functions. Fragments of a modern pottery vessel were found within the *ʻauwai* (see Chapter 5).

Figure 3.72: West end of feature H-5, *ʻauwai*, facing west.

Feature H-6 is a terrace on the east edge of the system. It measures 10.5 by 4 m and lacks a south wall. Wall construction is similar to that of the adjacent terraces, although the east side is heavily eroded.

Feature H-7 steps down from H-6 on the north. This terrace is 7 m long and 3.5 m wide. The *ʻauwai* skirts the north side of the terrace. Wall construction is comparable to that of the surrounding terraces.

Feature H-8 is a terrace that steps up from H-7 on the west. It measures 11 by 3.5 m in area, and wall construction is similar to that of the adjacent terraces. The *ʻauwai* passes by on the north.

Feature H-9 steps up from H-8 on the west. This is an irregularly-shaped terrace with a maximum length of 12 m and maximum width of 7 m. Construction is similar to

that of the adjacent terraces, except that the east wall exhibits a break for drainage into terrace H-8 below. The *ʻauwai* runs along the north wall.

Feature H-10 steps up from H-9 on the west. This terrace measures 17.5 by 7 m in area. Wall construction is similar to that of the adjacent terraces. The *ʻauwai* runs along the lower portion of the north wall.

Feature H-11 also steps up from H-9 on the west, on the south side of H-10. This terrace is 7.5 by 7 m in area. The west wall is constructed with 20 cm-diameter stones stacked two courses to 40 cm tall.

Feature H-12 is an *L*-shaped terrace that steps up from H-11 on the west and wraps around the southwest corner of terrace H-10. The maximum length of this terrace is 14.5 m and the maximum width is 13.5 m. Wall construction is similar to the surrounding terraces.

Feature H-13 is adjacent to terrace H-12 on the west. This terrace measures 14 by 5.5 m. Wall construction is similar to that of the adjacent terraces.

Feature H-14 is a terrace that steps up from H-13 on the west. It is roughly square in plan, measuring 11 m long and 10 m wide. Wall construction is similar to that of surrounding terraces.

Feature H-15 also steps up from H-13 on the west, and steps down from terrace H-14 on the north. This terrace is 11 by 7.5 m in area. The west wall is composed of stones averaging 20 cm in diameter stacked two to three courses to 45 cm tall.

Feature H-16 abuts terrace H-14 on the west. This is a roughly square terrace that measures 9 by 8 m in area. Wall construction is similar to that of the adjacent terraces.

Feature H-17 steps up from H-14 and H-15 on the west, on the north side of H-16. This terrace is 16.5 m long and 8.5 m wide. Wall construction is similar to that of the surrounding terraces.

Feature H-18 is a terrace that steps up from H-16 and H-17 on the west. It measures 12.5 by 8.5 m in area and is open on the northwest corner. The north wall is curved, and the west wall is only 9.5 m long. This latter wall is composed of stones 20 cm in diameter and larger stacked three courses to 60 cm tall (Figure 3.73).

Figure 3.73: Feature H-18 west wall, facing west.

Feature H-19 steps up from H-17 on the north side of H-18. This terrace is approximately 14 m long and 4 m wide, although exact measurements could not be taken

because the north and west walls are absent. The terrace is open to the slope in these areas. Wall construction is similar to that of the adjacent terraces.

Feature H-20 steps up from terrace H-6 on the east side of the complex. This rectangular terrace is 15 m long and 5.5 m wide. Wall construction is comparable to that of the surrounding terraces. TR 28 was excavated at the base of the west wall.

Feature H-21 is a terrace that steps up from H-20 on the west. It measures 12 by 8.5 m in area. The west wall was constructed with stones averaging 20 cm in diameter stacked three courses to 50 cm tall.

Feature H-22 also steps up from H-20 on the west, and steps down from H-21 on the north. This is an irregularly-shaped terrace, with the H-9 terrace corner cutting into the north wall and the corner of terrace H-23 intruding into the southwest corner. The north and west walls do not connect, so that the northwest corner is open to terrace H-9 on the north. This terrace is 9.5 by 7.5 m in area and wall construction is similar to that of the surrounding terraces.

Feature H-23 is adjacent to terrace H-21 on the west. This terrace measures 11.5 by 6 m in area. Wall construction is similar to that of the surrounding terraces. TR 29 was placed along the west wall of this terrace.

Feature H-24 is a small terrace that steps up from H-22 on the west and steps down from H-23 on the north. The terrace is roughly rectangular in plan, measuring 7.5 m long and 4 m wide. The east wall is composed of 15 cm-diameter stones piled with soil to 25 cm tall.

Feature H-25 steps up from H-23 on the west. This terrace is irregular in plan because the corner of terrace H-38 encroaches into the southwest corner. The maximum length of this terrace is 15.5 m and the maximum width is 7.5 m. Wall construction is similar to that of the adjacent terraces.

Feature H-26 is a long narrow terrace between H-25, -27, and -28 on the south and H-12 and -13 on the north. It measures 18.5 by 3 m in area, and wall construction is similar to that of the surrounding terraces.

Feature H-27 steps up from H-25 on the west. This rectangular terrace is 10 m long and 8.5 m wide. Wall construction is the same as above.

Feature H-28 abuts terrace H-27 on the west. This terrace measures 11.5 m long and 4.5 m wide. The corner of terrace H-39 juts into the southwest corner of this feature. Wall construction is comparable to that of the adjacent terraces.

Feature H-29 steps up from feature H-28 on the west. This terrace measures 8.5 by 8.5 m square. Wall construction is similar to the terraces around it.

Feature H-30 is a roughly *L*-shaped terrace that wraps around terrace H-14 on the south. The maximum length is 13.5 m and the maximum width is 4 m. Wall construction is the same as above.

Feature H-31 steps up from H-29 on the west. This rectangular terrace is 18 by 11 m in area. The south wall is composed of 20 cm-diameter stones stacked six courses to 86 cm tall.

Feature H-32 is adjacent to terrace H-31 on the west. This terrace is 9.5 m wide and approximately 28 m long, although the length could not be accurately measured because there is no north wall. The west wall is only 9.5 m long, so that the northwest corner of the terrace is open to the slope.

Feature H-33 is on the southeast corner of the system. This terrace is 3 m wide and approximately 17 m long, although the length is uncertain due to the absence of the south wall. The south side of the feature is open to an area of scattered cobbles on the

periphery of the complex. A single-course alignment separates this terrace from terrace H-34 on the north (Figure 3.74).

Figure 3.74: Alignment separating terraces H-33 and H-34. The east wall of terrace H-35 is in the background. The view is to the northwest.

Feature H-34 is adjacent to H-33 on the north. This terrace measures 18.5 m long and 4.5 m wide. Wall construction is the same as that of terrace H-33.

Feature H-35 steps up from H-33 and H-34 on the west. This rectangular terrace is 25 m long and 9 m wide. The east wall is composed of four courses of 20 cm-diameter stones stacked to 86 cm tall (see Figure 3.74).

Feature H-36 is a small terrace on the south edge of the system. It measures 6 by 5 m in area. The north wall is a single alignment of 30 cm-diameter stones embedded in the ground so that the alignment height is 20 cm.

Feature H-37 abuts terrace H-36 on the north. It is irregular in plan, approximating a rough pentagon. The terrace is 26.5 m long and the maximum width is 11 m. Wall construction is similar to that of terrace H-35.

Feature H-38 steps up from H-37 on the west. This is an irregularly-shaped terrace, with terrace H-49 cutting into the southwest corner. The maximum length of this terrace is 18.5 m and the maximum width is 12 m. The east wall is *V*-shaped, composed of 20-30 cm-diameter stones stacked three courses to 40 cm tall.

Feature H-39 steps up from H-38 on the west. This is a long, narrow terrace that measures 20 by 3 m in area. Wall construction is comparable to the adjacent terraces.

Feature H-40 abuts terrace H-39 on the west. This long, narrow terrace measures 21 m long and 3.5 m wide. Construction style is similar to the surrounding terraces.

Feature H-41 steps up from H-40 on the west. This terrace is 23.5 m long and 6.5 m wide. The east wall is composed of stones averaging 20 cm in diameter stacked two to three courses to 58 cm tall.

Feature H-42 steps up from H-41 on the west. It measures 26 by 9 m in area. The east wall is constructed with 20 cm-diameter stones stacked two to three courses to 45 cm high.

Feature H-43 steps up from H-42 on the west. This tiny terrace is 6.5 m long and 3.5 m wide. Wall construction is similar to the surrounding terraces.

Feature H-44 is adjacent to H-43 on the north. This long, narrow terrace measures 20 by 4.5 m in area. Wall construction is similar to the surrounding terraces.

Feature H-45 steps up from H-43 and H-44 on the west. This terrace is 24 m long and 6 m wide. Construction style is similar to that of the adjacent terraces. TR 31 was excavated along the west wall.

Feature H-46 abuts terrace H-45 on the west. The maximum length of this terrace is 24.5 m and the width is 3.5 m. The east wall is much longer than the west wall, and the northwest corner is open to the slope. Wall construction is comparable to that of the surrounding terraces.

Feature H-47 steps up from H-46 on the west. This terrace measures 14 by 4.5 m and the northwest corner is open to the slope. Construction style is similar to that of the adjacent terraces.

Feature H-48 is located along the south edge of the complex, adjacent to terraces H-36 and H-37 on the west. This terrace is 21.5 by 13 m in area. Terrace H-36 juts into the southeast corner. The east wall is composed of 20 cm-diameter stones stacked up to six courses to 1.1 m tall. The west wall is constructed with stones averaging 20 cm in diameter stacked five courses to 80 cm tall (Figure 3.75).

Feature H-49 is a small terrace adjacent to H-48 on the north. It measures 6 m long and 3.5 m wide. The north wall is constructed with 20-30 cm-diameter stones stacked three courses to 40 cm tall.

Feature H-50 steps up from H-48 on the west. This is a roughly *L*-shaped terrace with a 15.5 m-long segment and a 14.5 m-long segment comprising the *L*. A break exists in the south wall for drainage out of the complex toward the stream. The wall on the southwest extends to the stream, where it is eroded, exposing the cross-section of the wall. This cross-section shows that the wall is of bi-face core-filled construction (Figure 3.76). The facing stones average 30 cm in diameter and are stacked four courses to 96 cm tall. The fill is made up of stones 20 cm in diameter and smaller, piled between the facing. Chinese and English or American ceramics were found on the surface just outside the complex near this wall, and glass shards were found within the wall cross-section (see Chapter 5). The west wall is composed of stones 20 cm in diameter and larger, stacked three to four courses to 90 cm tall (Figure 3.77).

Feature H-51 is adjacent to H-50 on the north. This roughly square terrace is 10.5 by 8 m in area. The east wall is composed of stones averaging 30 cm in diameter stacked three to four courses to 54 cm tall. A break in this wall allows drainage to terrace H-48.

Feature H-52 steps up from H-50 on the west. This is an irregularly-shaped terrace with a maximum length of 17.5 m and maximum width of 10 m. The east wall is constructed with 20 cm-diameter stones stacked four courses to 65 cm tall.

Feature H-53 is a long, irregularly-shaped terrace that steps up from H-51 on the west. The maximum length of this terrace is 19.5 m and the maximum width is 7 m. Wall construction is similar to the adjacent terraces, except that part of the north wall is heavily eroded. A break in the east wall allows drainage to terrace H-51.

Figure 3.75: Feature H-48 west wall, facing east.

Figure 3.76: Terrace H-50, eroded cross-section of the southwest wall, facing north.

Figure 3.77: Feature H-50 portion of the west wall, facing east.

Feature H-54 also steps up from H-51 on the west. This terrace is 7.5 m long and 5.5 m wide. Wall construction is similar to that of the surrounding terraces.

Feature H-55 steps up from H-52 on the west. This rectangular terrace measures 16.5 by 8 m in area. A break in the east wall near the northeast corner allows drainage into terrace H-52.

Feature H-56 steps up from H-54 on the west. This terrace is 9.5 m long and 5 m wide. Construction style is similar to the adjacent terraces, except that the west wall is curved.

Feature H-57 steps up from H-55 on the west. The maximum length of this terrace is 17.5 m and the maximum width is 4.5 m. Wall construction is comparable to the surrounding terraces. TR 30 was excavated along the west wall.

Feature H-58 abuts H-53 on the south and steps up from H-57 on the west. This terrace measures 12.5 by 10.5 m, and construction style is similar to the other terraces in the area.

Feature H-59 steps up from H-57 on the west. This terrace is 8 m long and 4.5 m wide. A large Java plum tree disrupts the northwest corner, and only a 3.5 m-long segment of the north wall remains. Walls are made up of 20 cm-diameter stones stacked three to five courses to 60 cm tall.

Feature H-60 is adjacent to H-59 on the north. This terrace measures 13 m by 6.5 m in area. Construction style is the same as that of terrace H-59.

Feature H-61 steps up from H-58 on the west. This terrace is 9 m long and 6.5 m wide. The south wall is curving and the west end is open to the slope.

Feature H-62 abuts terrace H-53 on the west. This terrace is 16.5 by 8 m in area, and wall construction is the same as that of the adjacent terraces. The west end is open to the slope.

Feature H-63 is a terrace that steps up from H-59 on the west. It measures 9 m long and 8.5 m wide. Construction style is similar to that of the adjacent terraces. The west side has no wall and is open to the slope.

Feature H-64 is a long wall with one end at the southeast corner of terrace H-63. The wall follows the unnamed stream for 70 m and encloses a possible habitation or

dryland agricultural area on the slope above terrace H-63. The wall is built with stones averaging 30 cm in diameter stacked five to seven courses to 120 cm tall.

Halepoki Discussion

Three *lo‘i* complexes were documented in the land division of Halepoki. Halepoki Central and Halepoki Mauka were not intensively surveyed and were described earlier. Halepoki Makai consisted of 62 terraces, an *‘auwai*, and a long wall. Habitation or dryland agricultural areas were noted on either side of the *lo‘i*. Historic artifacts were found on the surface within and around the *lo‘i* system.

Lahokea

Roughly 0.7 acre was surveyed in Lahokea on a small portion of State parcel TMK: 2-5-9-006:002 (see Figure 3.16 *l*). This is an 8,540-acre property that extends over a wide expanse of the inland lowland and valley slopes of Wailau. The 0.7-acre survey block is roughly 1,050 to 1,200 m inland and is bounded by Wailau Stream on the west, a dry side drainage on the north, and the Wailau Trail and adjacent cliff on the south and east. An intact *lo‘i* system covers nearly the entire survey area (Figure 3.78, Oversize Figure 8). This complex appears to have once extended north but the northern section is now buried by stones that washed down the dry stream bed. The northern ¾ of the survey block is overgrown with *hau*, while clidemia, guava and *kukui* cover the southern ¼ of the *lo‘i* complex.

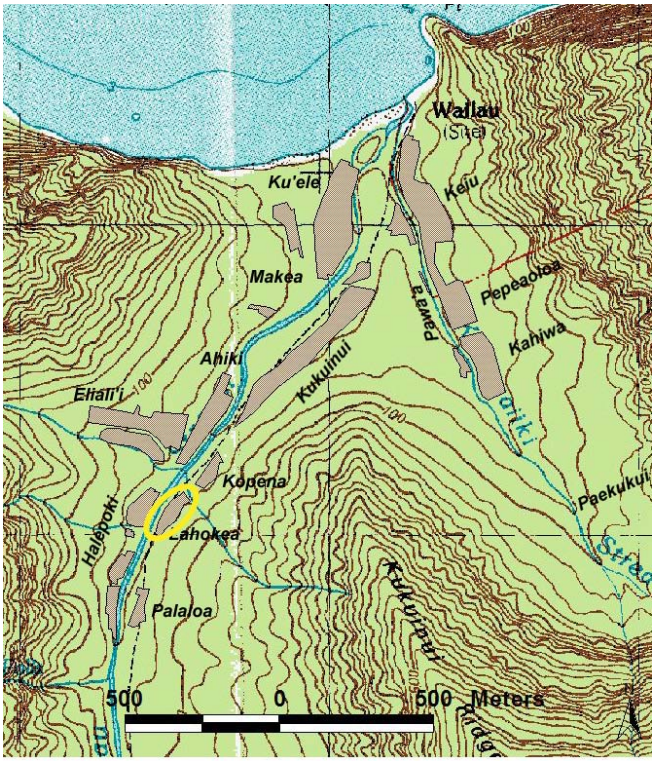

Figure 3.78: Location of the Lahokea *lo‘i* system.

Lo‘i Complex

Twenty-five terraces and an *‘auwai* were found in the Lahokea survey area. These are located on a flat stretch of land just east of Wailau Stream. The system abuts a cliff on the east, which runs at an angle to meet Wailau stream at the head of the complex. The Wailau Trail (Stokes 1909, Site 275) runs above the system on the cliff to the east. Terraces of the complex are stepping down from south to north (Oversize Figure 9) and also from east to west. Walls parallel with Wailau Stream tend to be higher than perpendicular walls, and terraces on the south are smaller than those on the north. A well-defined *‘auwai* runs along the west side of the system, between the complex and Wailau Stream, although parts of the *‘auwai* have eroded into the stream. A curious feature of the Lahokea *lo‘i* system is a series of small stone concentrations and mounds found within two of the terraces. A large grindstone was incorporated into one of the mounds. This was not collected. In general, the complex is in excellent condition, although it is

overgrown and portions suffer from erosion. A few historic artifacts were found on the surface, including a large metal pot embedded in the northeast corner of the system, and a portion of a Nineteenth Century bottle base wedged in the wall at the head of the complex. Only the bottle base was collected. Three test units were excavated in Lahokea: TU 16, 17, and 18 (see Chapter 4).

Feature L-1 is a terrace located at the head of the system on the east side. This is the highest terrace in the complex, and all other terraces step down from this one. It is 8.2 by 7 m in area. This terrace is open to the east, where the cliff face stands. A huge boulder, 3.6 m long and 1.6 m high, marks the south end of the feature. The boulder has flat faces and a pyramidal top. The west wall is composed of stones averaging 30 cm in diameter stacked up to six courses to a height of 103 cm. The wall on the north is bi-faced and cobble filled, with the facing made up of 30 cm-diameter stones stacked six courses to a height of 103 cm. Where the north and west walls join, a bi-faced cobble filled wall slopes down to the north, reminiscent of a ramp or set of steps (Figure 3.79). This terrace, at the head of the system, seemed different in construction than the other terraces, with taller, more substantial walls, suggesting that it did not function as a *loʻi*. Before the area was overcome by vegetation, this terrace would have been an ideal location for viewing the entire system. A Nineteenth Century bottle base fragment was found within the north wall. TU 18 was placed at the base of the west wall (Figure 3.80).

Figure 3.79: Terrace L-1 in the left background, where the north and west walls join. Terrace L-5 is in the foreground and L-2 is in the right background. Orientation is to the southwest.

Feature L-2 is adjacent to feature L-1 on the west. This narrow terrace is 18 m long and 3 m wide. The west wall is composed of stones 20 cm in diameter and larger stacked up to five courses to a height of 58 cm, but typically stacked two to three courses to a height of 38 cm. The ground surface of feature L-1 is level with the top of the east wall.

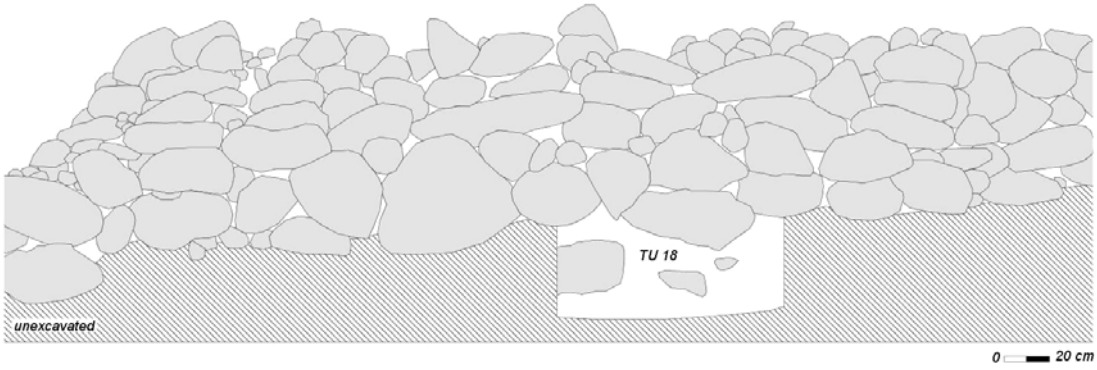

Figure 3.80: Feature L-1 portion of the west wall, east face profile at the north end of the wall.

Feature L-3 is a terrace adjacent to feature L-2 on the west. It is 23.7 by 10 m in area. The west wall lies at the edge of the cliff that leads to the stream, and much of this wall has eroded down the cliff. Near the west end of the north wall, a break occurs, providing drainage to the terrace to the north (feature L-10). The ground surface of feature L-2 is level with the top of the east wall.

Feature L-4 is a tiny terrace that abuts feature L-1 on the northeast. It is 1.6 by 1.4 m in area. The interior of the terrace is flat but littered with scattered stones that have tumbled down the cliff on the east. The ground surface of feature L-1 is level with the top of the south wall, and the ground surface of feature L-7 is level with the top of the northeast wall.

Feature L-5 is adjacent to features L-2 and L-4 on the north. This is a small triangular terrace, 6.3 by 6.1 m in area. Walls are composed of stones stacked two to four courses to a maximum height of 48 cm. A large pyramidal boulder makes up part of the east wall. The boulder is 1 m long and 1 m tall. The ground surface of feature L-7 is level with the top of the east wall and the surface of feature L-2 is level with the top of the southwest wall.

Feature L-6 is a terrace that abuts feature L-5 on the north and feature L-3 on the northeast (Figure 3.81). It is roughly heart-shaped in plan and 10.9 by 8.2 m in area. The terrace walls are composed mostly of small stones averaging 20 cm in diameter stacked two to four courses to a maximum height of 52 cm. The ground surface of feature L-5 is level with the top of the south wall and terrace L-7 is level with the top of the east wall.

Figure 3.81: Terrace L-6, center of photo. A small portion of terrace L-8 is in the foreground; terraces L-5 and L-1 are in the background. Orientation is to the southwest.

Feature L-7 is a long, narrow terrace adjacent to terraces L-5 and L-6 on the east and L-4 on the north. It is 22.6 m long and 3.6 m wide and higher than the abutting terraces on the west. The east wall of this terrace is a short segment of small stones roughly piled on top of boulders to a height of 108 cm. The west wall is composed of small stones and large cobbles piled to 83 cm tall. The remainder of the west wall is made up of stones stacked five courses to a height of 76 cm.

Feature L-8 abuts terrace L-7 on the west and L-6 on the north. It is a small square terrace 12.2 by 8.2 m in area. A 24 cm-high soil berm is the only barrier dividing this and terrace L-9. A gap in the southwest corner of the terrace at the south end of the berm appears to have functioned as a water drainage. The north wall is typically composed of stones stacked three courses to a maximum height of 58 cm (Figure 3.82). In places, the stacked stones are embedded within a soil berm, giving the wall added height. The ground surface of feature L-6 is level with the top of the south wall, and L-7 is level with the top of the east wall. This terrace is level with terrace L-9 on the west.

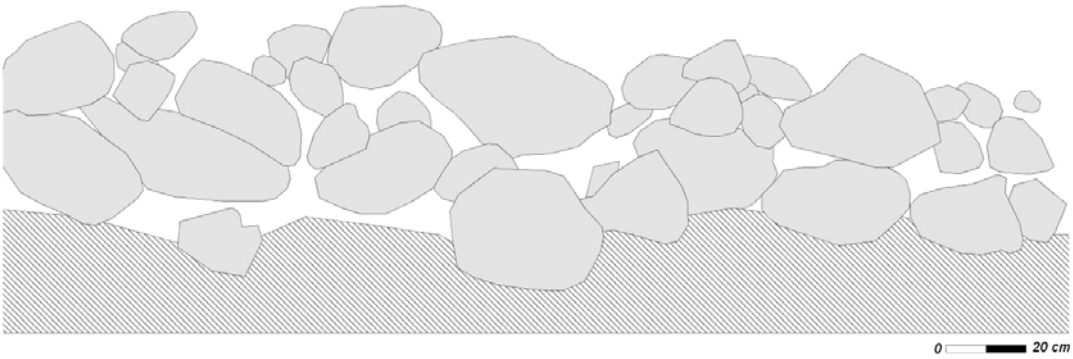

Figure 3.82: Feature L-8 portion of the north wall, south face profile at the east end of the wall.

Feature L-9 is a terrace that abuts feature L-8 on the west, L-6 on the northwest, and L-3 on the north. It is 15.2 m long and 7.4 m wide. The west wall is composed of stones stacked three courses to a height of 52 cm. The south wall is made up of stones stacked one to two courses to a height of 38 cm. The north wall is in poor condition, consisting only of scattered stones, although a break in the center of this wall for drainage is evident. The ground surface of feature L-6 is level with the top of the east wall and L-3 is level with the top of the south wall.

