

Following documentation of the fire-pit on the surface, the fire-pit was bisected twice to determine its size and stratigraphic position (fig. 14).

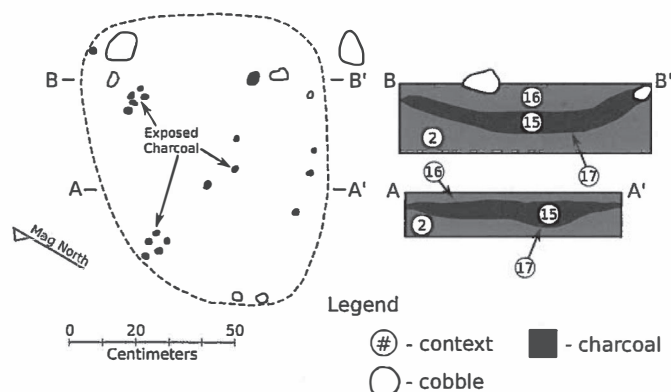


Figure 14: Sketch map and cross section drawing of a subsurface fire-pit recorded as Site 50-40-98-1980.

The first bisection point, A to A', cut the fire-pit in half to expose the stratigraphic section. Following bisection, a 15 cm deep profile was exposed. Context 16, a loose red silty clay loam sediment, was present from the current ground surface to a depth of 3 cm. It appears that the sediment has been deposited over the fire-pit due to water erosion along the drainage. The fire-pit, Context 15, is a band of charcoal that extends from 3 cm below surface to a depth of 12 cm. The fire-pit at this location is approximately 60 cm wide and is basin shaped. The interface between the Context 15 fire-pit and the material it had been dug into, the Context 2 dark reddish brown silty clay loam hard pan soil, was recorded as Context 17. The Context 2 soil was present to the base of excavation at 15 cm below surface.

The second bisection point, B to B', was cut just in front of the two rocks that were exposed on the surface. Following bisection, a 20 cm deep profile was exposed. Context 16, a loose red silty clay loam sediment, was present from the current ground surface to a depth of 6 cm. The sediment has been deposited over the fire-pit due to water erosion along the drainage. The fire-pit, Context 15, is a curved band of charcoal that extends from 6 cm below surface to a maximum depth of 15 cm. The fire-pit at this location is approximately 75 cm wide and is basin shaped. The interface between the Context 15 fire-pit and the material it had been dug into, the Context 2 dark reddish brown silty clay

loam hard pan soil, was recorded as Context 17. The Context 2 soil was present to the base of excavation at 20 cm below surface. A charcoal sample was collected from each profile after bisection for wood taxa identification and ^{14}C analysis.

In addition to the pedestrian survey, 31 backhoe trenches were excavated within the project area (fig. 15). The purpose of the backhoe trenches was to search for subsurface cultural deposits and to record the soils and depth of the plow zone within the parcel. A single *historic property*, a subsurface fire-pit, was identified in Backhoe Trench 21 during trenching and was recorded as Site 50-40-98-1981. No artifacts were collected from any of the trenches excavated.