Feature L-10 is a long, narrow terrace adjacent to terrace L-9 on the west and L-3 on the north. It measures 31.4 by 5.2 m in area. Portions of the west wall have eroded down the cliff that leads to the stream. This wall is composed of stones stacked one to two courses on a soil berm to a maximum height of 55 cm. The north wall is in better condition, stacked three courses with stones averaging 20 cm in diameter to 40 cm tall. A break occurs in the center of the north wall to drain water into the terrace adjacent to the north (L-17). The ground surface of feature L-9 is level with the top of the east wall on the north side, and terrace L-11 is level with the top of the east wall on the south side. Terrace L-3 is level with the top of the north wall.

Feature L-11 steps down from terrace L-8 and L-9 on the south and up from L-10 on the east. This terrace is 20.9 m long and 20.1 m wide. Both the north and west walls are composed of stones averaging 20 cm in diameter stacked three courses on a soil berm to a height of 57 cm. An opening occurs near the east end of the north wall for drainage into terrace L-16 to the north. The ground surface of feature L-8 and L-9 are level with the top of the south wall and L-12 is level with the top of the east wall.

Feature L-12 is a small terrace on the east side of the system, adjacent to terrace L-11 on the east, L-7 on the north, and the cliff on the west. It measures 8.5 by 2.9 m in area. This terrace is higher than L-11 on the west but lower than L-7 and L-14, on the south and north. The west wall is composed of stones roughly 20 cm in diameter, stacked four courses to a height of 67 cm. The east wall is composed of larger stones and boulders, averaging 60 cm in diameter. Loose stones are scattered throughout the south side of the terrace.

Feature L-13 is also on the east side of the complex, abutting terrace L-12 on the north and L-11 on the west. This terrace is an exception to the general pattern of stepping down to the north and west, because it is higher than the surrounding terraces. It is 7.2 by 4.1 m in area. The west wall is composed of stones 10-80 cm in diameter stacked five courses to a height of 114 cm, with some piled cobbles at the southwest corner.

Feature L-14 is a terrace that abuts feature L-13 on the north, also on the east side of the system. It measures 12.4 m long and 3.4 m wide. The west wall is composed of

stones averaging 10-20 cm in diameter stacked four courses to a height of 72 cm. The east wall abuts the cliff, and is made up of a single course of boulders 60 cm high. The ground surface of feature L-13 is level with the top of the south wall.

Feature L-15 is also on the east side of the complex, abutting feature L-14 on the north. This terrace is 11.4 by 4.6 m in area. Only a small portion of the east wall remains. This is composed of 20 cm-diameter stones stacked three to four courses to a height of 70 cm. The ground surface of feature L-14 is level with the top of the south wall.

Feature L-16 is a large terrace adjacent to feature L-15 on the west. It is 15 by 22.3 m in area. The west wall is composed of stones 10-30 cm in diameter stacked four to five courses along a soil berm, to a height of 70 cm. The north wall is made up of stones 10-30 cm in diameter stacked three courses to 41 cm tall. A break occurs in the northwest corner for drainage into terrace L-19, which is adjacent on the north. The ground surface of feature L-11 is level with the top of the south wall and L-22 and L-23 are level with the top of the east wall. The ground surface within the terrace is free of stones except for two stone concentrations near the center of the terrace. The concentration on the east is composed of four stones, roughly 30 cm in diameter, and the concentration on the west is made up of three stones roughly 60 cm in diameter. Neither concentration is piled or mounded. The function of these stone concentrations is unclear.

Feature L-17 steps down from feature L-16 on the west and L-10 on the north. This terrace measures 26.5 by 6 m in area. The west wall is eroding down the cliff that leads to the stream, and the southern portion of this wall is completely destroyed. The north wall is composed of stones 15 cm and larger stacked two to three courses to a height of 35 cm. A break occurs in the northeast corner for drainage into feature L-18, the adjacent terrace on the north. The ground surface of feature L-10 is level with the top of the south wall and L-16 is level with the top of the east wall.

Feature L-18 steps down from feature L-17 on the north. This terrace is 17.9 m long and 7.2 m wide. The *ʻauwai* (feature L-25) runs along the west side. The north and west walls of the terrace are fragmentary, but the south and east walls are intact. The east wall is 50 cm tall, composed of stones averaging 20 cm in diameter stacked three to five courses. The ground surface of feature L-17 is level with the top of the south wall and L-19 is level with the top of the east wall.

Feature L-19 abuts feature L-18 on the east and L-16 on the north. This terrace measures 22.3 by 16.2 m in area. Its north wall is composed of stones 10-40 cm in diameter stacked three to four courses to a height of 50 cm. The ground surface within the terrace is free of stones, aside from two small stone mounds near the center of the terrace. The mound on the south is composed of eight stones and one boulder, piled to a height of 50 cm, and the mound on the north is made up of six stones and a boulder, piled to 55 cm tall. One of the stones in the northern mound is a grindstone with one concave surface that has been worn smooth (Figure 3.83). The ground surface of feature L-16 is level with the top of the south wall and L-20 is level with the top of the east wall.

Feature L-20 is a rough terrace on the east edge of the complex adjacent to feature L-19 on the east. There is no east wall, and the north wall is only 1.8 m long. Nevertheless, the interior of the terrace is relatively flat. It is littered with stones and cobbles that have tumbled down the slope. The west wall is composed of stones averaging 20 cm in diameter stacked up to four courses to a height of 90 cm. The ground surface of feature L-15 is level with the top of the south wall.

Figure 3.83: Northern mound within feature L-19, facing southeast. The grindstone is in the center of the photo, above the scale.

Feature L-21 is adjacent to feature L-20, also on the east side of the system. This rough terrace is 8.4 m long and 1.8 m wide. Its north and east walls are absent. The west wall is eroded in places, but the intact segments are composed of 20 cm-diameter stones stacked four to five courses to a height of 80 cm.

Feature L-22 is a terrace that abuts feature L-21 on the west and L-19 on the north. The north end of the terrace is open, the north wall likely buried by stones and cobbles that now cover the ground surface in that area. The terrace is at least 43.3 m long and 24.1 m wide, although the total length cannot be discerned due to the absence of the north wall. The interior of the terrace is flat and free of stones. The west wall is as tall as 85 cm, made up of stones averaging 20 cm in diameter stacked three to five courses. The ground surface of feature L-19 is level with the top of the south wall and L-21 is level with the top of the east wall. A rusty metal pot is embedded in the earth just outside the terrace near the northeast corner. This was not collected.

Feature L-23 steps down from feature L-18 on the north and L-22 on the west. This terrace measures 14.1 by 7.2 m in area. The *ʻauwai* (feature L-25) flanks the west side of the terrace. The west wall is composed of stones typically 20 cm in diameter, stacked four courses to a height of 50 cm. The ground surface of feature L-18 is level with the top of the south wall and L-22 is level with the top of the east wall.

Feature L-24 is a terrace that steps down from feature L-23 on the north (Figure 3.84). The *ʻauwai* (feature L-25) skirts the west side of the terrace. The terrace is at least 26.9 m long and 6.7 m wide. The total length could not be discerned due to the absence of the north wall, which is thought to be buried by cobbles and stones that now cover the ground surface. The west wall is 70 cm tall, composed of stones typically 20 cm in diameter stacked

Figure 3.84: South end of terrace L-24, facing southeast. Terrace L-22 is visible in the left background, and L-23 is in the right background.

three to five courses (Figure 3.85). The ground surface of feature L-23 is level with the top of the south wall and L-22 is level with the top of the east wall. TU 16 was placed along the east wall.

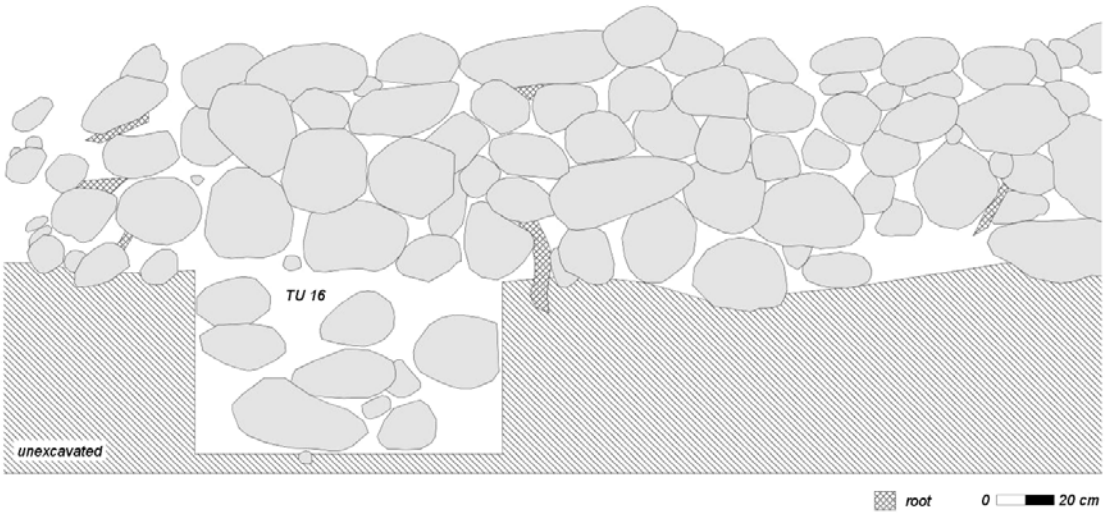

Figure 3.85: Feature L-24 portion of the west wall, east face profile near the north end of the wall.

Feature L-25 is the *ʻauwai* that runs along the west side of the complex. The northern portion appears to have been buried under a scatter of stones and cobbles that have eroded down the cliff to the east. The south side of the *ʻauwai* has collapsed into the stream, although segments are visible here and there along the west edge of terraces L-17, L-10, and L-3. The intact portion runs at an orientation of 215º, roughly 10 m east of Wailau Stream. This section is 55.7 m long and 1.4 m wide. The east side of the ditch is stone lined (Figure 3.86), and segments of the west side are stone lined as well. The lining is composed of three to five courses of stones averaging 30 cm in diameter (Figure 3.87). The depth of the ditch is typically 50-70 cm. An earthen berm runs along the west side, 15-45 cm high.

Feature L-26 is an eroded terrace that is not connected to the *loʻi* complex. This terrace lies 25 m north of the *loʻi* system, 10 m east of Wailau Stream. The terrace is in poor condition, with the most intact wall running directly east-west for 12 m. This wall is composed of stones 20 cm in diameter and larger stacked three courses high. A well-defined corner is at the west end, where the north-south wall extends as a single alignment of boulders. The terrace surface is not level and is scattered with cobbles. It

Figure 3.86: *ʻAuwai*, feature L-25, facing south. Terrace L-24 is on the left of the ditch.

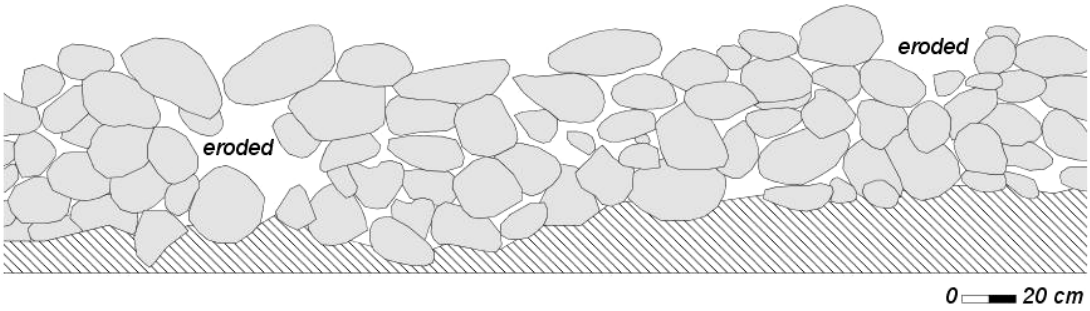

Figure 3.87: Feature L-25 (*ʻauwai*) portion of the east wall, east face profile near the north end of the *ʻauwai*.

is not clear if this is part of the northern extension of the *loʻi* system that was buried by stones and cobbles washed down the slope.

Lahokea Discussion

Twenty-six features were recorded for Lahokea. Of these, 25 were part of a large *loʻi* complex on a flat between Wailau Stream and a cliff. This included 24 terraces and an *ʻauwai*, and terraces tend to be smaller on the south and larger on the north side of the system. The tallest terrace at the head of the system may not have functioned as a *loʻi*, although no direct evidence for this was found. One feature was a terrace that was not attached to the complex. The system may have extended north to this terrace at one time, but rock fall has buried any surface evidence of this. An unusual feature of the *loʻi* complex is a series of stone concentrations and mounds found in the center of two of the terraces. One of the mounds exhibited a large grindstone at its base. Three test units were excavated in the *loʻi* complex.

Summary of Survey Findings

A total of 305 features were documented in 12 survey blocks in Wailau Valley. These were found in the land divisions of Keiu, Pawaʻa, Kuʻele, Makea, Kukuinui, Eliali'i, Halepoki, and Lahokea. Most of the features are terraces that are part of six large wetland agricultural complexes. The Keiu survey examined two small portions of a vast *loʻi* complex that was mapped in the early Twentieth Century (Podmore 1915). In Pawaʻa, a small agricultural complex was documented in its entirety, and a portion of a larger system was examined as well. In Kuʻele, a *loʻi* complex was found on a slope on the west side of the valley. It was proposed that this complex was abandoned before construction was completed. Another *loʻi* system was identified in Kuʻele, to the east of the unfinished complex. This large system occurred on the flat land adjacent to Wailau Stream and extended from the coast to the Makea survey block. In Makea, a small barrage terrace system was encountered as well. A medium-sized *loʻi* system was recorded in Kukuinui on the east side of Wailau Stream. In Eliali'i a small agricultural complex was documented in its entirety, and a portion of a larger system was examined. Another large system was found in Halepoki and documented in its entirety. In Lahokea a medium sized *loʻi* complex was fully documented.

GPS positions were obtained for all survey areas, and four of the agricultural complexes were mapped in detail. Cross-sections were generated for each *loʻi* system, and wall profiles were drawn for a sample of terraces. These will be used to compare

construction styles and changes in elevation within and between *loʻi* complexes (McElroy 2007). Individual terraces were measured wherever possible, and these dimensions will be used to estimate crop yields for the *loʻi* systems (McElroy 2007).

In addition to agricultural terraces, various features including walls, stone mounds, enclosures, alignments, historic house platforms, and a *heiau* were recorded. In general, features were found in good condition but severely overgrown. Some features had been impacted by erosion, but most remain intact. Artifacts were generally scarce within the *loʻi* systems and more numerous in the vicinity of historic house sites. Surface artifacts found during survey include ceramics, glass, metal, slate, a hammerstone, a chopping tool, and adze blanks. Just a small portion of the 936-ha valley was surveyed; countless other features were observed outside the survey blocks and remain undocumented. All features are part of the Wailau Agricultural Complex, site 50-60-04-272.

Stokes (1909) Relocated Sites

Three of the five sites for which Stokes (1909) provided locations were relocated. This was done on an informal basis and was not part of the archaeological survey work. Kapanui Heiau (Site 271), the Puʻuhonua of Puʻualiʻi (Site 272), and the Heiau at Kanane (Site 273) were found, while Kapalaʻalaea Heiau (Site 274) could not be clearly identified, and an attempt to locate the Olokuʻi *puʻuhonua* (Site 276) was not made.

Kapanui Heiau was described as "a small enclosure with an earth flooring and paved terraces at a lower elevation in front" (Stokes 1909:19). This is an accurate description, although many of the stones that make up the structure are falling, especially on the outside wall faces. The terraces in front are heavily eroded as well. In general, the *heiau* is in fair condition; walls are still defined, but the structure is severely overgrown (Figure 3.88).

The Puʻuhonua of Puʻualiʻi was accurately described as a "terrace with a bench on its face" (Stokes in Summers 1971:177). The structure is imposing, and exhibits an *ahu* with small uprights and waterworn stones on top of the terrace. The *puʻuhonua*, or place of refuge, is in good condition, overgrown but still relatively intact (Figure 3.89). Additional features were observed in the vicinity, including a long wall that extends down the slope fronting the structure, but these were not further investigated.

Figure 3.88: Kapanui Heiau, inside corner, facing southeast.

The "Heiau at Kanane" was described as "a platform, partly demolished" (Stokes in Summers 1971: 177), and this is precisely how it appears today. The east face of the *heiau* is in good condition, while the western portion has been demolished. This *heiau* is located within the Lower

Eliali‘i survey area and is described in detail on page 65.

Kapala‘alaea Heiau was described as “a small stretch of land leveled by slight terracing [that] did not suggest a heiau” (Stokes in Summers 1971:177). This proved impossible to discern among the scattered stones and heavy vegetation in the area.

Figure 3.89: Pu‘uhonua of Pu‘uali‘i, facing west, showing bench in front of terrace.

Chapter Summary

Reconnaissance and survey were carried out in Wailau, documenting 19 *lo‘i* systems and 305 individual features in the land divisions of Keiu, Pawa‘a, Kahiwa, Ku‘ele, Makea, Kukuinui, Kopena, Ahiki, Eliali‘i, Halepoki, Lahokea, and Palaloa. Individual features included terraces, walls, *‘auwai*, platforms, alignments, mounds, and a *heiau*. The reconnaissance covered approximately 260 acres of the valley, and roughly 33 acres of this was intensively surveyed. Only those features within the designated survey blocks were given feature numbers (see Appendix A) and mapped in detail. These features were also described in detail and their locations documented with GPS positions. *Lo‘i* within the reconnaissance area but outside the survey blocks were documented with GPS locations, described briefly, and sketched. In addition to the reconnaissance and survey, two *heiau* and a *pu‘uhonua* described by Stokes (1909) were relocated.

CHAPTER 4: EXCAVATION

A total of 66 units were excavated in Wailau: 28 test units and 38 trenches. Three were in Keiu, six in Pawa‘a, 13 in Ku‘ele, 15 in Makea, eight in Kukuinui, eight in Eliali‘i, eight in Halepoki, three in Lahokea, and two in Palaloa (Table 4.1). A total of 59 features were excavated: 52 *lo‘i* terraces, an *‘auwai*, two possible habitation features, two hearths, an historic house platform, and a *heiau*.

Table 4.1: Excavation Unit Data

Unit	Size (m)	Study Area	Feature[†]	Wood ID	Date
TU 1	1x1	Upper Eliali‘i	E-48	X	
TU 2	1x.50	Upper Eliali‘i	E-33	X	X
TU 3	1x.50	Upper Eliali‘i	E-91	X	
TU 4	1x.50	Upper Eliali‘i	E-89	X	X
TU 5	1x.50	Lower Eliali‘i	E-1	X	X
TU 6	1x.50	Makea	M-2	X	
TU 7	1x1	Makea	M-17		
TU 8	1x.50	Makea	M-2	X	
TU 9	1x.50	Makea	M-9	X	
TU 10	1x.50	Makea	M-13	X	
TU 11	1x.50	Makea	M-10	X	
TU 12	1x.50	Keiu	K-11	X	X
TU 13	1x1	Keiu	K-4		
TU 14	1x1	Pawa‘a	P-2	X	
TU 15	.50x.50	Pawa‘a	P-6	X	X
TU 16	1x1	Lahokea	L-24	X	
TU 17	stream cut	Lahokea	L-25	X	
TU 18	1x.50	Lahokea	L-2	X	X
TU 19	1x.50	Lower Eliali‘i	E-23	X	X
TU 20	1x.50	Pawa‘a	P-3		
TU 21	1x.50	Ku‘ele	C-20		
TU 22	.50x.50	Ku‘ele	C-18	X	X
TU 23	.50x.50	Ku‘ele	C-21	X	
TU 24	1x.50	Makea	M-31		
TU 25	1x.50	Ku‘ele	C-2		
TU 26	1x1	Ku‘ele	C-6	X	X
TU 27	1x.50	Ku‘ele	C-8		
TU 28	.50x.50	Palaloa	N/A	X	X
TR 1	1x.50	Ku‘ele	C-25		
TR 2	1x1	Ku‘ele	C-34	X	X
TR 3	1x.50	Ku‘ele	C-30		
TR 4	.40x.40	Ku‘ele	C-31		
TR 5	1x.50	Makea	M-2		
TR 6	1x.50	Makea	M-24	X	X
TR 7	.50x.50	Makea	M-29		
TR 8	1x.50	Makea	M-9	X	X
TR 9	1x.50	Makea	M-8	X	
TR 10	1x.50	Makea	M-7		
TR 11	1x.50	Makea	M-6		
TR 12	1x.50	Pawa‘a	P-6		
TR 13	1x.50	Pawa‘a	P-4		
TR 14	1x.50	Pawa‘a	P-1	X	X
TR 15	1x.50	Keiu	K-11	X	

[†] Features were not given numbers in areas that were not intensively surveyed.

Table 2.1: Excavation Unit Data (continued)

Unit	Size (m)	Study Area	Feature[†]	Wood ID	Date
TR 16	1x.50	Kuʻele	C-9	X	X
TR 17	1x.50	Makea	M-22	X	
TR 18	1x.50	Kukuinui	KU-7		
TR 19	trail cut	Kukuinui	KU-5	X	
TR 20	1x.50	Kukuinui	KU-7		
TR 21	stream cut	Kukuinui	KU-16		
TR 22	stream cut	Kukuinui	KU-15		
TR 23	1x.50	Kukuinui	KU-8	X	
TR 24	1x.50	Kukuinui	N/A		
TR 25	1x.50	Kukuinui	N/A	X	X
TR 26	1x.50	Upper Eliali‘i	E-78	X	
TR 27	1x.50	Upper Eliali‘i	E-70		
TR 28	1x.50	Halepoki	H-20	X	
TR 29	1x.50	Halepoki	H-23		
TR 30	1x.50	Halepoki	H-57	X	X
TR 31	1x.50	Halepoki	H-45		
TR 32	1x.50	Halepoki	N/A	X	X
TR 33	1x.50	Halepoki	N/A	X	X
TR 34	1x.50	Halepoki	N/A	X	
TR 35	1x.50	Halepoki	N/A		
TR 36	1x.50	Palaloa	N/A	X	
TR 37	1x.50	Kuʻele	C-9		
TR 38	1x.50	Kuʻele	C-8		

For units positioned against a wall, the most intact and least overgrown portion of the wall was chosen for excavation. Most units were placed on the downslope side of the walls to recover datable material from beneath the wall foundations. Test units 4, 11, 15, 23, and 26 were exceptions, excavated on the high side of the walls. Charcoal was found in 64 of the 66 units, and artifacts were generally scarce. Historic material, basalt flakes, and volcanic glass were the most common artifacts recovered. A few other basalt items and sparse midden were found as well. A total of 42 samples of charcoal were taxonomically identified and 21 were submitted for AMS radiocarbon dating. Of the 21 samples submitted, 19 produced enough carbon for dating.

Most units exhibited a continuous layer of clay loam, not part of a pondfield deposit. This is interpreted as a possible soil berm against the terrace walls. Berms such as these would provide a firm surface for walking along the perimeter of the *loʻi*, and can still be seen in functioning *loʻi* today. The *heiau*, the tallest Eliali‘i terrace, and the Pawaʻa *loʻi* exhibited possible builder’s trenches. These are characterized by an abundance of cobbles with voids between them, indicating that they were not naturally infilled by runoff deposition. These builder’s trenches were likely excavated to stabilize the *loʻi* and *heiau* walls and were filled in with cobbles once the wall foundations were in place within the trenches.

Most of the excavations exhibited a basal saprolitic layer mottled with red decaying basalt particles (Table 4.2). Many of these particles were anaerobically blackened and mimicked wood charcoal in color, texture, and weight. When unattached to the red portion of the rock, it was impossible to distinguish these pieces from wood charcoal in the field, and all were collected. One sample (from TU 3) submitted for wood taxa identification turned out to be entirely decomposing basalt, with no charcoal present.

[†] Features were not given numbers in areas that were not intensively surveyed.

Table 4.2: Sediment Descriptions

Study Area	Unit	Layer	Depth*	Color	Description	Interpretation
Keiu	TU 12	I	5-52	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Possible soil berm against wall.
		II	52-55+	7.5 YR 3/2	Dark brown sandy clay; wet.	Runoff deposition.
	TU 13	I	5-50+	5 YR 3/2	Dark reddish brown clay loam; wet; medium roots to 30 cmbd.	Possible soil berm against wall.
		Ia	10-20	10 YR 4/1	Dark gray clay; wet.	Fill within wall.
	TR 15	I	0-40+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Possible soil berm against wall.
Pawa‘a	TU 14	I	11-56+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots; 20% cobbles & gravel.	Possible builder's trench.
	TU 15	I	9-45+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots; 5% cobbles & gravel.	Possible builder's trench.
	TU 20	I	10-60+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots; 20% cobbles & gravel.	Possible builder's trench.
	TR 12	I	0-70+	10 YR 3/3	Dark brown clay loam; wet; heavy roots; 20% cobbles and gravel.	Possible builder's trench.
	TR 13	I	0-64+	10 YR 3/3	Dark brown clay loam; wet; heavy roots; 20% cobbles and gravel.	Possible builder's trench.
	TR 14	I	0-45+	10 YR 3/3	Dark brown clay loam; wet; heavy roots; 20% cobbles and gravel.	Possible builder's trench.
Ku‘ele	TU 21	I	10-50+	10 YR 3/3	Dark brown clay loam; wet; light roots.	Runoff deposition.
	TU 22	I	5-14	10 YR 2/2	Very dark brown clay loam; wet; light roots.	Runoff deposition.
		Fe. 1	5-12	10 YR 2/1	Black clay loam; wet; abundant charcoal.	Hearth feature.
		II	12-36+	10 YR 3/3	Dark brown clay loam mottled with red eroding basalt; wet.	Saprolitic layer.
	TU 23	I	10-62+	10 YR 3/2	Very dark grayish brown sandy clay loam; wet.	Runoff deposition.
	TU 25	I	11.5-70+	2.5 Y 2/0	Black clay loam; dry; heavy roots; 60% waterworn stones and cobbles.	Cultural layer between beach rocks.
	TU 26	I	25-52	10 YR 3/2	Very dark grayish brown sandy clay loam; dry.	Deposition during use of the terrace.
		II	50-58+	10 YR 3/2	Very dark grayish brown silty clay mottled with red eroding basalt; dry.	Saprolitic layer.
	TU 27	I	5-65+	10 YR 3/2	Very dark grayish brown clay loam; dry.	Runoff deposition.
	TR 1	I	0-10	10 YR 2/2	Very dark brown clay loam; wet; light roots.	Runoff deposition.

* cmbd for test units; cmbs for trenches

Table 4.2: Sediment Descriptions (continued)

Study Area	Unit	Layer	Depth*	Color	Description	Interpretation
Ku'ele (cont.)	TR 1 (cont.)	II	10-28+	10 YR 3/2	Very dark grayish brown clay loam mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 2	I	0-22	10 YR 2/2	Very dark brown clay loam; wet; light roots.	Runoff deposition.
		II	18-36+	10 YR 3/2	Very dark grayish brown clay mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 3	I	0-10	10 YR 3/1	Very dark gray clay loam; wet; 20% cobbles.	Runoff deposition.
		II	10-28+	10 YR 3/2	Very dark grayish brown clay mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 4	I	0-10	10 YR 3/1	Very dark gray clay loam; dry	Runoff deposition.
		II	10+	10 YR 3/2	Very dark grayish brown clay mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 16	I	0-26	10 YR 2/2	Very dark brown clay loam; wet; light roots; 20% cobbles and stones.	Runoff deposition.
		II	25-50+	10 YR 3/2	Very dark grayish brown clay mottled with red eroding basalt; wet; light roots.	Saprolitic layer.
	TR 37	I	0-22+	10 YR 2/2	Very dark brown clay loam; wet; light roots; 20% cobbles and stones.	Runoff deposition.
	TR 38	I	0-29	10 YR 3/2	Very dark grayish brown silt loam; wet; 20% cobbles from 15-29 cmbs.	Runoff deposition.
		II	29-33+	7.5 YR 3/4	Dark brown sandy loam; wet.	Saprolitic layer.
Makea	TU 6	I	10-70+	10 YR 2/2	Very dark brown clay loam; wet; heavy roots to 50 cmbd.	Possible soil berm against wall.
	TU 7	I	10-64	10 YR 2/1	Black clay loam; wet; heavy roots; 10% cobbles; historic material.	Deposition during use of platform.
		II	50-80+	7.5 YR 2.5/2	Very dark brown clay loam; wet; light roots; 15% cobbles.	Runoff deposition before platform construction.
	TU 8	I	10-65	10YR 2/2	Very dark brown clay loam; wet; heavy roots.	Possible soil berm against wall.
		II	65-90+	10 YR 2/2	Very dark brown clay loam mottled with red eroding basalt; wet.	Saprolitic layer.
	TU 9	I	7-90+	10 YR 3/2	Very dark grayish brown clay; wet; heavy roots to 40 cmbd.	Possible soil berm against wall.
	TU 10	I	10-48	10 YR 3/2	Very dark grayish brown clay loam; wet; light roots.	Possible soil berm against wall.
		II	46-65+	10 YR 3/2	Very dark grayish brown sandy clay loam mottled with red eroding basalt; wet; 60% waterworn cobbles & stones.	Stream deposit.
	TU 11	I	6-80+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Possible builder's trench.

* cmbd for test units; cmbs for trenches

Table 4.2: Sediment Descriptions (continued)

Study Area	Unit	Layer	Depth*	Color	Description	Interpretation
Makea (cont.)	TU 24	I	7-50+	10 YR 3/2	Very dark grayish brown clay loam; wet; light roots; 10% cobbles from 20-40 cmbd.	Deposition during use of the structure.
	TR 5	I	0-32	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Runoff deposition.
		II	30-40+	10 YR 3/3	Dark brown clay mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 6	I	0-18+	10 YR 2/2	Very dark brown silty clay loam; very wet; medium roots; 60% cobbles; water at 15 cmbs.	Runoff deposition.
	TR 7	I	0-65+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Runoff deposition.
	TR 8	I	0-66+	10 YR 3/2	Very dark grayish brown clay loam; wet; light roots.	Possible soil berm against wall.
	TR 9	I	0-56+	10 YR 3/2	Very dark grayish brown clay loam mottled with red eroding basalt; wet; light roots; 5% cobbles.	Runoff deposition.
	TR 10	I	0-34+	10 YR 3/3	Dark brown clay loam; wet; light roots; 5% cobbles.	Possible soil berm against wall.
	TR 11	I	0-55+	10 YR 3/2	Very dark grayish brown clay loam; wet; light roots.	Possible soil berm against wall.
	TR 17	I	0-20	10 YR 3/1	Very dark gray clay loam; wet.	Runoff deposition.
		II	16-30+	10 YR 3/1	Very dark gray clay loam mottled with red eroding basalt; wet.	Saprolitic layer.
Kukuinui	TR 18	I	0-50+	10 YR 3/3	Dark brown sandy loam; wet.	Runoff deposition.
	TR 19	I	0-26+	10 YR 3/4	Dark yellowish brown clay loam; wet.	Runoff deposition.
	TR 20	I	0-38	10 YR 3/3	Dark brown sandy loam; wet.	Runoff deposition.
		II	38-54+	10 YR 3/4	Dark yellowish brown clay loam mottled with red eroding basalt; wet.	Saprolitic layer.
	TR 21	I	0-46+	10 YR 3/4	Dark yellowish brown clay loam; wet.	Runoff deposition.
	TR 22	I	0-37+	10 YR 3/3	Dark brown sandy loam; wet.	Runoff deposition.
	TR 23	I	0-30	10 YR 3/3	Dark brown sandy loam; wet.	Runoff deposition.
		II	25-48+	10 YR 3/4	Dark yellowish brown loamy sand; wet.	Saprolitic layer.
	TR 24	I	0-28+	10 YR 3/3	Dark brown silt loam; wet.	Runoff deposition.
	TR 25	I	0-27	10 YR 3/3	Dark brown clay loam; wet.	Runoff deposition.
		II	24-32+	7.5 YR 3/4	Dark brown sandy loam; wet.	Saprolitic layer.
Eliali‘i	TU 1	I	12-76	10 YR 3/1	Very dark gray loam; wet; medium roots; 25% cobbles.	Possible soil berm against wall.
		II	60-100+	10 YR 4/1	Dark gray clay; wet.	Possible pondfield deposit.
		III	70-100+	7.5 YR 3/3	Dark brown clay loam mottled with red eroding basalt; wet; 10% cobbles.	Saprolitic layer.

* cmbd for test units; cmbs for trenches

Table 4.2: Sediment Descriptions (continued)

Study Area	Unit	Layer	Depth*	Color	Description	Interpretation
	TU 2	I	4-38	10 YR 3/1	Very dark gray clay loam; wet; 10% cobbles.	Possible soil berm against wall.
		II	38-65+	7.5 YR 3/2	Dark brown clay loam mottled with red eroding basalt; wet; 60% cobbles.	Saprolitic layer.
	TU 3	I	8-30	10 YR 2/2	Very dark brown loam; wet; heavy roots; 10% gravel.	Possible soil berm against wall.
		II	28-50+	7.5 YR 3/3	Dark brown loam mottled with red eroding basalt; wet.	Saprolitic layer.
	TU 4	I	7-65	10 YR 2/2	Very dark brown loam; wet; heavy roots; 5% cobbles.	Deposition during and after use of terrace.
	TU 5	I	10-60	10 YR 2/1	Black clay loam; wet; heavy roots to 30 cmbd; 10% cobbles.	Runoff deposition after *heiau* construction.
		II	60-108	7.5 YR 2.5/2	Very dark brown clay loam; wet; 75% cobbles.	Possible builder's trench.
		III	108-110+	7.5 YR 3/2	Dark brown clay; very wet; 50% gravel.	Stream deposit.
	TU 19	I	15-60+	10 YR 3/2	Very dark grayish brown clay loam; wet; medium roots to 30 cmbd; 20% cobbles.	Possible soil berm against wall.
	TR 26	I	0-28+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots.	Possible soil berm against wall.
	TR 27	I	0-38+	10 YR 3/3	Dark brown clay loam; wet; heavy roots; 50% cobbles.	Possible soil berm against wall.
Halepoki	TR 28	I	0-22+	10 YR 3/2	Very dark grayish brown sandy loam; wet; heavy roots.	Runoff deposition.
	TR 29	I	0-22+	10 YR 3/2	Very dark grayish brown sandy loam; wet; heavy roots.	Runoff deposition.
	TR 30	I	0-32+	10 YR 3/2	Very dark grayish brown clay loam; wet.	Runoff deposition.
	TR 31	I	0-28+	10 YR 3/2	Very dark grayish brown clay loam; wet; medium roots.	Runoff deposition.
	TR 32	I	0-20	10 YR 3/2	Very dark grayish brown sandy loam; wet; medium roots; 5% cobbles.	Runoff deposition.
		II	16-32+	10 YR 3/3	Dark brown sandy clay loam; wet.	Saprolitic layer.
	TR 33	I	0-16+	10 YR 3/2	Very dark grayish brown silt loam; wet; heavy roots; 10% cobbles.	Runoff deposition.
	TR 34	I	0-20+	10 YR 3/2	Very dark grayish brown clay loam; wet; heavy roots; 10% cobbles.	Runoff deposition.
	TR 35	I	0-20+	10 YR 3/2	Very dark grayish brown sandy loam; wet; heavy roots.	Runoff deposition.
Lahokea	TU 16	I	7-78+	10 YR 3/2	Very dark grayish brown clay loam; wet; medium roots to 55 cmbd; 5% cobbles.	Possible soil berm against wall.

* cmbd for test units; cmbs for trenches

Table 4.2: Sediment Descriptions (continued)

Study Area	Unit	Layer	Depth*	Color	Description	Interpretation
Lahokea (cont.)	TU 17	I	0-50+	10 YR 3/2	Very dark grayish brown clay loam mottled with red eroding basalt; wet; light roots; 50% cobbles and gravel.	Fill within wall.
	TU 18	I	9-45+	10 YR 3/2	Very dark grayish brown clay loam; wet.	Possible soil berm against wall.
Palaloa	TU 28	I	0-26	10 YR 3/2	Very dark grayish brown clay loam; wet.	Runoff deposition.
		Fe. 1	5-26	10 YR 3/2	Very dark grayish brown clay loam; wet; abundant charcoal.	Hearth feature.
		II	26-29+	7.5 YR 3/2	Dark brown silty clay loam; wet.	Saprolitic layer.
	TR 36	I	0-65+	10 YR 3/2	Very dark grayish brown clay loam; wet.	Runoff deposition.

Keiu

Table 4.3: Keiu Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 12	I/1	nothing collected	N/A
	I/2	volcanic glass	0.1
	I/2	midden	0.2
	I/3	charcoal	1.6
	I/4	charcoal	tr.
TR 15	I	charcoal	0.2
TU 13	I/1	nothing collected	N/A
	I/2	charcoal	0.7
	I/3	charcoal	5.0
	I/4	charcoal	6.7
	I/5	charcoal	12.7

Test units 12 and 13 and Trench 15 were excavated in Keiu. TU 12 and TR 15 were located at the *ahupuaʻa* boundary wall, and TU 13 was placed within a terrace in the inland lowland. The goal of both units was to recover material that might date the construction or use of each structure. An additional goal of TU 13 was to locate a buried wall previously documented in the area (McElroy 2004). TU 12 yielded sparse amounts of midden, volcanic glass, and charcoal, while TU 13 and TR 15 produced only charcoal (Table 4.3).

TU 12 was a 1 x .50 m unit placed within feature K-11, at the boundary of Wailau and Hālawa Ahupuaʻa. The unit was placed at the base of the south wall of terrace K-11, 3.7 m east of the southwest corner of the terrace. The south wall of the terrace is believed to mark the *ahupuaʻa* boundary (see Chapter 3). The area is overgrown with bamboo, and six of these were removed from within the excavation unit. Datum was established just outside the southwest corner of the unit at 5 cm above surface. The unit was excavated to 60 cm below datum (cmbd). Two layers were present: Layer I is a possible soil berm that abuts the wall; Layer II was deposited before the wall was constructed (Figure 4.2, Table 4.2). Cultural material was sparse, and included small amounts of midden, volcanic glass, and charcoal. Midden consisted of a single fragment of *hihiwai* (*Neritina granosa*) shell, and the volcanic glass was a tiny specimen with no signs of use or modification.

* cmbd for test units; cmbs for trenches
** Layer/level

Unburned *kukui* nutshell was observed in the upper 30 cm of Layer I but not collected. The wall foundation stones were shallowly buried, extending only one course, or 20 cm, below the surface. Charcoal from Layer I level 3 was identified as *kōpiko* and dated to 735 ± 61 BP (see Chapter 5).

TR 15 was a 1 x .50 m unit placed along the south wall of feature K-11, 1 m east of TU 12. The unit was excavated to 40 cm below surface (cmbs), and only Layer I was encountered (Figure 4.1). Charcoal was the only cultural material recovered. As in TU 12, unburned *kukui* nutshell was observed in the upper portion of Layer I but not collected and the wall foundation stones extended to only 20 cm below the surface. Charcoal collected from beneath the wall foundation was submitted for wood taxa identification but was too small to be analyzed.

TU 13 was a 1 x 1 m unit excavated in feature K-4, an agricultural terrace, placed along the north wall of the terrace. The unit was located 16.5 m east of the northwest corner of the terrace. One of the goals of this unit was to relocate a buried wall that parallels the wall visible on the surface (McElroy 2004) and to collect datable material from beneath this lower wall. Datum was established just outside the south corner of the unit at 5 cm above the surface. By 20 cmbd, the wall that was visible on the surface began to extend into the unit, and by 50 cmbd, this wall covered roughly ¾ of the unit (Figure 4.3). At 50 cmbd there were no signs of the buried wall, and excavation ceased, as fragments of decomposing bedrock were encountered. The wall that was visible on the surface exhibited one course of buried stones, extending to 34 cmbd (Figure 4.4). Stratigraphy consisted of a single layer that continued from the surface to below the base of the wall (see Table 4.2). A pocket of clay was encountered within

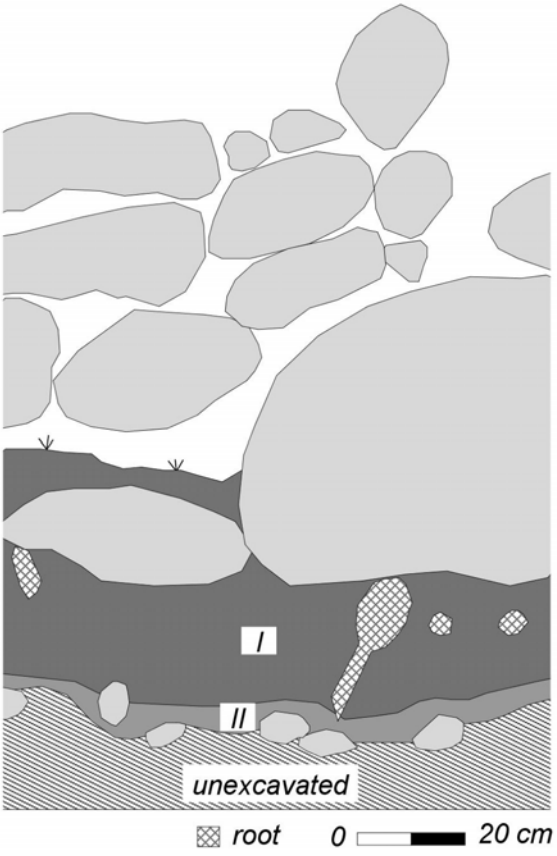

Figure 4.2: TU 12 south face profile.

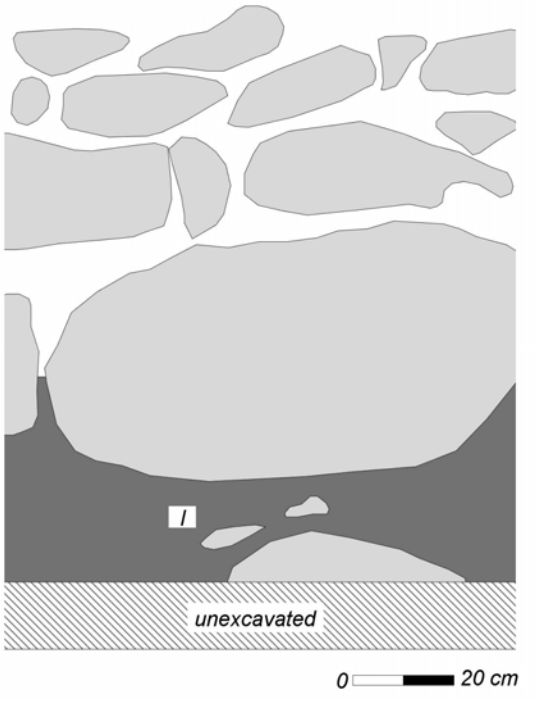

Figure 4.1: TR 15 south face profile.

the wall (Layer Ia) between 10 and 20 cmbd (see Figure 4.4). No artifacts were recovered from this unit, although charcoal was collected from every excavation level and from beneath the foundation stones of the wall. No samples were submitted for wood taxa identification or dating because this wall has already been dated (McElroy 2004).

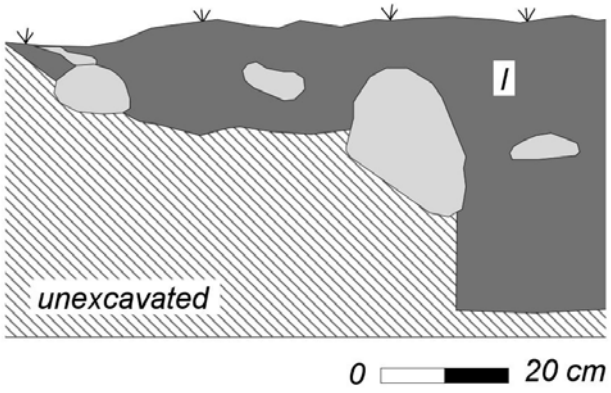

Figure 4.3: TU 13 east face profile.

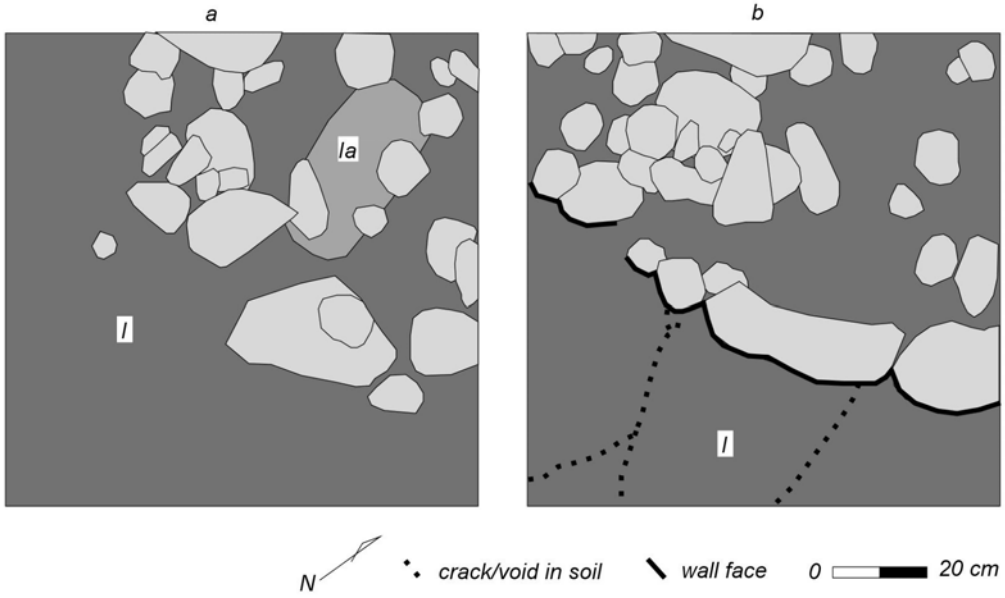

Figure 4.4: TU 13 plan view drawings: *a* plan at 20 cmbd; *b* plan at 50 cmbd. Stones are part of the terrace wall.

Table 4.4: Pawa'a Excavated Materials

Unit	Depth**	Material	Weight (g)
TR 14	I	botanics	1.0
	I	charcoal	tr.
TU 14	I/1	nothing collected	N/A
	I/2	charcoal	0.1
	I/3	charcoal	1.1
TU 20	I/1; I/2	nothing collected	N/A
	I/3	charcoal	0.4
TR 13	I	charcoal	2.3
TU 15	I/1	nothing collected	N/A
	I/2	charcoal	0.2
	I/3	charcoal	0.3
TR 12	I	charcoal	tr.

Pawa'a

Test units 14, 15, 20 and trenches 12, 13, and 14 were excavated in Pawa'a. All units were located within terraces: TU 14 and 20 and TR 13 and 14 within the Pawa'a Central *lo'i* system at terraces P-1, P-2 and P-3, and TU 15 and TR 12 at the south end of the Pawa'a Makai *lo'i* system at terrace P-6 (see Figure 3.23). The goal of the units was to recover material for dating. No artifacts were found, although charcoal was collected from every unit (Table 4.4). All excavations in this area were plagued by masses of bamboo roots.

** Layer/level

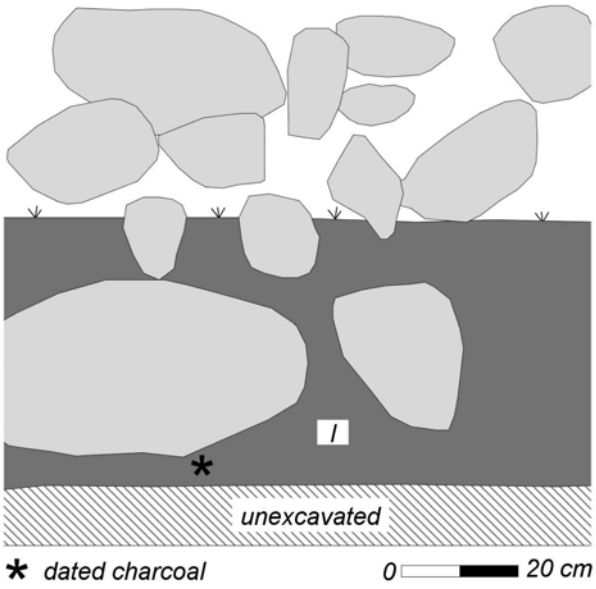

Figure 4.5: TR 14 south face profile.

Pawa'a Central Lo'i

TR 14 was a 1 x .50 m unit located along the south wall of terrace P-1, 4 m from the southeast corner of the terrace. The unit was excavated to 45 cmbs, and stratigraphy consisted of a single layer thought to represent the builder's trench for the wall. The buried portion of the wall consisted of two courses of stones extending to 40 cmbs (Figure 4.5). Unburned *kukui* nutshell and charcoal were collected from beneath the wall foundation. A sample of charred parenchyma dated to 158 ± 35 BP.

TU 14 was a 1 x 1 m unit located within terrace P-2, at the base of the wall at the southeast corner of the terrace. Datum was established just outside the northwest corner of the unit at 11 cm above the surface. The unit was excavated to 56 cmbd. Stratigraphy consisted of a single layer of cobble and gravel-rich sediment with numerous voids (Figure 4.6). This is interpreted as fill for the builder's trench for the wall. The wall exhibited two courses of buried stones, extending to 50 cmbd. Unburned *kukui* nutshell was found in the upper 20 cm of this deposit and was not collected. A charcoal sample from directly beneath the foundation stones of the south wall (23 cmbd) was taxonomically identified. The sample was composed of *kukui* and *monocotyledonae*. Neither was submitted for radiocarbon dating because both are long-lived woods.

TU 20 was located within terrace P-3, at the base of the south wall, 4.4 m from the southeast corner of the terrace. This was a 1 x .50 m unit excavated to 60 cmbd. Datum was established near the southwest corner of the unit at 10 cm above the surface. The wall exhibited a single course of buried stones, extending to 43 cmbd, with abundant cobbles between the stones (Figure 4.7). Stratigraphy consisted of a single layer of cobble and gravel-rich sediment with numerous voids. This is thought to represent the fill from the builder's trench for the wall. Unburned *kukui* nutshell was observed in the upper 20 cm of the deposit and not collected. The only charcoal found in the unit was recovered from 30-40 cmbd, within a tangle of roots, and not below the wall foundation. This sample was not submitted for wood taxa identification or radiocarbon dating.

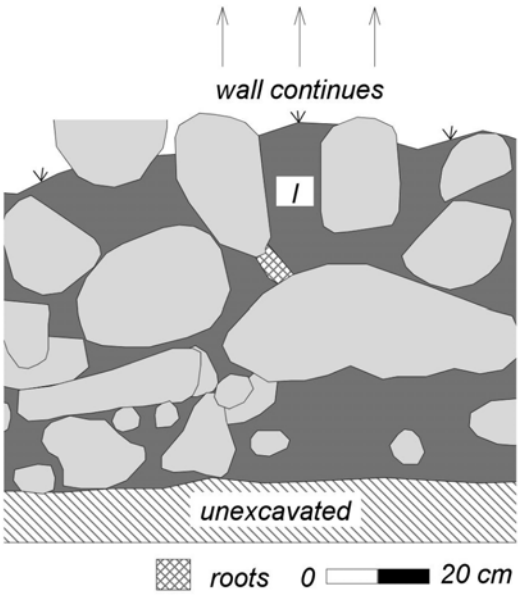

Figure 4.6: TU 14 south face profile.

TR 13 was placed along the south wall of terrace P-4, 2 m from the southwest

corner of the terrace. The trench measured 1 x .50 m and was excavated to 64 cmbs. Two to three courses of buried wall stones were exposed, and the wall foundation extended to 62 cmbs (Figure 4.8). Stratigraphy consisted of a single layer thought to represent the builder's trench for the wall. Charcoal was the only cultural material found.

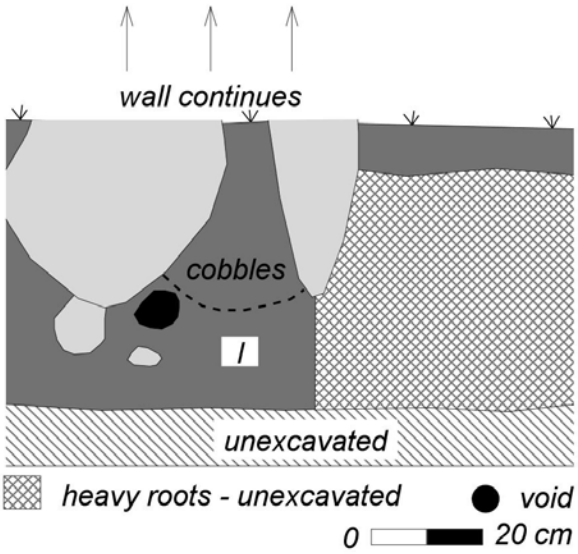

Figure 4.7: TU 20 south face profile.

Pawa'a Makai Lo'i

TU 15 was a 50 x 50 cm unit excavated within terrace P-6, at the top of the east wall. The unit was located 9.8 m from the northeast corner of the terrace. Datum was established just outside the northwest corner at 9 cm above the surface. On the surface, the wall appeared as a single stone alignment. Excavation exposed a second alignment of stones at 15 cmbd, paralleling the first alignment on the west (Figure 4.9). Vertically, the wall exhibited a single course of stones, extending to 39 cmbd (Figure 4.10). Stratigraphy consisted of a single layer of gravel and cobble-rich sediment, thought to be a deposit of fill from the builder's trench for the wall. Unburned *kukui* nutshell was found in the upper 10 cm and not collected. Excavation ceased at 45 cmbd, below the wall foundation. Charcoal from beneath the foundation stones was submitted for wood taxa identification. The species of wood could not be identified and was not submitted for radiocarbon dating. A second charcoal sample from beneath the wall was identified as *kōpiko*. It returned a conventional radiocarbon age of 119 ± 33 BP.

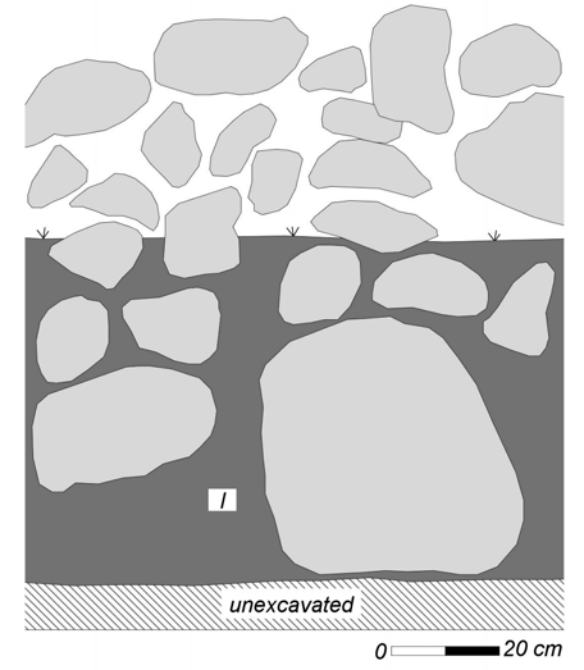

Figure 4.8: TR 13 south face profile.

TR 12 was a 1 x .50 m unit placed at the base of the east wall of terrace P-6, 5.5 m north of TU 15. The unit was excavated to 70 cmbs, and the wall foundation extended two to three courtses below the surface to 56 cmbs. Tightly packed cobbles occurred below the wall foundation. Stratigraphy consisted of a single layer thought to represent the builder's trench for the wall. Charcoal was the only cultural material recovered. No samples were submitted for wood taxa identification or radiocarbon dating.

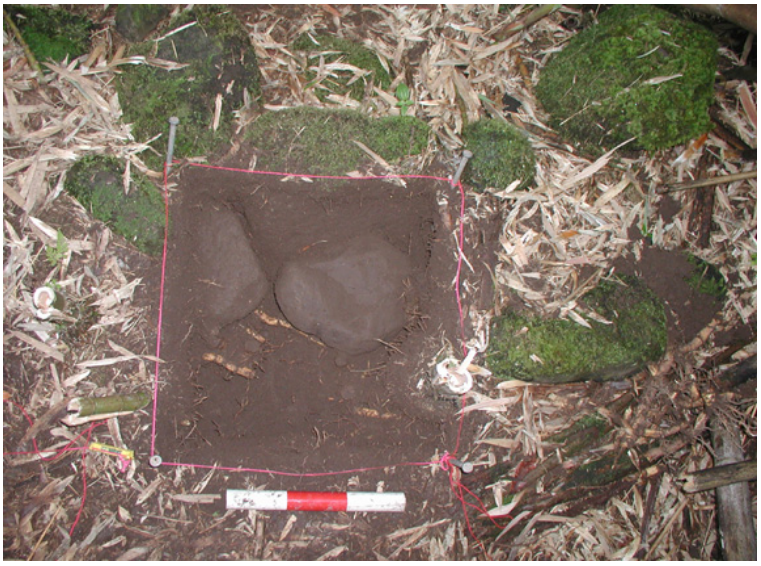

Figure 4.9: TU 15 plan at 30 cmbd, facing east. Note the buried portion of the wall exposed by excavation. Dated charcoal came from beneath the stone at the base of the unit on the right.

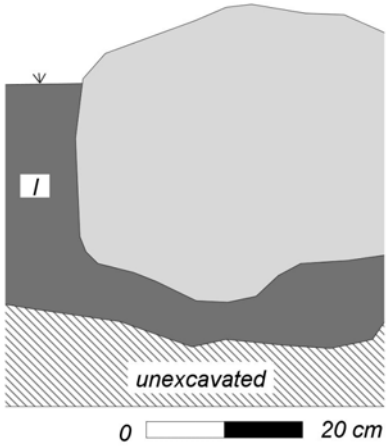

Figure 4.10: TU 15 east face profile.

Ku‘ele

Table 4.5: Ku‘ele Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 25	surface	historic artifacts	13.6
	surface	traditional artifacts	377.8
	I/1	historic artifacts	38.4
	I/1	traditional artifacts	224.5
	I/1	volcanic glass	1.2
	I/2	traditional artifacts	8.8
	I/2	volcanic glass	tr.
	I/2	charcoal	7.9
	I/3	charcoal	1.4
	I/4	traditional artifacts	55.2
	I/4	charcoal	2.4
TU 26	I/1	historic artifacts	59.1
	I/1	traditional artifacts	188.9
	I/1	volcanic glass	.5
	I/2	historic artifacts	13.0
	I/2	traditional artifacts	1,753.0
	I/2	volcanic glass	0.3
	I/2	chert	4.0
	I/2	midden	0.1
	I/2	charcoal	101.0
	I/3	traditional artifacts	2.0
	I/3	charcoal	6.9
	II/1	traditional artifacts	50.9
	II/1	charcoal	5.2

Thirteen excavation units were placed within the land division of Ku‘ele: six in the Coastal Central survey area and seven in Coastal West. Two of the Coastal Central units were excavated at possible habitation structures and four were placed at the base of *lo‘i* walls. Six of the Coastal West units were

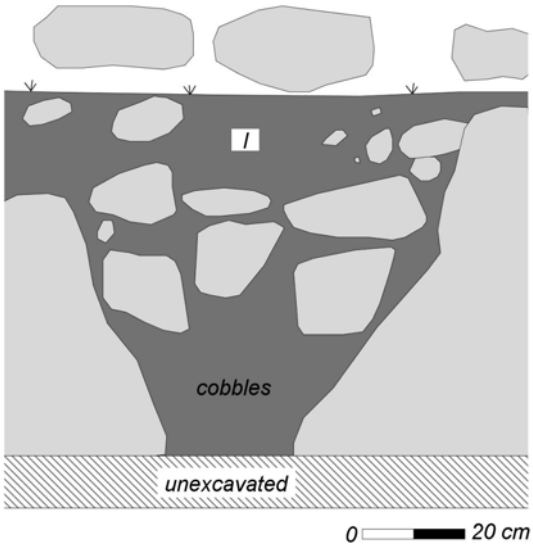

Figure 4.11: TR 12 west face profile.

Table 4.5: Ku‘ele Excavated Materials (continued)

Unit	Depth**	Material	Weight (g)
TU 27	I/1	nothing collected	N/A
	I/2	charcoal	2.2
	I/3	charcoal	17.4
	I/4	traditional artifacts	14.0
	I/4	volcanic glass	0.1
	I/4	charcoal	21.6
	I/5	traditional artifacts	93.3
	I/5	volcanic glass	0.6
	I/5	charcoal	29.7
	I/6	traditional artifacts	5.3
	I/6	charcoal	1.5
	II/1	volcanic glass	1.8
	II/1	charcoal	10.9
TR 38	I	traditional artifacts	349.5
	I	volcanic glass	1.4
	I	charcoal	14.6
TR 16	I	traditional artifacts	539.8
	I	volcanic glass	0.9
	I	charcoal	0.1
TR 37	surface	traditional artifacts	5.4
	I	traditional artifacts	540.2
	I	volcanic glass	2.2
	I	chert	2.9
	I	charcoal	0.2
TU 22	I/1	traditional artifacts	10.3
	I/1	charcoal	9.2
	Fe.1/1	charcoal	3.7
	Fe. 1/2	charcoal	14.9
	II/1	charcoal	5.0
TU 23	I/1	traditional artifacts	77.9
	I/1	charcoal	1.1
	I/2	traditional artifacts	102.5
	I/2	charcoal	1.3
	I/3	traditional artifacts	25.2
	I/3	charcoal	1.0
	I/4	traditional artifacts	17.0
	I/4	charcoal	0.1
	I/5	charcoal	tr.
TR 3	I	traditional artifacts	121.9
	I	charcoal	0.2
TR 2	I	volcanic glass	5.0
	I	charcoal	0.5

excavated in the *lo‘i* and one was placed over a hearth. The purpose of the units in the habitation areas was to recover materials that might relate to early occupation of the valley and to recover datable material. The purpose of the other units was to collect charcoal for dating the *lo‘i* and the hearth. Exceptions were TR 1 and TR 4, which were offset from the *lo‘i* walls to identify a possible pondfield deposit in the planting area. Basalt flakes and charcoal were abundant in most of the excavations (Table 4.5).

Coastal Central

TU 25 was excavated outside the north edge of habitation platform C-2. This 1 x .50 m unit was placed 1.5 m from the northeast corner of the terrace. The terrace is open to the northwest and this side has eroded onto the boulder beach. The unit was set up on this eroding face over a concentration of surface artifacts that included basalt flakes and historic material. Datum was established outside the south corner of the unit at 11.5 cm above the surface. The surface of the feature had clearly been disturbed by modern campers, and the unit was placed here to identify possible intact subsurface cultural deposits. Excavation ceased, however, at 70 cmbd, where a mass of waterworn stones and boulders impeded further excavation. These stones were probably naturally deposited by high winter surf, although it was impossible to discern the stones of the terrace from the natural stones below the surface. Stratigraphy consisted of a single layer of charcoal-stained sediment, likely a mix of modern and older materials that migrated down through the spaces between the stones (Figure 4.12). Bottle glass, basalt flakes, volcanic glass, and charcoal were found throughout this layer.

** Layer/level

TU 26 was placed within possible habitation terrace C-6, at the northwest corner of the terrace. Datum was set up outside the northeast corner of the unit at 25 cm above the surface, and the unit was excavated to 57 cmbd. Stratigraphy consisted of two layers: Layer I is thought to have been deposited during the use of the structure, and Layer II is a saprolitic layer deposited before construction of the terrace. Historic materials, including metal, window glass, and bottle glass were found in the upper 12 cm of Layer I, and traditional artifacts were found throughout the layer. These included 68 basalt flakes, three pieces of volcanic glass, a chisel tip, an adze fragment, an adze blank, and a whetstone. Four basalt flakes and charcoal were found at the interface between Layers I and II. The terrace wall was shallowly buried, extending to only 32 cmbd, or 7 cmbs (Figure 4.13). Charcoal and unburned *kukui* nutshell were collected from beneath the wall foundation. A variety of native and Polynesian-introduced plants were identified in the charcoal (see Chapter 5). A fragment of the native shrub-tree *hō‘awa* dated to 219 ± 39 BP.

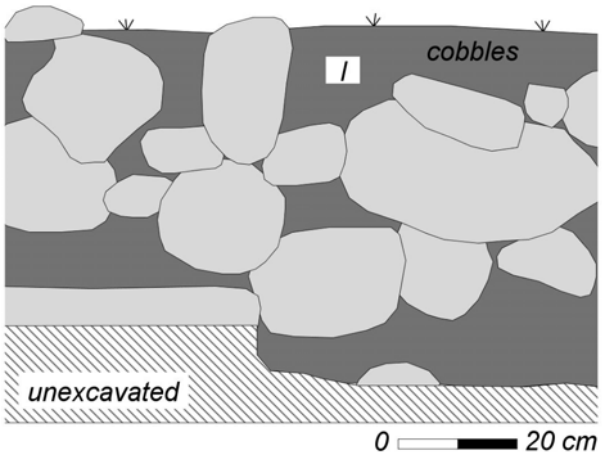

Figure 4.12: TU 25 south face profile.

TU 27 was a 1 x .50 m unit located within terrace C-8, just outside the large *lo‘i* system that extends to Makea. The unit was placed along the south wall of terrace C-8, 10 m east of where the *‘auwai* empties into the terrace. Datum was established outside the southwest corner of the unit at 5 cm above the surface, and the unit was excavated to 65 cmbd. Stratigraphy consisted of a single layer of runoff deposition, and 18 basalt flakes, seven pieces of volcanic glass, and an adze fragment were collected. Two courses of buried wall stones were exposed; the wall foundation extended to 55 cmbd (Figure 4.14).

TR 38 was also placed along the south wall of terrace C-8. This unit measured 1 x .50 m and was located 8 m from the southwest corner of the terrace. The trench was excavated to 33 cmbs and two stratigraphic layers were exposed. Layer I consisted of runoff deposition before and during terrace construction, and Layer II was a culturally-sterile saprolitic deposit. The terrace wall was shallowly buried, extending only one course below the surface to 22 cmbs (Figure 4.15). A fragment of ground basalt, 48 basalt flakes, and two pieces of volcanic glass were among the materials recovered.

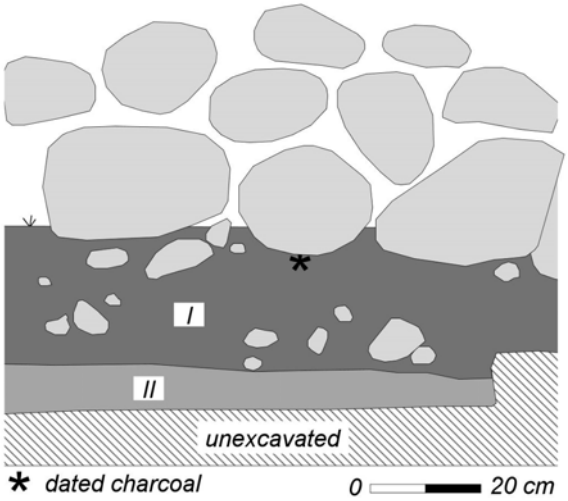

Figure 4.13: TU 26 north face profile.

TR 16 was a 1 x .50 m trench located along the south wall of terrace C-9, 7 m from the southwest corner of the terrace. The trench was excavated to 50 cmbs and stratigraphy was similar to that of TR 38. The wall foundation extended to

40 cmbs (Figure 4.16), and a fragment of charred *kōpiko* found beneath the foundation dated to 646 ± 34 BP. A basalt awl, 33 basalt flakes, a fragment of ground basalt, and one piece of volcanic glass were found.

TR 37 was a 1 x .50 m trench placed along the south wall of terrace C-9, 4.5 m west of TR 16. This trench was excavated to 22 cmbs, and stratigraphy was similar to that of TR 38 and TR 16, except that only Layer I was excavated. Layer II was encountered at the base of the trench but not excavated. The wall foundation extended to 18 cmbs (Figure 4.17). A fragment of chert, 81 basalt flakes, and six pieces of volcanic glass were recovered.

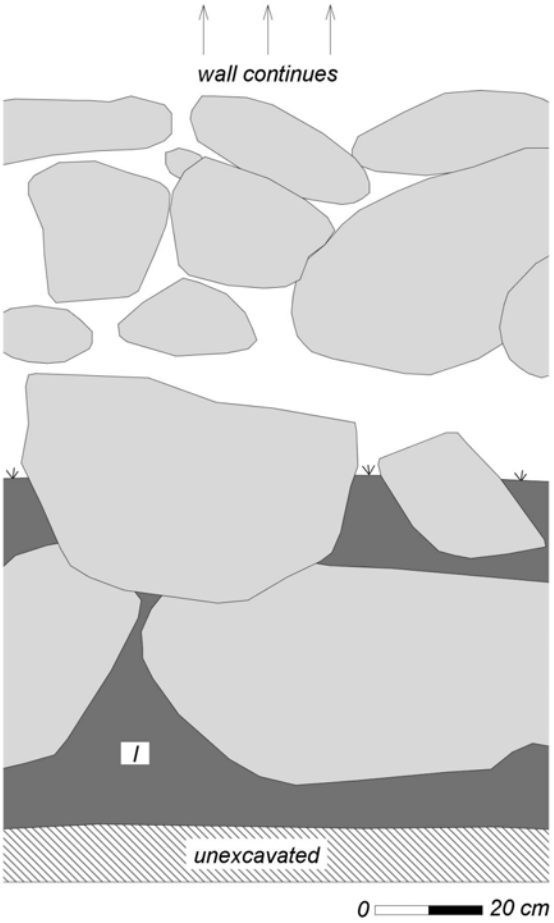

Figure 4.14: TU 27 south face profile.

Coastal West

TU 22 was a 50 x 50 cm unit that bisected a hearth (feature C-18) on a flat plot of land above Wailau's black sand beach (Figure 4.18; see Figure 3.35). The unit was located 2 m southeast of the 40º slope that leads to the beach, and basalt flakes were found on the surface in the area. Datum was established outside the south corner of the unit at 5 cm above the surface. The unit was excavated to 36 cmbd, and three deposits were encountered: Feature 1, which was the hearth, Layer I, the natural deposit outside the hearth, and Layer II, the underlying saprolitic layer. The base of the hearth was encountered at 25 cmbd, while Layer I extended to 30 cmbd. Thermally-altered basalt was found near the perimeter of the hearth and not collected. Seven basalt flakes were recovered from Layer I level 1 outside the hearth, and an abundance of charcoal was found within the hearth. A variety of taxa were identified (see Chapter 5). Charcoal from the ti leaf plant collected from the base of the hearth dated to 204 ± 33 BP.

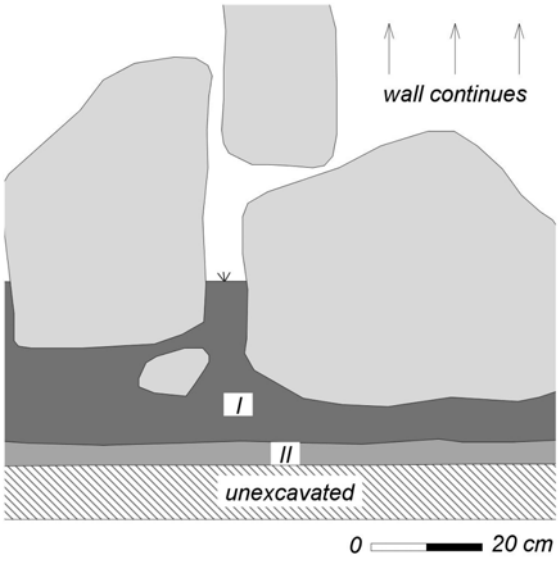

Figure 4.15: TR 38 south face profile.

TU 21 was placed along the south wall of terrace C-20. This 1 x .50 m unit was excavated to 50 cmbd. Datum was set up outside the southwest corner of the unit at 10 cm above the surface. The wall

foundation was shallowly buried, extending to only 20 cmbd. A single layer of culturally-sterile runoff deposition was encountered; no cultural material was found.

TU 23 was placed on the high side of the wall that separates terraces C-21 and C-22 from terrace C-19 (see Figure 3.36). This is the north wall of C-21, and the unit was placed at a curve in the wall, 1 m from the wall's east end. The unit measured 50 x 50 cm and datum was established near the northeast corner at 10 cm above the surface. The unit was excavated to 60 cmbd. Stratigraphy consisted of a single layer of runoff deposition (Figure 4.20). A basalt abrading stone, 12 basalt flakes, and charcoal fragments were collected from throughout this deposit. After the test unit was completed, a shovel probe was excavated on the low side of the wall to determine the depth of the wall foundation (Figure 4.21). This extension to TU 23 measured approximately 20 cm in diameter and was excavated to 62 cmbd. The extension revealed that the wall extended to 52 cmbd, and no cultural material or charcoal were found in the area excavated by shovel probe. A charcoal sample from the lowest level of the test unit was identified as *Hibiscus* sp. but was not submitted for radiocarbon dating.

TR 1 was a 1 x .50 m unit placed within terrace C-25. The unit was offset 2 m from the east wall and 8 m from the northwest corner of the terrace. The unit was positioned away from the wall to examine the stratigraphy in the planting zone and possibly identify a pondfield deposit. Excavation continued to 28 cmbs and no pondfield deposit was encountered. Stratigraphy consisted of a culturally-sterile runoff layer in the upper 10 cm with a saprolitic layer below. No cultural material was found.

TR 3 was located on the northeast side of the alignment found within terrace C-

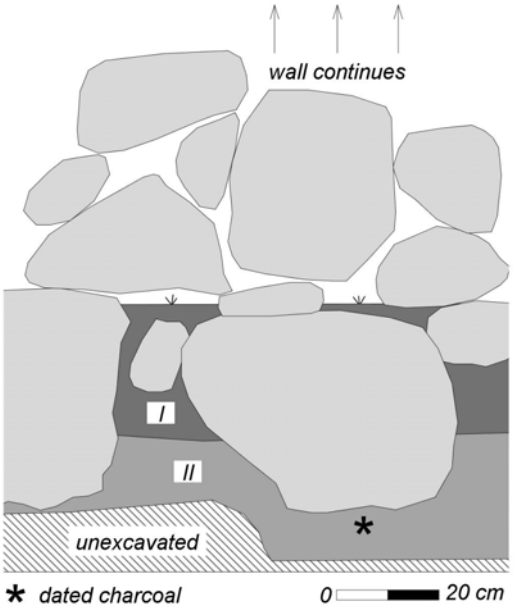

Figure 4.16: TR 16 south face profile.

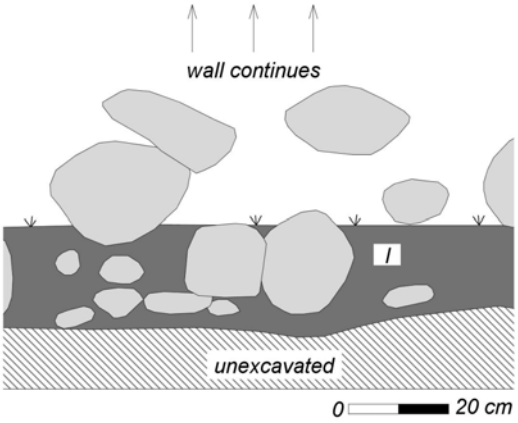

Figure 4.17: TR 37 south face profile.

Figure 4.18: TU 22 plan view facing southwest.

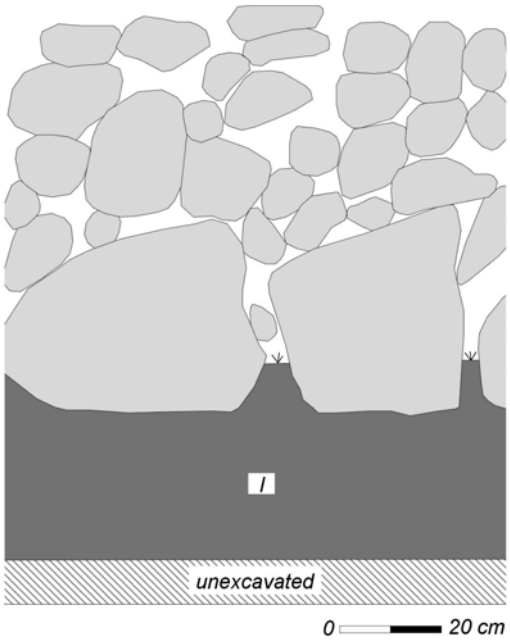

Figure 4.19: TU 21 south face profile.

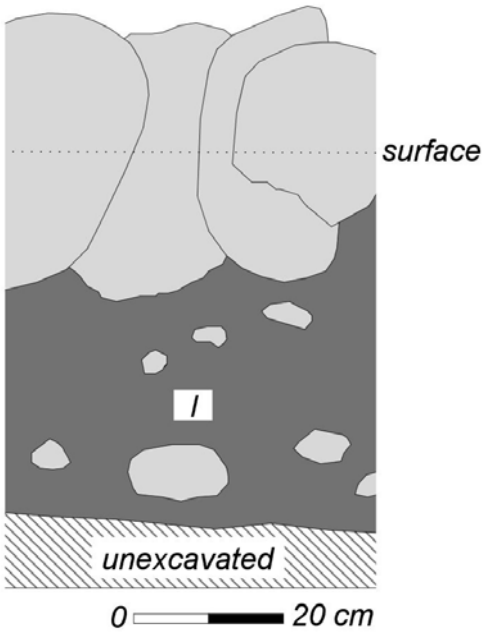

Figure 4.20: TU 23 north face profile.

30 (Figure 4.23). The unit measured 1 x .50 m and was excavated to a depth of 28 cmbs. Two stratigraphic layers were exposed. Layer I was composed of runoff deposition and yielded three basalt flakes, a basalt core, and a single fragment of charcoal. Layer II was the culturally-sterile saprolitic layer. The alignment consisted of a single course of stones, shallowly buried to 30 cmbs (Figure 4.22).

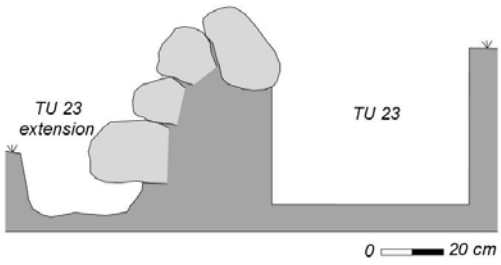

Figure 4.21: TU 23 and TU 23 extension cross-section, facing east.

TR 4 was a 40 x 40 cm unit placed in the interior of terrace C-31, 6 m from the east wall, 8 m from the west wall, and 5 m from the north wall of the terrace. Like TR 1, this unit was offset from the terrace walls to identify a possible pondfield deposit within the planting area, but none was found. The unit was

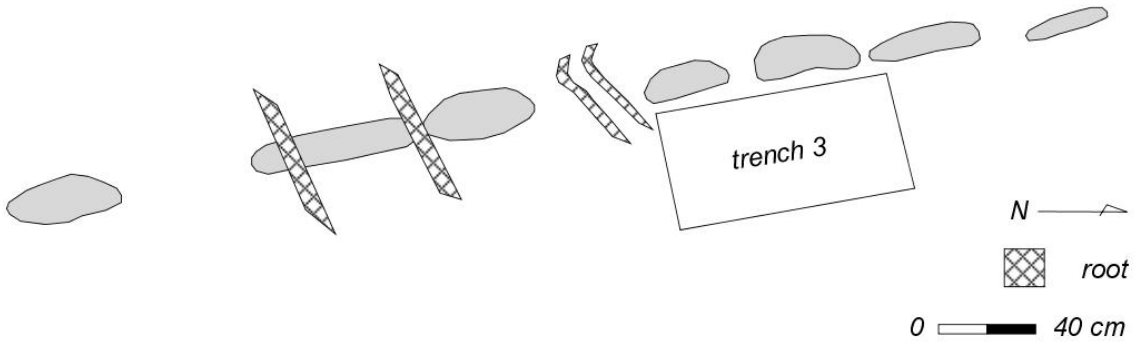

Figure 4.22: TR 3 plan view.

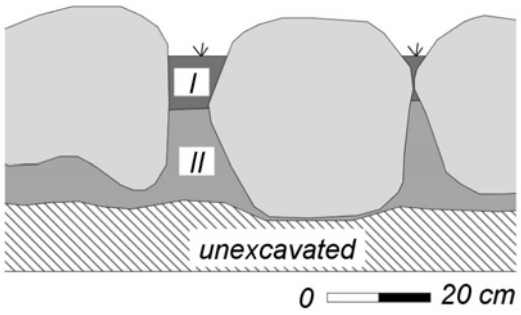

Figure 4.23: TR 3 west face profile.

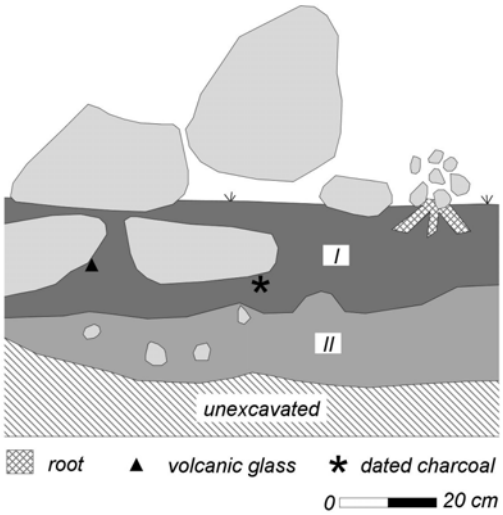

Figure 4.24: TR 2 south face profile.

Table 4.6: Makea Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 6	I/1	nothing collected	N/A
	I/2	botanics	0.3
	I/3	traditional artifacts	45.6
	I/3	botanics	6.1
	I/3	charcoal	0.6
	I/4	charcoal	1.9
	I/5	charcoal	1.6
	I/6	charcoal	0.1
TU 8	I/1; I/2	nothing collected	N/A
	I/3	charcoal	1.1
	I/4	charcoal	1.1
	I/5	charcoal	1.8
	I/6	charcoal	0.4
	I/7	charcoal	0.2
TR 5	I	charcoal	2.1
TR 11	I	traditional artifacts	179.0
	I	charcoal	1.1
TR 10	I	traditional artifacts	17.1
	I	charcoal	0.3
TR 9	I	traditional artifacts	152.0
	I	charcoal	6.4
TU 9	I/1	nothing collected	N/A
	I/2	charcoal	2.5
	I/3	charcoal	3.5
	I/4	charcoal	3.3
	I/5	charcoal	2.7
	I/6	charcoal	0.6
	I/7	charcoal	0.1

excavated to 10 cmbs, just below the interface between the Layer I runoff deposit and the Layer II saprolitic layer. No cultural material was encountered.

TR 2 was a 1 x 1 m unit located within terrace C-34. The unit was placed against the south wall of the terrace, 70 cm from the southwest corner of the terrace. Excavation continued to 36 cmbs, and stratigraphy was the same as elsewhere in the complex, consisting of an upper runoff layer and a basal saprolitic layer. The wall foundation extended to 16 cmbs (Figure 4.24). Charcoal fragments and a large volcanic glass flake were collected from the upper layer, just below the wall. A sample of charred *kōpiko* found beneath the wall foundation dated to 566 ± 37 BP.

Makea

A total of 15 units were excavated in Makea. Ten units were located in the large *loʻi*

** Layer/level

Table 4.6: Makea Excavated Materials (continued)

Unit	Depth**	Material	Weight (g)
TU 11	I/1	nothing collected	N/A
	I/2	charcoal	2.7
	I/2	volcanic glass	0.1
	I/3	traditional artifacts	20.7
	I/3	charcoal	1.7
	I/4	charcoal	0.8
	I/5	charcoal	0.2
	I/6	charcoal	2.1
	I/7	charcoal	tr.
TR 8	I	traditional artifacts	65.3
	I	charcoal	tr.
TU 10	I/1	traditional artifacts	4.3
	I/2	volcanic glass	0.5
	I/2	charcoal	2.9
	I/3	volcanic glass	0.8
	I/3	charcoal	3.1
	I/4	charcoal	7.5
	II/1	charcoal	1.7
	II/2	charcoal	0.3
TU 7	surface	historic artifacts	1,549.0
	I/1	historic artifacts	2,032.5
	I/1	traditional artifacts	24.3
	I/1	midden	0.7
	I/1	botanics	0.4
	I/2	historic artifacts	98.5
	I/2	traditional artifacts	14.8
	I/2	midden	0.1
	I/2	botanics	2.7
	I/2	charcoal	43.6
	I/1 or I/2	historic artifacts	18.2
	I/1 or I/2	traditional artifacts	42.8
	I/3	historic artifacts	1.4
	I/3	traditional artifacts	1.7
	I/3	charcoal	125.2
	II/1	traditional artifacts	3.5
	II/1	botanics	5.6
	II/2	charcoal	96.8
TR 17	I	traditional artifacts	15.8
	I	charcoal	0.1
TR 6	I	botanics	0.4
	I	charcoal	0.1
TR 7	I	charcoal	1.0
TU 24	I/1; I/2	nothing collected	N/A
	I/3	charcoal	1.3
	I/4	traditional artifacts	5.2
	I/4	charcoal	1.3

complex on the west side of Wailau Stream and five units were excavated on the slope above the large complex, three of these in the small barrage terrace system and two in possible habitation features (see Figure 3.42). The two units not located within *loʻi* were TU 7, which was excavated at an historic house platform, and TU 24, which was placed within an enclosure. The goal of the units excavated in the *loʻi* was to recover material that might date the construction or use of the *loʻi* complexes. The purpose of the unit excavated at the historic house platform was to determine when in the historic era the house was constructed and used, and to gather information about the occupants of the structure, what activities were conducted there, and to determine if the structure was associated with the *loʻi* below. The enclosure was excavated to gather information about the use of the structure and the date in which it was constructed. Items recovered from the *loʻi* excavations include *kukui* nutshell, charcoal, basalt flakes, and volcanic glass fragments (Table 4.6). An abundance of historic artifacts, charcoal, basalt flakes, *hihiwai* shell, and a basalt adze were collected from the historic house platform. Charcoal and a basalt flake were found in the enclosure.

Lowland Loʻi

Ten units were located in the large *loʻi* complex in the lower portion of Makea, on the flat land adjacent to Wailau

** Layer/level

Stream. These units were all placed on the low side of terrace walls, except for TU 10 and TU 11, which were excavated on the high side of the walls, and TR 5, which was offset from the *loʻi* wall in hopes of identifying a pondfield deposit.

TU 6 was placed within terrace M-2, at the base of the south wall, near the southwest corner of the terrace. The unit was located 2.1 m east of the "x" survey mark engraved in the southwest corner of the terrace. The ground surface slopes gently down from the wall where the unit was placed. The unit measured 1 x .50 m in area, and datum was placed just outside the southwest corner of the unit at 10 cm above the surface. The buried portion of the wall consisted of one course of stones extending to 58 cmbd (Figure 4.25). Stratigraphy was composed of a single layer thought to represent a soil berm abutting the wall. Charcoal was scattered throughout the deposit but was not found directly below the foundation stones of the wall. Two taxa were identified from a charcoal sample from the lowest excavation level. These were *ʻōhiʻa lehua*, a native tree, and an unidentified wood of the same taxon found in TU 15 at Pawaʻa. Neither were submitted for radiocarbon dating. Six basalt flakes were collected from 30-40 cmbd. Botanics included unidentified seed fragments, possibly burned, from 20-30 cmbd, and an unburned *kukui* nutshell from 30-40 cmbd.

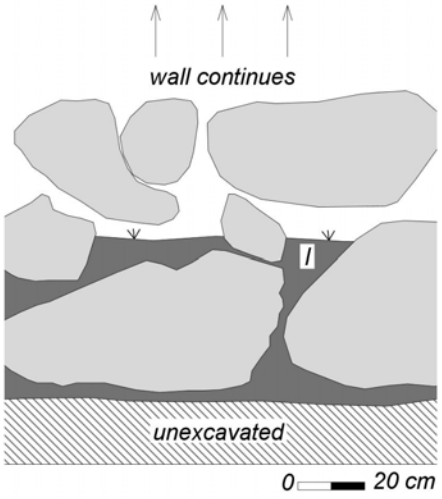

Figure 4.25: TU 6 south face profile.

TU 8 was placed within terrace M-2 at the base of the west wall. The unit was located 5.9 m north of the "x" survey mark engraved in the southwest corner of the terrace. The ground surface slopes gently down from the wall where the unit was excavated. Datum was established just outside the northwest corner of the unit at 10 cm above the surface. The unit measured 1 x .50 m and was excavated to 90 cmbd. Two stratigraphic layers were present: a soil berm that buttressed the wall and an underlying saprolitic layer, mottled with red eroding basalt pieces. The wall extended underground for three courses to 87 cmbd (Figure 4.26). Scattered charcoal was collected from the four lowest excavation levels (between 50 and 90 cmbd), but none was found directly beneath the wall foundation stones. A charcoal sample from the lowest excavation level was identified as *ʻōlapa*, but it was not dated. No artifacts were found.

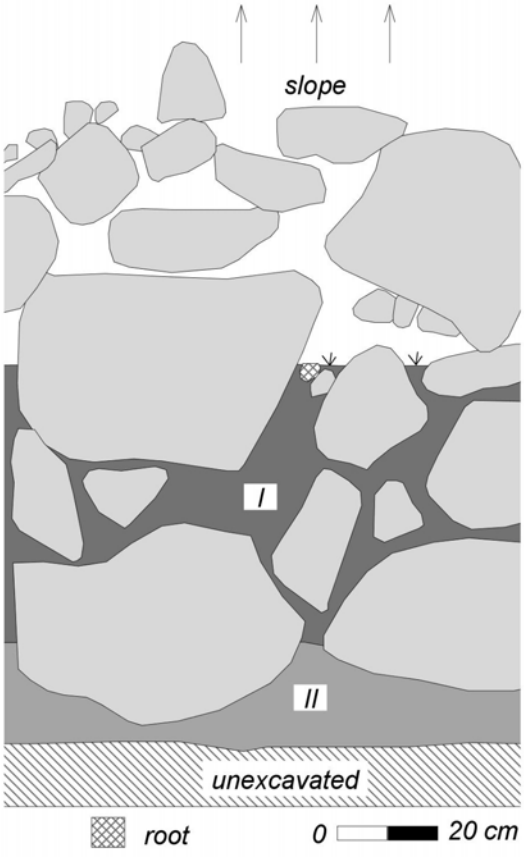

Figure 4.26: TU 8 west face profile.

TR 5 was a 1 x .50 m unit located in the interior of terrace M-2, 4 m from the

west wall of the terrace and 4 m from the south wall. The unit was offset from the terrace walls to identify a possible pondfield deposit in the planting zone of the terrace. The unit was excavated to 40 cmbs and no pondfield deposit was encountered. Stratigraphy consisted of a runoff deposit that extended to 32 cmbs, and a saprolitic layer below. Charcoal was collected from the upper layer, and no other cultural material was found.

TR 11 was placed along the south wall of terrace M-6, 10 m from the southwest corner of the terrace. This was a 1 x .50 m unit that was excavated to 55 cmbs. Stratigraphy consisted of a single layer, possibly representing a soil berm against the terrace wall. Toward the base of this layer, the soil became increasingly mottled with the red eroding basalt characteristic of the saprolitic layer found elsewhere in the complex, but this basal layer was not excavated. The buried portion of the terrace wall consisted of large stones that extended to 50 cmbs. Basalt flakes and charcoal were recovered.

TR 10 was a 1 x .50 m unit located along the south wall of terrace M-7, 1.8 m from the southwest corner of the terrace. The trench was excavated to 34 cmbs, and the terrace wall extended to 32 cmbs (Figure 4.27). A single stratigraphic layer was present. This was likely a soil berm against the wall. Charcoal and a basalt flake were collected.

TR 9 was placed along the south wall of terrace M-8, 3 m from the southwest corner of the terrace. This 1 x .50 m unit was excavated to 56 cmbs. The ground surface was slanting down to the north, so that the soil was high against the wall, and lower toward the level interior of the terrace. A single stratigraphic layer was encountered (Figure 4.28), and this was originally interpreted as a soil berm against the wall. Basalt flakes, an adze blank, and charcoal were collected from this layer An extension to the trench was excavated to the north, away from the wall, to determine if a pondfield deposit existed in the planting zone of the terrace. The extension was excavated in the center of the north face of the trench and extended 1.45 m away from the wall (Figure 4.29). This extension was 36 cm wide and 35 cm deep. No pondfield deposit, charcoal, or cultural material were found in the extension, and stratigraphy consisted of the same layer found in the trench. It is not likely that a soil berm extended this far into the interior of the terrace, thus this layer has been reinterpreted as a runoff deposit.

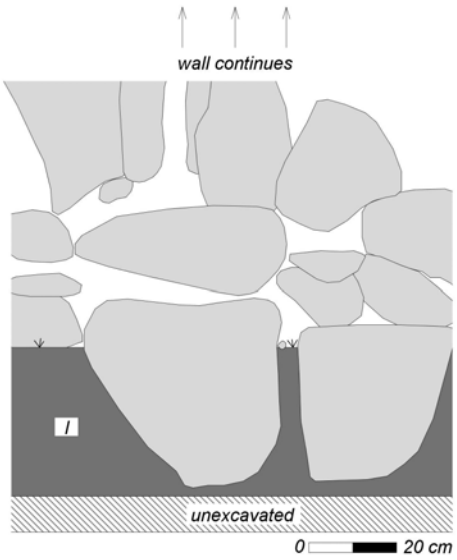

Figure 4.27: TR 10 south face profile.

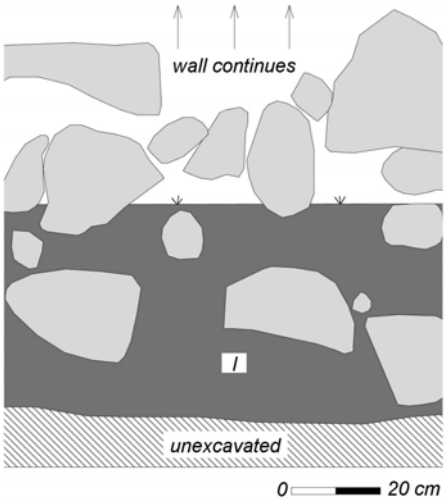

Figure 4.28: TR 9 south face profile.

TU 9 was a 1 x .50 m unit placed within terrace M-9 at the base of the south wall, 14 m from the southeast corner of the terrace. Datum was set up along the south wall of the unit at 7 cm above the surface. The ground surface slopes steeply down from the wall where the unit was excavated. The wall was deeply buried, extending five courses below the surface to 86 cmbd (Figure 4.30 and Figure 4.31). Excavation continued to 90 cmbd. Stratigraphy consisted of a single layer thought to represent a soil berm against the wall. Charcoal was the only cultural material recovered, although none was found directly below the wall foundation stones. No samples from this unit were submitted for wood taxa identification or radiocarbon dating.

Figure 4.29: TR 9 plan view. The trowel points north.

TU 11 was a 1 x .50 m unit placed within terrace M-10 at the top of the west wall, 5 m from the southwest corner of the terrace. This wall divides terrace M-10 from terrace M-9, which is adjacent and stepping down to the west (see Figure 3.42). Datum was set just outside the southwest corner of the unit at 6 cm above the surface. The unit was excavated to 80 cmbd. The wall appeared shallowly buried, as a single course of stones extended below the surface in the unit (Figure 4.32). There was a possibility, however, that the wall sloped down to the west beneath the surface and outside the unit (Figure 4.33). TU 9, excavated just west in the adjoining terrace M-9 revealed a deeply buried wall, and this might occur here. TR 8 was placed on the low side of the wall to investigate this possibility. Stratigraphy in TU 11 consisted of a single level thought to be a soil berm against the wall. A small piece of volcanic glass was found at 20-30 cmbd, and three basalt flakes were collected from 30-40 cmbd. Charcoal was scattered throughout the deposit. A sample from 70-80 cmbd was submitted for identification. Two taxa were found: an unidentified bark fragment and mangrove wood. Mangrove is a recent introduction, brought to Hawai‘i in the early Twentieth Century

Figure 4.30: TU 9, facing south, showing the buried portion of the terrace wall.

(Wagner et al. 1999). If this sample was recovered from a depth below the wall foundation, it would indicate a recent age for this wall. If this is the case, it would not necessarily mean that the entire complex was constructed in the historic era, however. The west wall runs perpendicular to the long walls of the *lo'i* and might have been a recent division of a larger terrace. TR 8 was excavated to determine if the wall extended below the depth where the mangrove was collected.

TR 8 was placed within terrace M-9, opposite TU 11, on the low side of the wall. This was a 1 x .50 m unit that was excavated to 66 cmbs. Stratigraphy was similar to that of TU 9 and TU 11, and a basalt flake and charcoal were found. The wall extended to 56 cmbs from the low side of the wall (Figure 4.34), which is 90 cmbs from the high side of the wall where TU 11 was placed. This means that the wall did slant westward and extended deeper than originally presumed, thus the mangrove from 70-80 cmbd in TU 11 was not lower than the base of the wall foundation and does not pre-date the wall. One fragment of wood

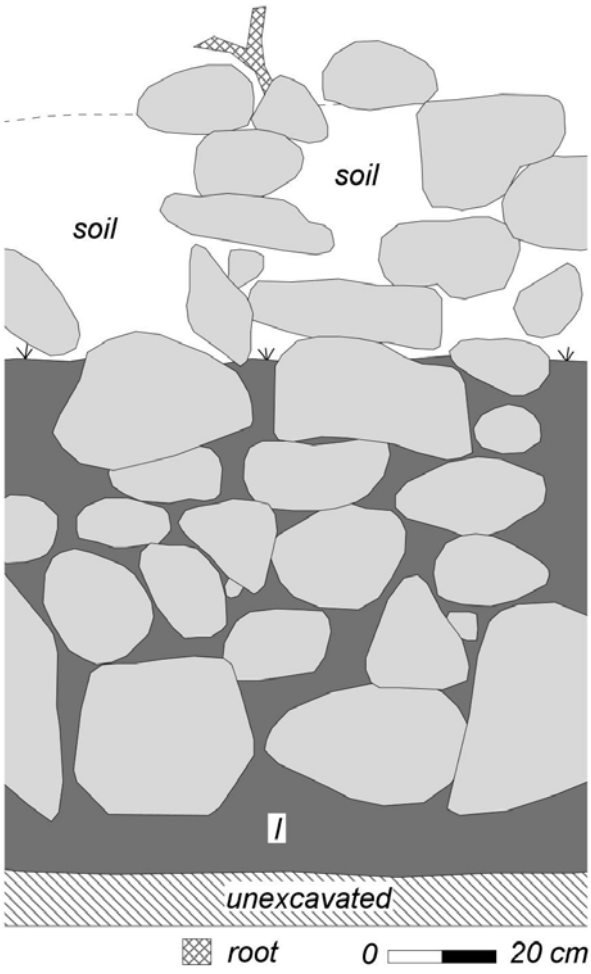

Figure 4.31: TU 9 south face profile.

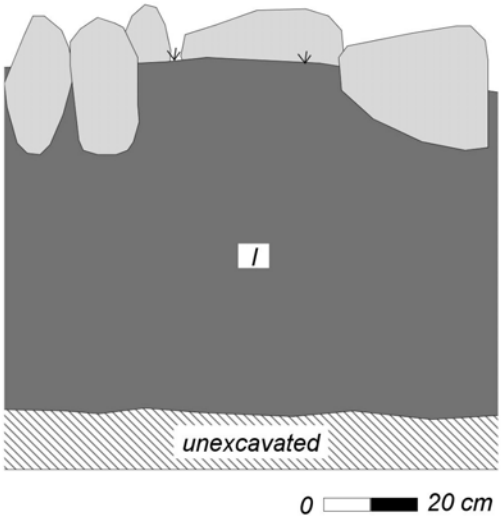

Figure 4.32: TU 11 west face profile.

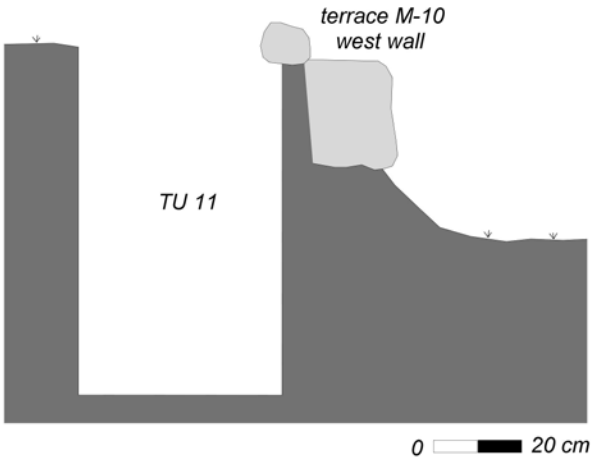

Figure 4.33: TU 11 cross-section facing south.

charcoal from beneath the wall foundation was identified as *ʻālaʻa*, and another fragment was from an unknown taxa. The *ʻālaʻa* returned a date of 695 ± 42 BP.

TU 10 was located within terrace M-13 at the top of the north wall, 4.2 m from the northeast corner of the terrace. The unit was 1 x .50 m in area and datum was established near the southwest corner at 10 cm above the surface. Two stratigraphic layers were encountered: a possible soil berm against the wall, with a sandy stream deposit below (Figure 4.35). Unburned *kukui* nutshell was observed in the upper 20 cm of the berm and not collected. A basalt flake was found at 10-20 cmbd. Two small volcanic glass fragments were found at 20-30 cmbd and three fragments were found at 30-40 cmbd. Charcoal was scattered throughout the berm deposit and in the upper portion of the stream deposit. Excavation ceased at 65 cmbd where an abundance of water rounded cobbles and stones were encountered (Figure 4.36). Charcoal from the lowest excavation level (60-65 cmbd) was identified as *ʻōhiʻa lehua*, a native tree. The sample was not submitted for dating because this is a long-lived species. *ʻŌhiʻa lehua* was also found in TU 6, 52 m to the southwest, in terrace M-2. This may have been part of the natural forest cover before the terraces were built.

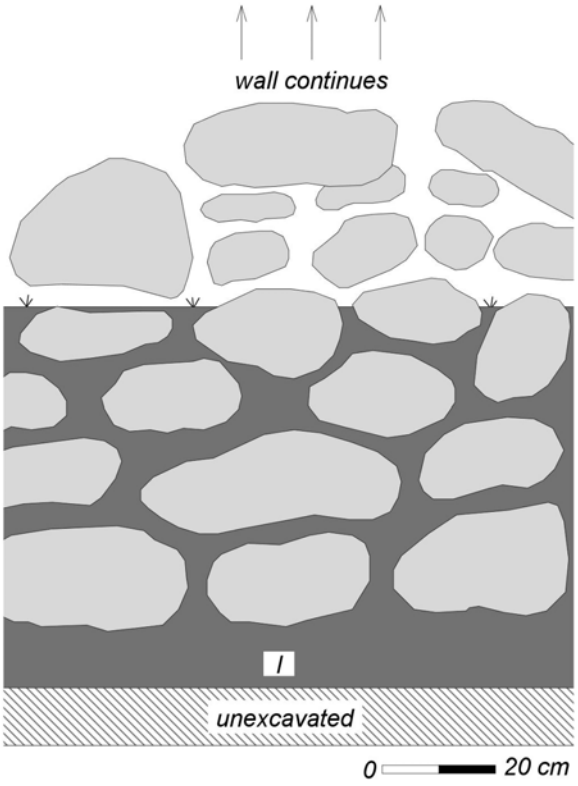

Figure 4.34: TR 8 east face profile.

Excavations on the Slope

Five excavation units were located on the slope above the lower *loʻi* complex. TU 7 was placed at historic house platform M-17, TR 24 was positioned within enclosure M-31, and TR 17, TR 6, and TR 7 were excavated in the small barrage terrace system (see Figure 3.42).

TU 7 was a 1 x 1 m unit placed along the northwest edge of historic house platform M-17, over a concentration of surface artifacts 2.7 m from the north corner of the platform (see Figure 3.48). Datum was

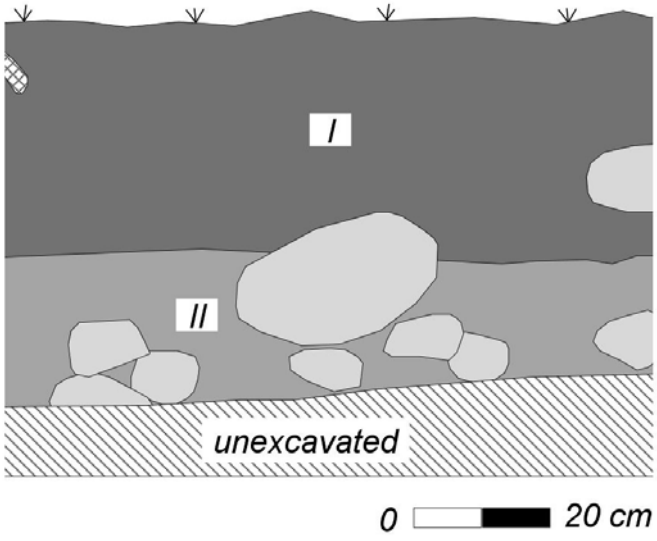

Figure 4.35: TU 10 south face profile.

established just outside the southwest corner of the unit at 10 cm above the surface. No additional courses of the platform were encountered beneath the surface, with the base of the stones extending to only 18 cmbd (Figure 4.37). Stratigraphy consisted of two layers, both with an abundance of cobbles. Layer I was deposited during use of the structure and contained a plethora of historic materials, a few traditional artifacts, sparse midden remains, and large amounts of scattered charcoal. Items collected from Layer I include three buttons, 102 ceramic sherds, 183 glass fragments, eight metal items, a strip of rubber, nine pieces of slate, nine basalt flakes, *hihiwai* shell, an unidentified shell or bone fragment, and partially burned *kukui* nutshell. Layer II yielded a single basalt flake, *hihiwai* shell, unburned *kukui* nutshell, and fewer charcoal fragments. A small basalt adze, two ceramic sherds, and a piece of slate were not recognized by the excavators and were found within the discarded materials of Layer I level 1 and Layer I level 2. Excavation ceased at 80 cmbs. No charcoal was submitted for wood identification or radiocarbon dating because of the historic age of the structure. Most of the glass and ceramics from the excavations and surface collections around the platform date to the late 1800s to early 1900s (see Chapter 5).

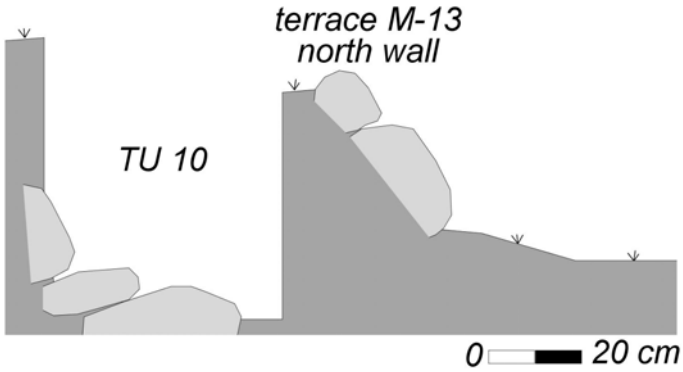

Figure 4.36: TU 10 cross-section, facing west.

TR 17 was placed along the west wall of terrace M-22, near the head of the barrage system. This 1 x .50 m trench was located 3.5 m from the southwest corner of the terrace. The trench was excavated to 30 cmbs, and the terrace wall extended to 18 cmbs (Figure 4.38). Two stratigraphic layers were identified: Layer I consisted of runoff deposition, and Layer II was the basal saprolitic layer. Charcoal and one basalt flake were found within Layer I. Charcoal found beneath the wall foundation was identified as *kolomona* and *ʻōhiʻa lehua*. Neither were dated.

TR 6 was a 1 x .50 m unit located within terrace M-24. The trench was placed along the west wall of the terrace, 5.2 m from the north end of the wall. The area was very muddy, and water began pooling in the trench at 15 cmbs. Excavation ceased at 18 cmbs, when water filled the base of the trench (Figure 4.39). Because of the submerged condition of the trench, it was not clear if the wall foundation stones had been reached, or if they were buried in mud. The excavators probed the base of the west face of the trench and could feel no large stones, thus it is likely that the basal stones

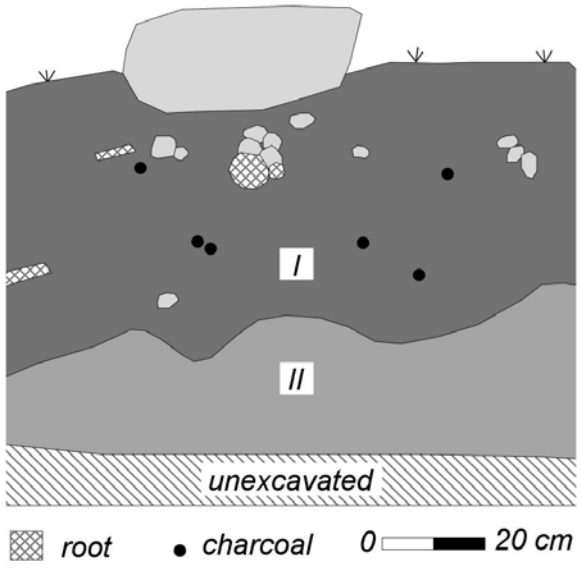

Figure 4.37: TU 7 south face profile.

illustrated in Figure 4.39 represent the bottom of the wall. These basal stones extended to 16 cmbs. One stratigraphic layer was encountered; this was a cobble-rich layer of runoff deposition. Charcoal and unburned *kukui* nutshell were collected from below the wall foundation. A fragment of a charred unidentified vine dated to modern times.

TR 7 was a 50 x 50 cm unit placed along the north wall of terrace M-29, the lowest of the barrage terraces. The trench was located 1.7 m from the east end of the terrace wall. Two courses of stones that appeared to buttress the wall were encountered at 6 cmbd. Two of these stones were removed, and the third stone extended to at least 65 cmbd (Figure 4.40), where excavation was impeded by heavy roots and tightly packed cobbles. Excavation could not continue without extending the trench, and the unit was abandoned. A single layer of runoff deposition was encountered, with red decaying basalt appearing at 50 cmbs and deeper. Charcoal was the only cultural material found.

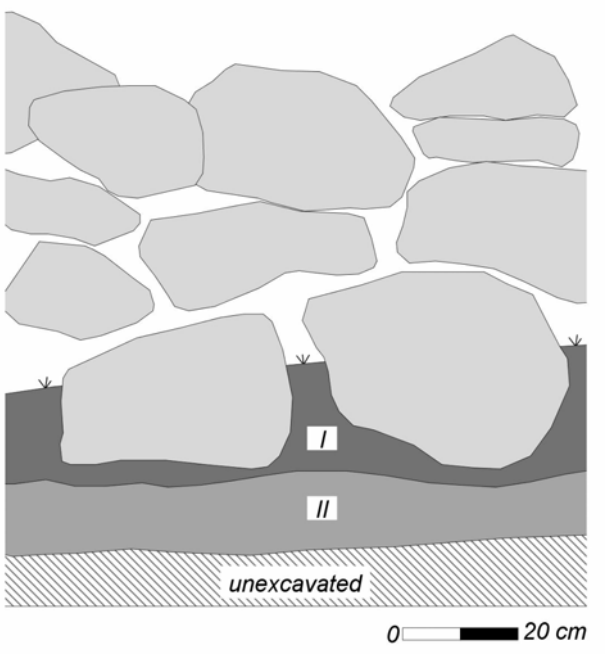

Figure 4.38: TR 17 west face profile.

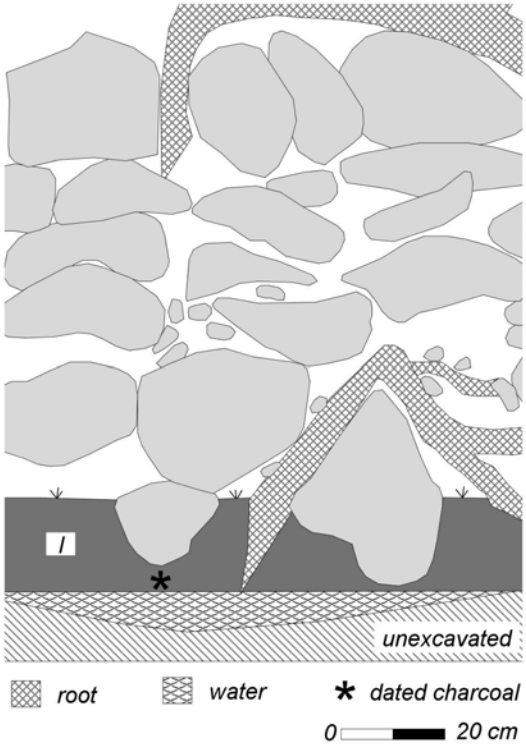

Figure 4.39: TR 6 west face profile.

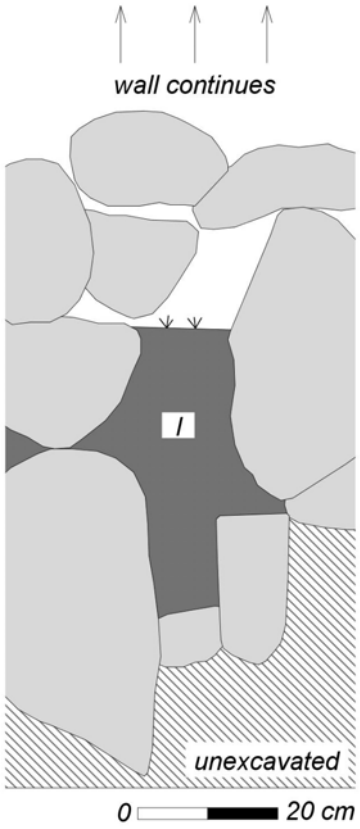

Figure 4.40: TR 7 north face profile.

TU 24 was placed in the southwest interior corner of enclosure M-31. The unit measured 1 x .50 m and datum was established outside the northeast corner of the unit at 7 cm above the surface. Excavation continued to 50 cmbd and a basalt flake and scant charcoal were found. A single stratigraphic layer was encountered (Figure 4.41); this was likely deposited during the use of the structure. Saprolitic rocks began to emerge at the base of this layer.

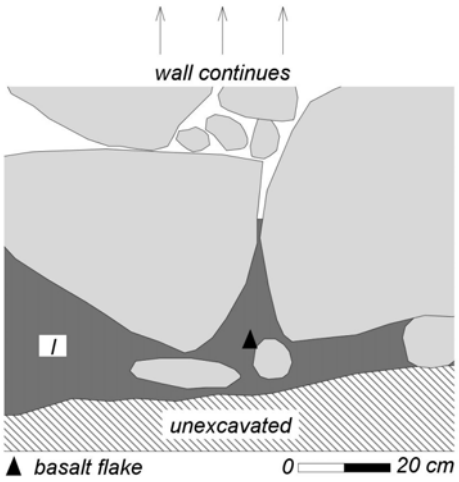

Figure 4.41: TU 24 west face profile.

Kukuinui

Table 4.7: Kukuinui Excavated Materials

Unit	Depth**	Material	Weight (g)
TR 19	I	charcoal	0.1
TR 18	I	botanics	0.2
	I	charcoal	1.5
TR 23	I	charcoal	1.9
TR 22	I	charcoal	tr.
TR 21	I	botanics	0.1
	I	charcoal	tr.
TR 24	I	charcoal	2.5
TR 25	I	charcoal	0.1

Eight units were excavated in Kukuinui: six in Kukuinui Makai (see Figure 3.54) and two in Kukuinui Mauka. All units were placed against *loʻi* walls in hopes of recovering datable material from beneath the wall foundations. Artifacts were scarce, consisting of only a few metal fragments that were discarded in the field, but charcoal was collected from almost every unit (Table 4.7). Note that the Kukuinui Mauka *loʻi* complex was not intensively surveyed, so individual terraces were not given feature numbers.

Kukuinui Makai

TR 19 was excavated just outside terrace KU-5, in an area where the Wailau Trail eroded the soil to a level beneath the wall foundation. This is the south wall of the terrace, 10 m from the southeast terrace corner. This trench consisted of scraping the eroded area below the wall to recover charcoal. The wall extended to 22 cmbs, and a 1 m long, 5 cm deep area was excavated beneath the wall (Figure 4.42). Stratigraphy consisted of a single layer of runoff deposition. Two fragments of charcoal were found. They were identified as *kukui* wood and were not dated.

TR 18 was placed outside the west wall of terrace KU-7, 3 m from the southwest corner of the terrace. This was a 1 x .50 m trench that was excavated to 50 cmbs. The terrace wall extended to 49 cmbs, and four courses of wall

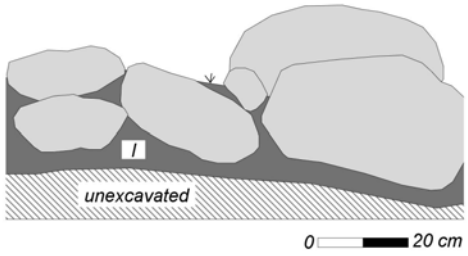

Figure 4.42: TR 19 north face profile.

** Layer/level

stones were exposed (Figure 4.43). Stratigraphy consisted of a single layer of runoff deposition. Charcoal was the only cultural material recovered.

TR 20 was placed along the south wall of terrace KU-7, 3 m from the southwest corner of the terrace. This trench measured 1 x .50 m and it was excavated to 54 cmbs. The terrace wall extended to only 25 cmbs, and a single course of wall stones were exposed (Figure 4.44). Two stratigraphic layers were encountered: a layer of runoff deposition and the underlying saprolitic layer. Both layers were culturally sterile, with no artifacts or charcoal found.

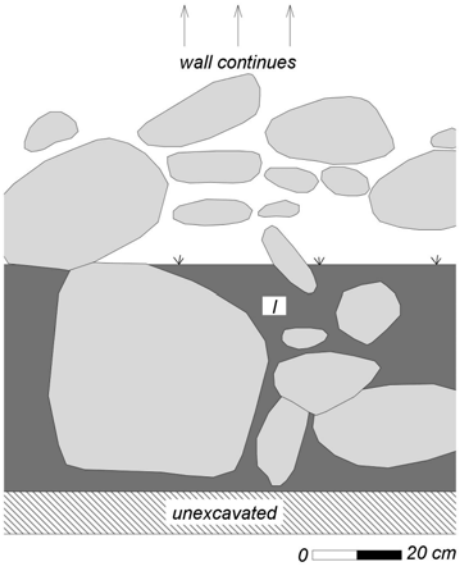

Figure 4.43: TR 18 east face profile.

TR 23 was placed along the southwest wall of terrace KU-8, 7 m from the southwest corner of the terrace. This was a 1 x .50 m trench that was excavated to 48 cmbs. The wall foundation extended to 27 cmbs, and a single course of buried wall stones were exposed (Figure 4.45). Stratigraphy was similar to that of TR 20, with a layer of runoff deposition above a saprolitic layer. Only charcoal was found. A sample from beneath the wall foundation contained *ʻōhiʻa lehua* and *ʻōlapa*.

TR 22 was located on the west wall of terrace KU-12 at the northernmost point of this wall, where it has eroded into the stream. This erosion cut provided an open cross-section of the wall, and the soil below the wall foundation was scraped to recover charcoal. The excavated area was 1 m long and 5 cm deep. A single layer of runoff deposition was encountered (Figure 4.46). Beneath this was a cobble and gravel rich stream deposit that was not excavated. The wall foundation extended to 34 cmbs, and only charcoal was found.

TR 21 was placed on the south wall of terrace KU-15 at the westernmost point of the wall, where it has eroded into the stream. The stream cut exposed a cross-section of the wall (Figure 4.47), and the soil below the wall foundation was scraped to recover

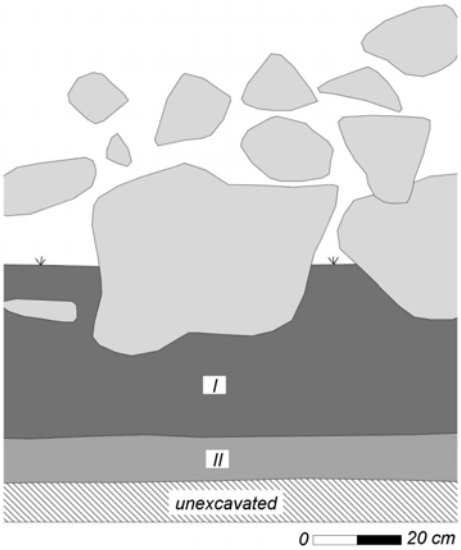

Figure 4.44: TR 20 south face profile.

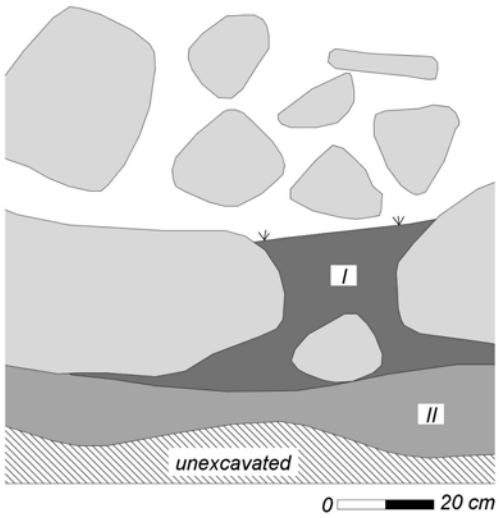

Figure 4.45: TR 23 south face profile.

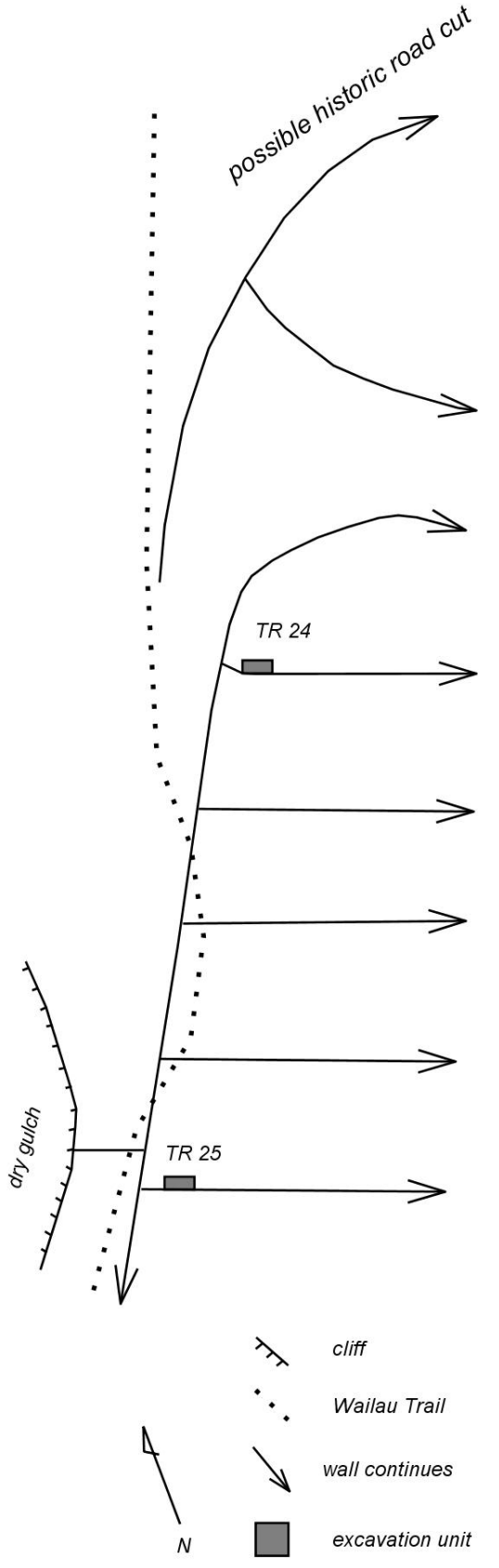

Figure 4.48: Schematic of the northwest corner of the Kukuinui Mauka *lo'i* system. Not to scale.

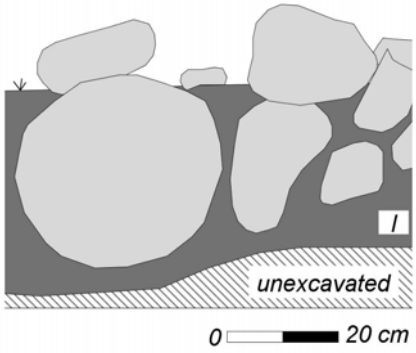

Figure 4.46: TR 22 east face profile.

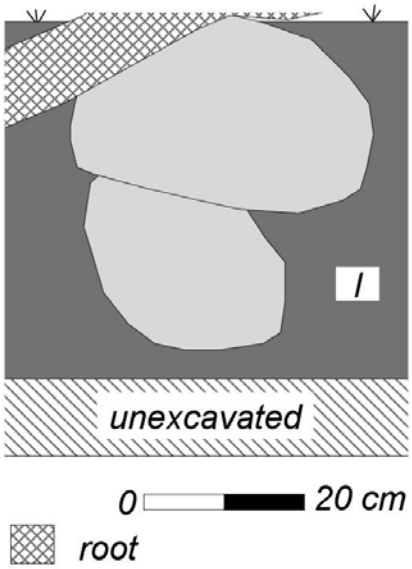

Figure 4.47: TR 21 east face profile.

datable material. The excavated area was 50 cm wide and 5 cm deep. The wall foundation extended to 18 cmbs and a single layer of runoff deposit was excavated. Charcoal and an unburned *kukui* nutshell fragment were collected. It was noted that no *kukui* nuts were found on the surface in the area, and the only visible *kukui* tree was approximately 20 m *down* stream.

Kukuinui Mauka

TR 24 was placed within a terrace on the west side of the *lo'i* complex. This is the third terrace south of the road cut that separates Kukuinui Mauka from Kukuinui Makai (Figure 4.48). The trench

was located along the south wall of this terrace, near the west end of the wall, where the wall curves slightly. The trench measured 1 x .50 m and was excavated to 28 cmbs. Rusty metal fragments were found at 5 cmbs and discarded in the field. The wall foundation extended to 18 cmbs. Stratigraphy consisted of a single layer of runoff deposition (Figure 4.49). Charcoal was collected from beneath the wall foundation.

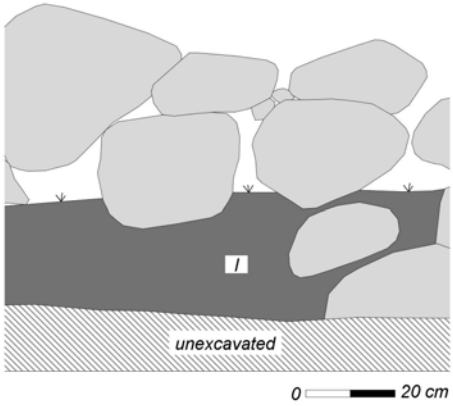

Figure 4.49: TR 24 south face profile.

TR 25 was placed within a terrace on the west side of the complex, four terraces south of TR 24. The trench was placed near the west end of the south wall of this terrace. The trench measured 1 x .50 m and was excavated to 32 cmbs. The wall foundation extended to 28 cmbs and stratigraphy consisted of a runoff deposit with a saprolitic layer below (Figure 4.50). Charcoal from below the wall foundation was identified as *kōpiko* and returned a date of 649 ± 45 BP.

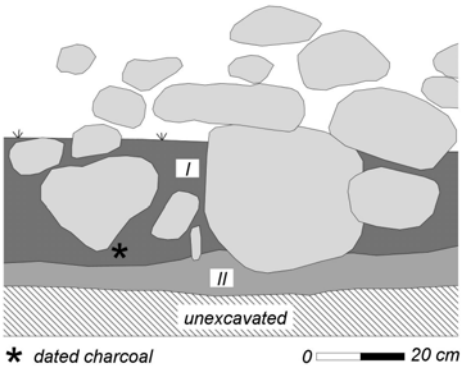

Figure 4.50: TR 25 south face profile.

Eliali‘i

Eight test units were excavated in Eliali‘i: TU 5 and 19 in Lower Eliali‘i and TU 1 through 4 and TR 26 and 27 in Upper Eliali‘i (see Figure 3.63 and Oversize Figure 7). All were placed within terraces, except TU 5, which was excavated at the base of the *heiau*. In Lower Eliali‘i one unit was placed at the *heiau* (TU 5) and another in the *lo‘i* system below, in a terrace least affected by erosion (TU 19). In Upper Eliali‘i one unit was placed at the top of the slope, near the head of the *lo‘i* system (TU 2) and another unit was placed near the center of the system at the base of the tallest wall and largest terrace (TU 1). Two units and two trenches were excavated near the base of the slope toward the bottom of the system (TU 3 and 4; TR 26 and 27). The goal of all units was to recover material for dating the construction or use of the features. An additional goal for TU 4 was to determine the function of terrace E-89, an uncharacteristically small, square terrace. Charcoal was

Table 4.8: Eliali‘i Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 5	I/1; I/2	nothing collected	N/A
	I/3	charcoal	0.2
	I/3	volcanic glass	0.2
	I/4	charcoal	0.8
	I/5	charcoal	1.2
	II/1	charcoal	0.1
	II/2	charcoal	1.1
	II/3	botanics	5.2
	II/3	charcoal	0.4
TU 19	I/1	nothing collected	N/A
	I/2	charcoal	1.1
	I/3	charcoal	2.3
	I/4	charcoal	1.9

** Layer/level

Table 4.8: Eliali‘i Excavated Materials (continued)

Unit	Depth**	Material	Weight (g)
TU 1	I/1	nothing collected	N/A
	I/2	historic artifacts	0.1
	I/2	charcoal	4.7
	I/3	charcoal	6.2
	I/4	botanics	0.6
	I/4	charcoal	5.9
	I/5	traditional artifacts	6.4
	I/5	charcoal	4.1
	I/6	traditional artifacts	2.7
	I/6	charcoal	2.2
	I/7	charcoal	0.3
	I/8	charcoal	3.1
	II/1	historic artifacts	0.2
	II/1	charcoal	5.9
TU 2	I/1	nothing collected	N/A
	I/2	traditional artifacts	6.9
	I/2	charcoal	2.5
	I/3	charcoal	2.4
	I/4	charcoal	2.6
	I/5	charcoal	0.6
TR 26	I	volcanic glass	1.0
	I	midden	0.1
	I	charcoal	1.3
TR 27	I	charcoal	tr.
TU 4	I/1	charcoal	14.9
	I/2	charcoal	4.9
	I/3	charcoal	2.7
	I/4	charcoal	5.0
TU 3	I/1	nothing collected	N/A
	I/2	charcoal	5.2
	I/3	charcoal	1.5
	I/4	charcoal	0.2

them, thought to represent a builder’s trench for the wall. Beneath the cobble-rich layer was a natural runoff deposit, nearly the same elevation as the stream bed to the south. Excavation ceased at 110 cmbd, shortly after the stream deposit was encountered. Unburned *kukui* nutshell was found as deep as 100-110 cmbd, and samples were collected. A volcanic glass fragment was found between 30 and 40 cmbd and charcoal was scattered from 30-110 cmbd. A sample collected recovered from every unit and nine samples were taxonomically identified. Four of these were radiocarbon dated. Artifacts from Eliali‘i excavations include basalt flakes, volcanic glass, and bits of plastic (Table 4.8).

Lower Eliali‘i

TU 5 was located at feature E-1, the *heiau*. The unit was placed at the base of the east wall, 4 m from the south end of the wall. Datum was set near the northwest corner of the unit at 10 cm above the surface. The *heiau* wall was deeply buried, extending three courses below the surface to 100 cmbd (Figure 4.51). Three stratigraphic layers were present. Runoff deposition after construction of the *heiau* was found from the surface to 60 cmbd. Below this was a layer of loosely packed cobbles with numerous voids between

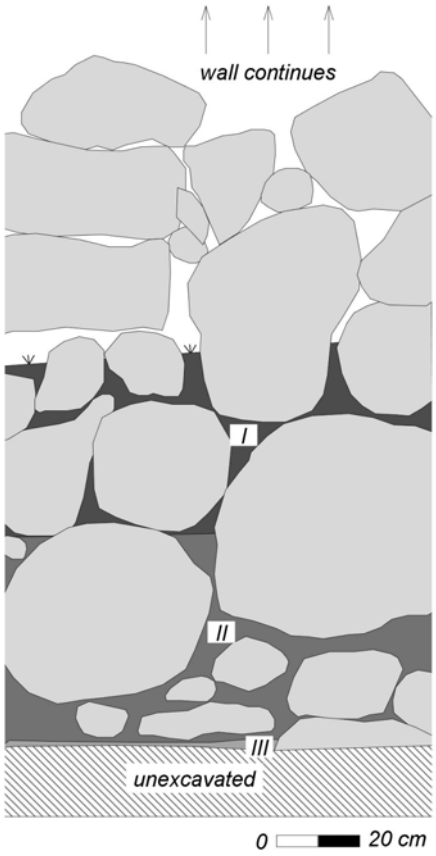

Figure 4.51: TU 5 west face profile.

** Layer/level

from between the wall stones at 30-40 cmbd was identified as the wood and nutshell of the *kukui*, a Polynesian-introduced tree. The sample was not submitted for dating. A sample of scattered charcoal from the builder's trench, at a level deeper than the largest foundation stone was identified as *ʻūlei*, *kōpiko*, and an unidentified taxon. The *ʻūlei*, a native shrub, returned a date of 313 ± 46 BP.

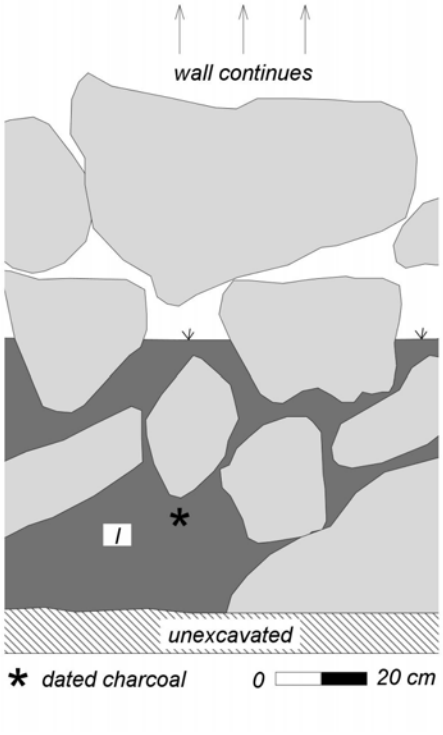

Figure 4.52: TU 19 west face profile.

TU 19 was a 1 x .50 m unit placed within *loʻi* terrace E-23, at the base of the west wall, 4 m from the southwest corner of the terrace. Datum was established near the northwest corner of the unit at 15 cm above the surface. The wall extended two courses below the surface to 52 cmbd (Figure 4.52). A large boulder protruded into the unit from the northeast corner (Figure 4.53). It is not clear if this is part of the wall foundation or a natural boulder. Stratigraphy consisted of a single layer thought to represent a soil berm against the wall. Unburned *kukui* nutshell was found from the surface to 30 cmbd. No artifacts were recovered. A sample of charcoal recovered from 48 cmbd, below the wall foundation, consisted of *ʻūlei* and *naupaka*, both native shrubs. The *naupaka* returned a radiocarbon age of 790 ± 40 BP Excavation ceased at 60 cmbd.

Upper Eliali'i

TU 1 was placed within terrace E-48 at the base of the west wall (also the east wall of the adjoining terrace E-47), 21 m from the south end of the wall. The ground surface is steeply sloping away from the wall in this area. The unit measured 1 x 1 m, and datum was established just outside the northwest corner at 12 cm above the surface. The wall against which the unit was placed is notably tall, rising 2.3 m in places, and 1.8 m tall where the unit was excavated (see Figure 3.68). Below the surface the wall extended for 66 cmbd, or three courses (Figure 4.54). Cobbles were abundant between the wall stones. A large linear wall foundation stone bisected the unit at 50-70 cmbd (Figure 4.55 *a*). On the west side of the stone was the builder's trench for the wall (Layer I), and on the east side was a possible pondfield deposit (Layer II). The two deposits were excavated separately. At 80 cmbd, the pondfield deposit was only present in a 24 x 28 cm square along the east wall of the unit (Figure 4.55 *b*). This deposit

Figure 4.53: TU 19 facing west. Note the large boulder sloping down into the unit from the bottom right corner.

continued to the base of excavation at 100 cmbd within that square. At 70 cmbd, the linear foundation stone was removed and charcoal was collected from beneath it. Below Layer I, stratigraphy at 70 cmbd changed to a saprolitic deposit mottled with red eroding basalt (Layer III). Unburned *kukui* nutshell was found throughout Layer I, and a sample from 50-60 cmbd was collected. Two basalt flakes were recovered from Layer I, from 60-70 and 70-80 cmbd, respectively. Small bits of plastic were found from 30-40 cmbd in Layer I and 60-70 cmbd in Layer II, possibly indicating recent disturbance. Scattered charcoal occurred throughout Layers I and II. The sample found beneath the large foundation stone was identified as *hōlei*, a native tree. It was not dated because 1) *hōlei* is a long-lived species and might be affected by problems of in-built age and 2) plastic in the lower excavation levels might indicate disturbance in this area.

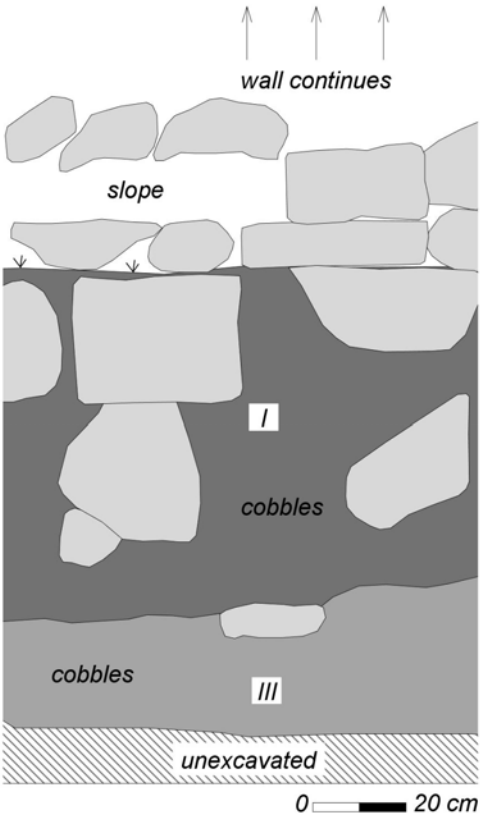

Figure 4.54: TU 1 west face profile. Layer II only occurred in the east half of the unit and is not shown.

TU 2 was located in terrace E-33 near the head of the Upper Eliali‘i *lo‘i* system. This was a 1 x .50 m unit that was placed against the west wall of the terrace at the base of the wall, 2 m from the south end of the wall. Datum was set up near the northwest corner of the unit at 4 cm above the surface. Beneath the surface, the wall was composed of two courses of stones between two large boulders, extending as deep as 58 cmbd (Figure 4.56). Excavation ceased at 65

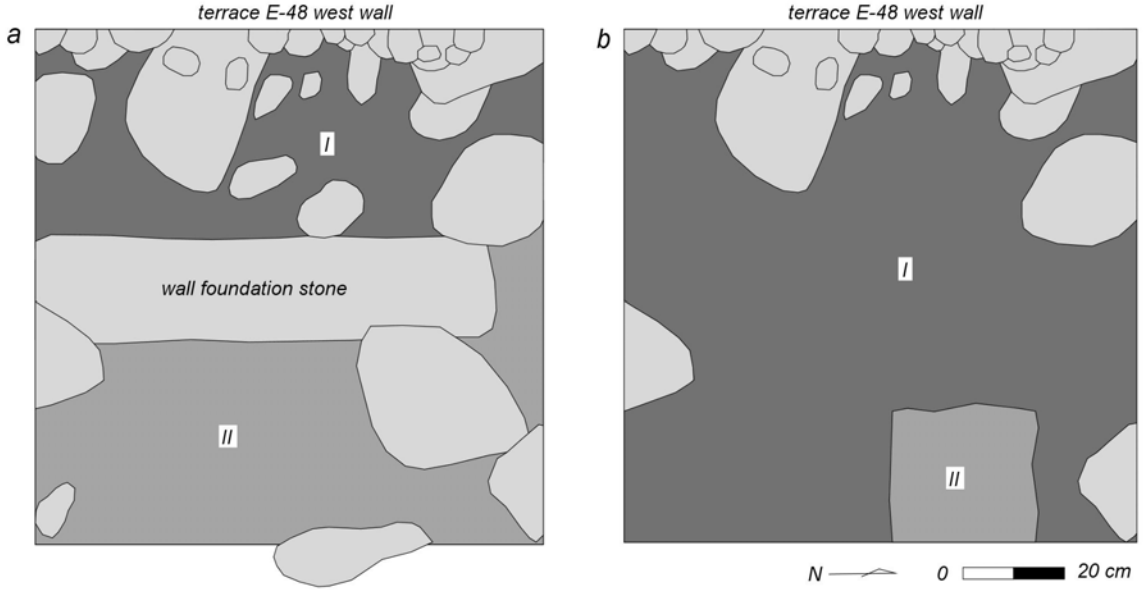

Figure 4.55: TU 1 plan view drawings: *a* plan at 60 cmbd; *b* plan at 80 cmbd.

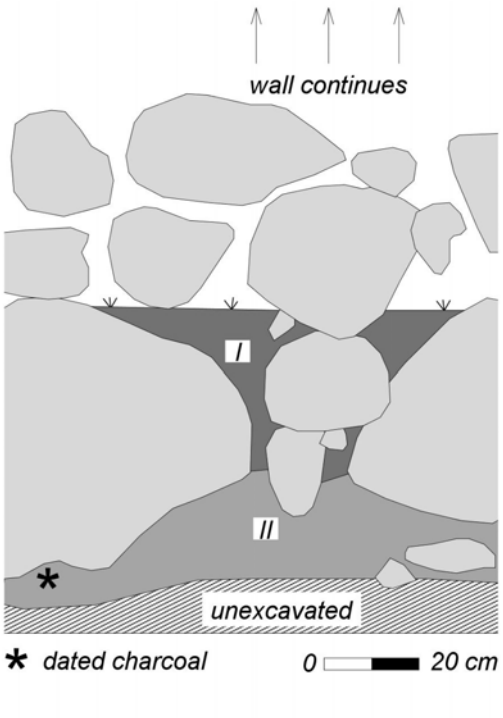

Figure 4.56: TU 2 west face profile.

cmbd. Stratigraphy consisted of a soil berm against the wall with a saprolitic deposit below. This basal layer was mottled with eroding basalt and held tightly packed cobbles. Unburned *kukui* nutshell was found in the upper 30 cm of the deposit and not collected. A basalt flake was recovered from 20-30 cmbd. Charcoal samples were collected from directly beneath each of the boulders that comprise the wall foundation (see Figure 4.56). One charcoal sample was submitted for wood identification. This consisted of *ʻaʻaliʻi*, a native shrub and returned a radiocarbon age of 730 ± 40 BP.

TR 27 was a 1 x .50 m unit placed along the west wall of terrace E-70, 6 m from the southwest corner of the terrace. The unit was excavated to 38 cmbs, exposing a shallowly-buried wall, extending to only 14 cmbs (Figure 4.57). Stratigraphy consisted of one layer thought to represent a soil berm against the terrace wall. Charcoal was the only cultural material found.

TR 26 was placed along the west wall of terrace E-78, 4.5 m south of where the *ʻauwai* meets the west wall of the terrace. The unit measured 1 x .50 m and was excavated to 28 cmbs. The wall extended to 26 cmbs (Figure 4.58). A single stratigraphic layer was encountered; it is thought to represent a soil berm against the wall. Artifacts recovered include volcanic glass, charcoal, and one fragment of marine shell. A charcoal sample from beneath the wall foundation was submitted for wood taxa identification but it was too small to be analyzed.

TU 4 was excavated in terrace E-89 near the northeast corner of the terrace. One of the goals of this unit was to gather more information about the function of terrace E-89, an atypical terrace in the complex. This terrace is much smaller than the others and is roughly square in plan, in a complex of rectangular terraces. This terrace might function as a living area or a planting zone for crops other than wetland *kalo*. The unit was offset from the terrace walls, 1 m west of the east wall and 1.2 m south of the north wall. The unit measured 1 x .50 m and datum was established just outside the southeast corner at 7.5 cm above the surface. Stratigraphy consisted of a single layer deposited during the use of the terrace and later. Scattered charcoal was abundant in the upper reaches of the deposit and thinned out toward the base of excavation. A small concentration of charcoal was found in the east face of the unit at 30-34 cmbd (Figure 4.59). A

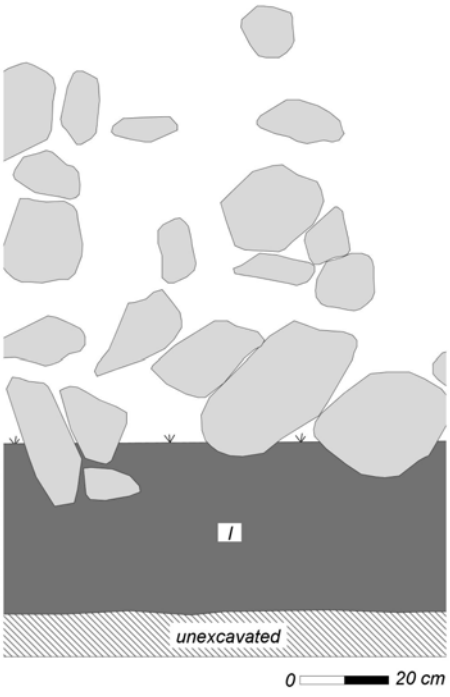

Figure 4.57: TR 27 west face profile.

sample from this concentration was identified as *kōpiko* and dated to 157 ± 58 BP. Eroding basalt was prevalent at 50 cmbd and below, and the unit was closed at 65 cmbd. No artifacts were found, and the function of the terrace is still undetermined.

TU 3 was placed within terrace E-91, near the base of the Upper Eliali‘i *lo‘i* system. This was a 1 x .50 m unit positioned at the base of the west wall of the terrace, 4 m from the south end of the wall. Datum was established just outside the northwest corner of the unit at 8 cm above the surface. A single course of boulders formed the wall foundation, extending to only 40 cmbd (Figure 4.60). Excavation ceased at 50 cmbd. Stratigraphy was composed of two layers: a possible soil berm against the wall and a basal saprolitic layer. Unburned *kukui* nutshell was observed in the upper 10 cm of deposition but was not collected. Scattered charcoal was recovered from throughout the unit but none was found directly below the wall foundation stones. A sample of charcoal from 40-50 cmbd was submitted for wood taxa identification. This sample was composed of black eroding basalt, and no wood charcoal was present. No artifacts were found.

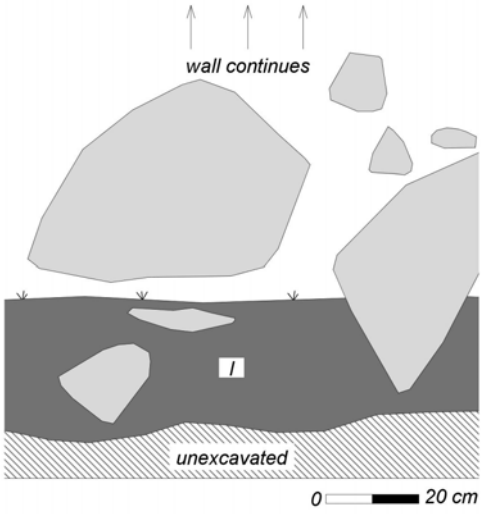

Figure 4.58: TR 26 west face profile.

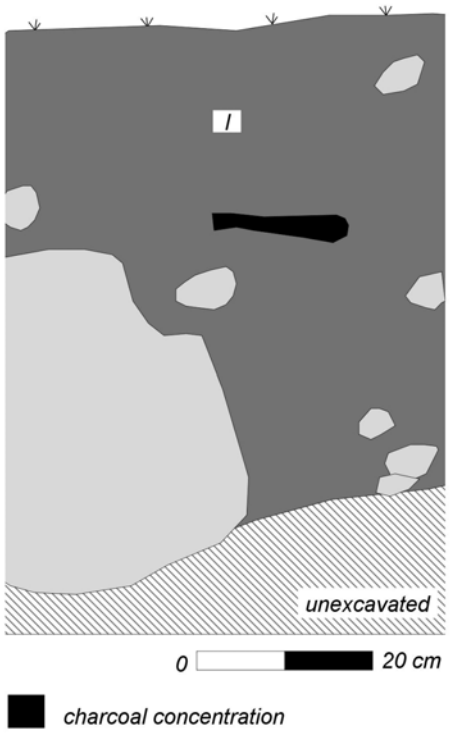

Figure 4.59: TU 4 east face profile.

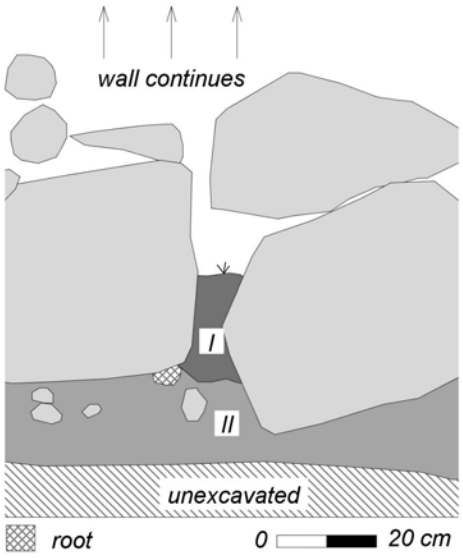

Figure 4.60: TU 3 west face profile.

Halepoki

Table 4.9: Halepoki Excavated Materials

Unit	Depth**	Material	Weight (g)
TR 28	I	volcanic glass	tr.
	I	charcoal	0.3
TR 29	surface	traditional artifacts	25.3
	I	charcoal	1.8
TR 31	I	traditional artifacts	501.7
	I	charcoal	7.4
TR 30	I	traditional artifacts	21.2
	I	volcanic glass	0.6
	I	charcoal	25.6
TR 32	I	volcanic glass	.3
	I	botanics	2.2
	I	charcoal	0.1
TR 33	I	charcoal	0.1
TR 34	I	botanics	0.2
	I	charcoal	tr.

A total of eight trenches were excavated in Halepoki: four in Halepoki Makai (see Figure 3.71), two in Halepoki Central (see Figure 3.12), and two in Halepoki Mauka (see Figure 3.13). All eight units were placed within *loʻi* terraces to recover material for radiocarbon dating. Basalt flakes, a hammerstone, volcanic glass, unburned *kukui* nutshell, and charcoal were found (Table 4.9).

Halepoki Makai

TR 28 was placed along the west wall of terrace H-20, 8 m from the southwest corner of the terrace. This was a 1 x .50 m trench and it was excavated to 22 cmbs. The wall foundation extended to only 10 cmbs, and a single layer of runoff deposition was encountered (Figure 4.61). Volcanic glass and charcoal were recovered. Charcoal fragments found beneath the wall foundation were identified as *ʻōhiʻa lehua* and *kōpiko*. Neither were dated.

TR 29 was located along the west wall of terrace H-23, 3.6 m from the southwest corner of the terrace. The trench measured 1 x .50 m in area and was excavated to a depth of 22 cmbs. The wall foundation stones were shallowly buried, extending to only 7 cmbs (Figure 4.62). One stratigraphic layer, interpreted as runoff deposition, was encountered. A basalt flake was collected from the surface and charcoal was recovered from beneath the wall foundation.

TR 31 was placed along the west wall of terrace H-45, 6.5 m from the southwest corner of the terrace. This 1 x .50 m unit was excavated to 28 cmbs. The base of the wall foundation was encountered at 18 cmbs (Figure 4.63). A single layer of runoff deposition was found. A hammerstone and charcoal were collected.

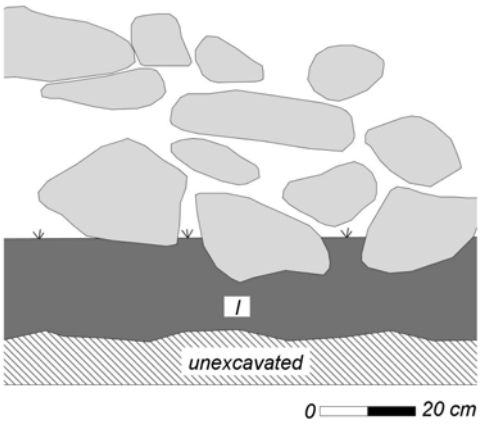

Figure 4.61: TR 28 west face profile.

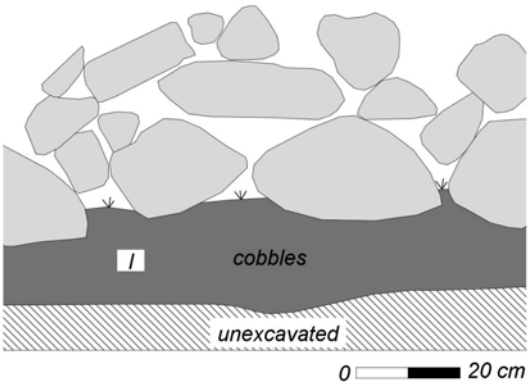

Figure 4.62: TR 29 west face profile.

** Layer/level

TR 30 was placed along the west wall of terrace H-57, 4.5 m from the southwest corner of the terrace. This was a 1 x .50 m trench that was excavated to 32 cmbs. The wall extended one course below the surface to 20 cmbs (Figure 4.64). Stratigraphy consisted of a single layer of runoff deposition. Four basalt flakes, a fragment of volcanic glass, and charcoal were collected. Charcoal from beneath the wall foundation was identified as *kōpiko*, *ʻōlapa*, and *kukui*. The *kōpiko* returned a date of 672 ± 34 BP.

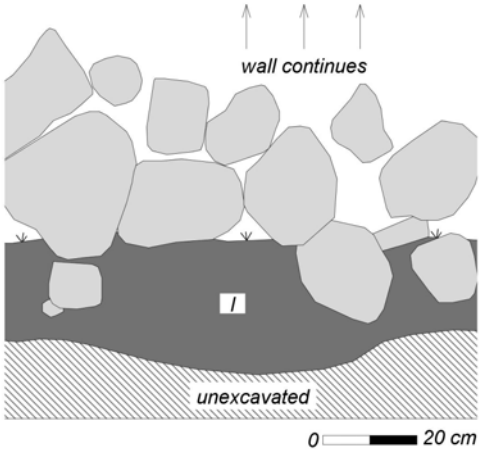

Figure 4.63: TR 31 west face profile.

Halepoki Central

TR 32 was placed in the easternmost terrace of the Halepoki Central complex, at the base of the west wall of the terrace, where a perpendicular wall extends west (see Figure 3.12). The trench measured 1 x .50 m in area and was excavated to a depth of 32 cmbs. The wall foundation was shallowly buried, extending to only 10 cmbs (Figure 4.65). Two stratigraphic layers were encountered: a layer of runoff and a basal saprolitic layer. A fragment of volcanic glass, unburned *kukui* nutshell, and charcoal were collected from beneath the wall foundation. The charcoal was identified as *ʻahakea*, *hame*, unidentified bark, and unidentified seed coat. The unidentified bark dated to 450 ± 34 BP.

TR 35 was located in a terrace on the south side of the complex. This terrace is adjacent to the terrace that comprises the southeast corner of the complex, and the unit was placed along the west wall, 6 m from the northwest corner of the terrace (see Figure 3.12). The trench was 1 x .50 m in area and was excavated to 20 cmbs. The wall foundation extended to 16 cmbs, and a single layer of culturally-sterile runoff deposition was encountered (Figure 4.66). No cultural material or charcoal were recovered.

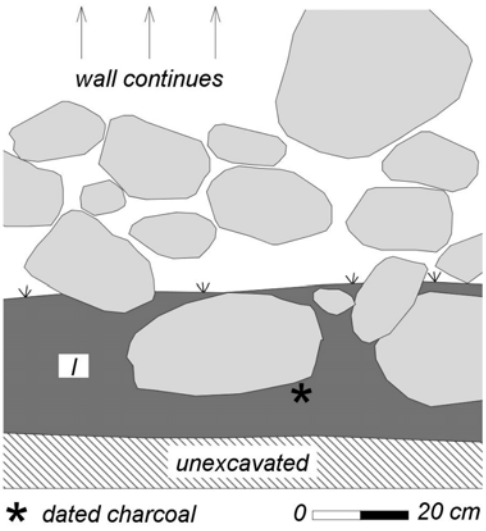

Figure 4.64: TR 30 west face profile.

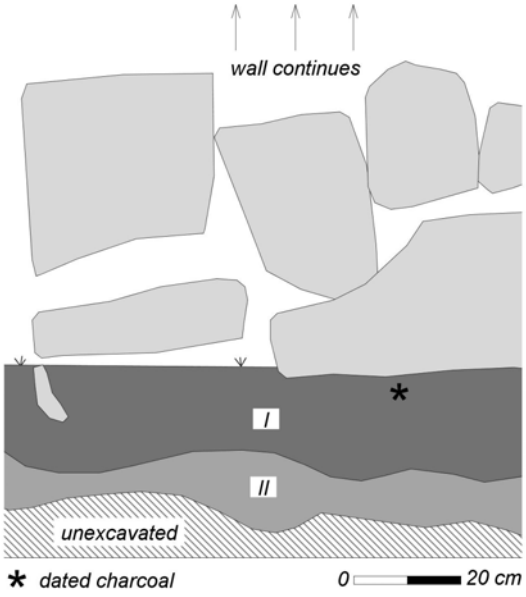

Figure 4.65: TR 32 west face profile.

Halepoki Mauka

TR 33 was placed along the south wall of a terrace in the center of the Halepoki Mauka complex. The trench was located 2.3 m east of the southwest corner of the terrace at the point where a perpendicular wall extends south to form the adjacent terrace (see Figure 3.13). The trench measured 1 x .50 m in area and was excavated to a depth of 16 cmbs. The wall foundation was shallowly buried, extending to only 10 cmbs (Figure 4.67). A single layer of runoff deposition was encountered. Charcoal was the only cultural material recovered. Charcoal samples were identified as *lama*, *kukui*, and *ʻahakea*. The *kukui* dated to 91 ± 33 BP. *Kukui* is a long-lived taxa and may be affected by in-built age, but it was introduced to Hawaiʻi by Polynesians and represents human presence in the area, nonetheless.

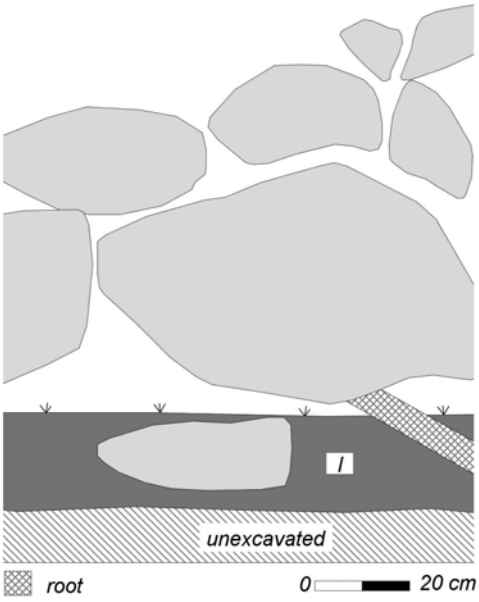

Figure 4.66: TR 35 west face profile.

TR 34 was located in the same terrace as TR 33, along the west wall of the terrace, 2.8 m north of the southwest corner (see Figure 3.13). The trench was 1 x .50 m in area and was excavated to 20 cmbs. The wall foundation extended to 16 cmbs and a single layer of runoff deposition was encountered (Figure 4.68). Charcoal and unburned *kukui* nutshell were recovered from beneath the wall foundation. The charcoal was identified as *hao*, a native tree. It was not dated.

Lahokea

Table 4.10: Lahokea Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 16	I/1; I/2	nothing collected	N/A
	I/3	charcoal	0.7
	I/4	traditional artifacts	0.5
	I/4	volcanic glass	0.4
	I/4	charcoal	4.0
	I/5	charcoal	15.2
	I/6	traditional artifacts	24.9
	I/6	charcoal	10.4
TU 17	I	midden	0.3
	I	charcoal	0.9
TU 18	I/1	historic artifacts	0.3
	I/2	historic artifacts	0.3
	I/2	charcoal	18.5
	I/3	historic artifacts	6.2
	I/3	charcoal	18.9

Three units were excavated in Lahokea. One was in a *loʻi* terrace at the head of the complex (TU 18), another was in a *loʻi* terrace at the foot of the complex (TU 16), and one was at the *ʻauwai* at the foot of the complex (TU 17). The goal of all units was to recover material for dating. The unit at the head of the complex yielded historic material and introduced wood to the base of excavation (Table 4.10). The unit at the foot of the system produced basalt flakes, a basalt cutting tool, volcanic glass, and *hihiwai* shell. The unit at the *ʻauwai* yielded only *hihiwai* and charcoal.

** Layer/level

TU 16 was a 1 x 1 m unit excavated within *lo'i* terrace L-24. The unit was placed at the base of the east wall of the terrace, 17 m from the southeast corner of the terrace. Datum was placed just outside the northeast corner of the unit at 7 cm above the surface. Stratigraphy consisted of a single layer thought to represent a soil berm against the wall. The wall foundation extended three courses below the surface to 74 cmbd (Figure 4.69 and Figure 4.70). Unburned *kukui* nutshell was found in the upper 35 cm of the deposit but not collected. A basalt flake and fragment of volcanic glass were found at 45-55 cmbd, and two basalt flakes and a basalt cutting tool were collected from 65-75 cmbd. Scattered charcoal was abundant, although no charcoal was found directly beneath the wall foundation.

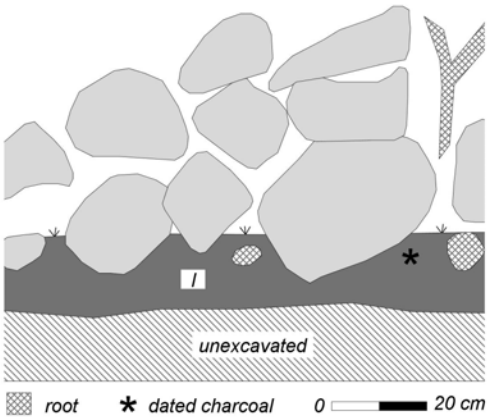

Figure 4.67: TR 33 south face profile.

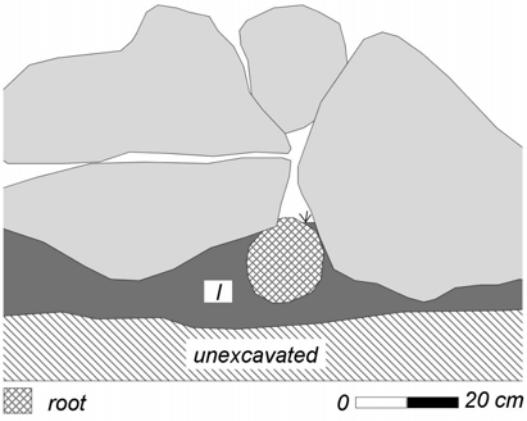

Figure 4.68: TR 34 west face profile.

TU 17 was excavated at a stream cut that had exposed the face of feature L-25, the *'auwai*, 12 m north of terrace L-24. The stream cut runs down the slope from southeast to northwest, terminating at Wailau Stream. The cut exposed three small boulders in alignment that are part of the southeast face (stone lining) of the *'auwai* (Figure 4.71). The excavated area was 1 m long and consisted of cleaning the face of the stream cut to 50 cmbs. No datum was set up for this unit. Stratigraphy consisted of a single layer thought to represent construction fill placed between the stones when the *'auwai* was built. The stone lining of the *'auwai* was made up of a single course of stones extending to 32 cmbs. Charcoal and *hihiwai* shell were found below the row of stones at 48-50 cmbs. Further scraping of the face exposed more charcoal at 48 cmbs, and a fresh sample was obtained for possible dating. The sample was identified as *kukui* wood. It was not dated.

Figure 4.69: TU 16 facing east.

TU 18 was placed along the east wall of terrace L-2. The unit was positioned at the base of the east wall, 2.5 m from the northeast corner of the terrace. This is also the west wall of terrace L-1, the terrace at the head of the *loʻi* complex. This is the terrace that is higher in elevation than the others and might not have functioned as a *loʻi*. The unit measured 1 x .50 m and datum was established just outside the east corner of the unit at 9 cm above the surface. The wall extended one course below the surface to 36 cmbd (Figure 4.72). Stratigraphy consisted of a single layer thought to represent a soil berm against the wall. The base of this layer was rich with cobbles and mottled with red eroding basalt. Unburned *kukui* nutshell was found throughout the deposit and not collected. A tiny shard of glass was found from 15-25 cmbd, and a glass button was recovered from 25-35 cmbd. Two larger fragments of bottle glass were found at 35-45 cmbd, at a depth lower than the wall foundation. A charcoal sample from directly beneath the wall foundation stones contained the native shrub *ʻūlei*, the native tree *ʻahakea*, historically-introduced pine, and an unidentified taxon not found in the other identified samples. The pine was submitted for radiocarbon dating to determine if it was brought from the beach as driftwood or imported to the valley in the historic era, possibly as lumber. It did not provide enough carbon for analysis, thus a sample of the *ʻūlei* was dated in its place. The *ʻūlei* returned a conventional radiocarbon age of 190 ± 40 BP, suggesting that the pine was indeed brought to the valley in the historic era (see Chapter 5).

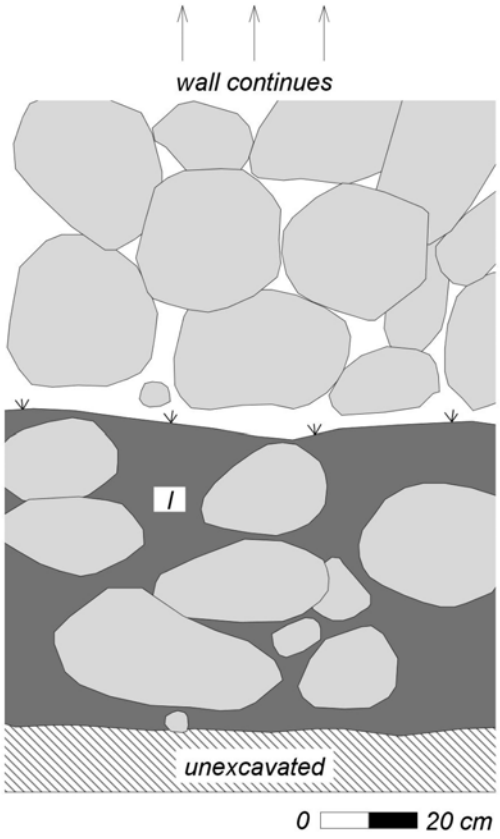

Figure 4.70: TU 16 east face profile.

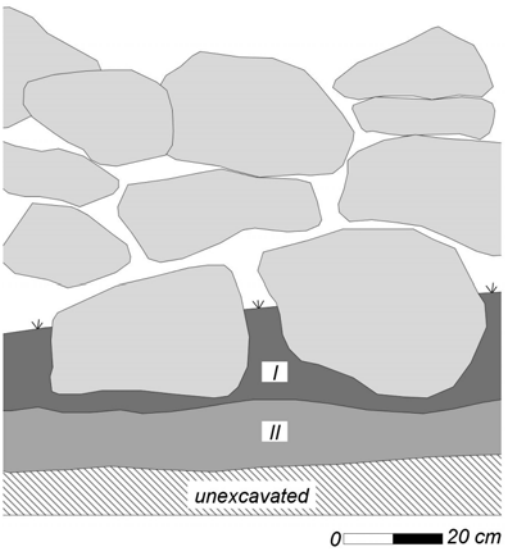

Figure 4.71: TU 17 southeast face profile.

Palaloa

Two units were excavated in the Palaloa *loʻi* complex. This area was not intensively surveyed and individual terraces were not given feature numbers. TU 28 was placed over a hearth that was found within a terrace on the north side of the complex and TR 36 was excavated at the base of a *loʻi* terrace wall on the east side of the system (see Figure 3.15). The goal of all units was to recover material for dating the construction or use of the features. Basalt flakes, volcanic

Table 4.11: Palaloa Excavated Materials

Unit	Depth**	Material	Weight (g)
TU 28	I/1	traditional artifacts	3.4
	I/1	charcoal	1.4
	I/2	traditional artifacts	5.1
	I/2	volcanic glass	0.7
	I/2	charcoal	18.7
	Fe. 1	charcoal	17.8
TR 36	I	charcoal	tr.

glass, and charcoal were found outside the hearth; charcoal was the only material found within the hearth and in the *lo'i* excavation (Table 4.11).

TU 28 was located at a hearth within one of the northern terraces of the Palaloa complex, 3.6 m from the east wall of this terrace and 3.9 m from the north wall (see Figure 3.15). The 50 x 50 cm unit bisected the hearth on the west side (Figure 4.73). Datum was established outside the northeast corner of the unit at 5 cm above the surface. The unit was excavated to 28 cmbd and stratigraphy consisted of the hearth feature, a layer of runoff deposition outside the feature, and a saprolitic layer below. The hearth feature derived from the upper runoff layer and extended into the saprolitic layer, with a bowl-shaped depression at the base. Six basalt flakes and two volcanic glass fragments were collected from outside the hearth. Charcoal was abundant both within and outside the hearth feature. A charcoal sample from the base of the hearth was submitted for wood taxa identification and was composed of a wide array of native taxa (see Chapter 5). A sample of *'ilima* wood dated to 283 ± 33 BP.

TR 36 was placed along the east wall of a *lo'i* terrace on the east side of the complex (see Figure 3.15). This was the tallest wall of the complex, with a height of 1.06 m. The trench was located 4 m from the northeast corner of the terrace, just north of a large boulder (Figure 4.74). The trench measured 1 x .50 m in area and was excavated to a depth of 65 cmbs. The wall foundation was deeply buried, with a single course of large stones extending to 60 cm deep (Figure 4.75). A single layer of runoff deposition was encountered. Charcoal collected from beneath the wall foundation was identified as *olomea*, a native tree.

Discussion and Summary of Excavations

A total of 66 units were excavated throughout Wailau Valley. These consisted of 28 test units and 38 trenches. Units ranged in size from the cleaning of a stream cut to 1 x 1 m in area, with most units measuring 1 x .50 m. Excavations revealed buried portions of the walls, yielded both traditional and historic artifacts, and generated charcoal for wood taxa identification and radiocarbon dating.

A wide range of variability was seen in the buried portions of the walls. The deepest were at the *heiau*

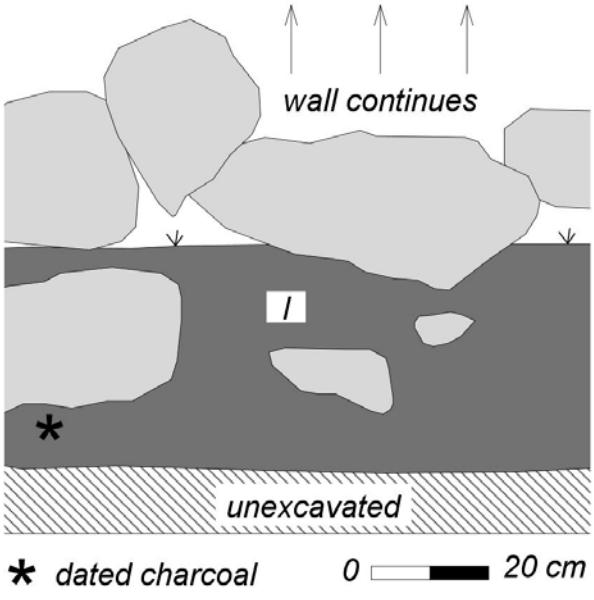

Figure 4.72: TU 18 east face profile.

** Layer/level

(TU 5) and at terrace M-9 (TU 9). These walls extended 90 and 85 cmbs, respectively. Many of the walls were shallowly buried, as in terrace H-23 (TR 29), where the wall extended only one course below the surface, to 7 cmbs. Foundation stones were highly variable in size as well, ranging from large and linear (e.g., TU 1) to small and rounded (e.g., TU 16). Builder's trenches for the walls were visible in some of the excavations, but were absent in most. Where they occurred they were characterized by a plethora of cobbles, often loosely packed, with voids between them. Whether or not a builder's trench was present, a natural deposit mottled with red eroding basalt was often found at the base of the units. Artifacts consisted mainly of basalt flakes and volcanic glass fragments. These were found throughout the valley, in both *ahupua'a* and in the uplands and closer to the coast, although the units at the coast yielded the largest number of flakes. TU 7, TU 18, TU 25, and TU 26 produced historic artifacts. A multitude of ceramics, glass, and metal was collected from TU 7, providing clues about the activities that took place at the historic house platform and the people who lived there (see Chapter 5). The historic items from TU 18 indicated that the *lo'i* complex at Lahokea was built or modified during the historic era. The historic materials from TU 25 and 26 likely represent use continuing into the historic era and later use by modern campers.

Figure 4.73: TU 28 before excavation. The trowel points north.

Charcoal from the excavations provided additional information about the timing of construction and/or use of the *lo'i* systems. A total of 41 samples were taxonomically identified and revealed a diverse array of native and Polynesian-introduced trees and shrubs. A few recently-introduced taxa were present as well, indicating a recent age for the *lo'i* with which they are associated. Nineteen radiocarbon dates were obtained from excavated charcoal (see Chapter 5). They provide information on the timing of cultivation and other uses of the valley.

Figure 4.74: TR 36, post-excavation. The trowel points north.

In sum, the excavations were highly productive, yielding a wealth of new information about traditional agriculture and historic use of Wailau Valley. The excavations provide data regarding terrace construction, soils, wood taxa, and timing of *lo‘i* construction for further study. This information is particularly valuable because so few excavations have been conducted in the valley.

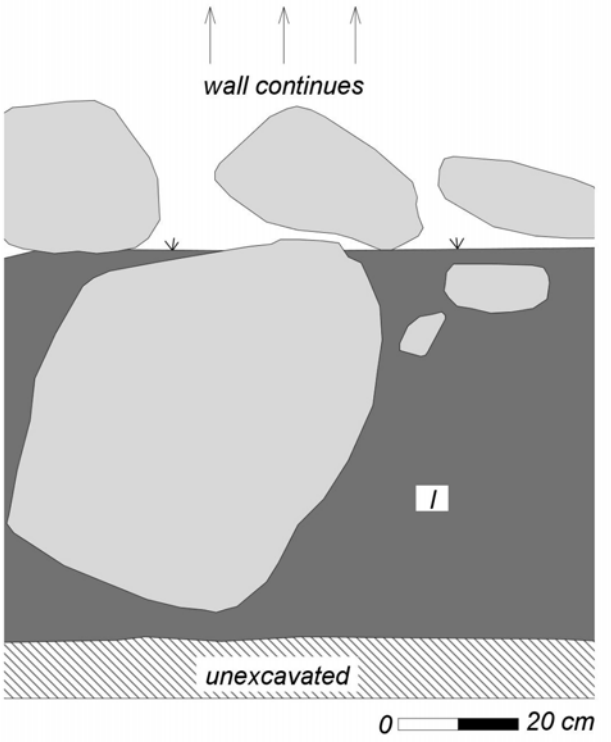

Figure 4.75: TR 36 east face profile.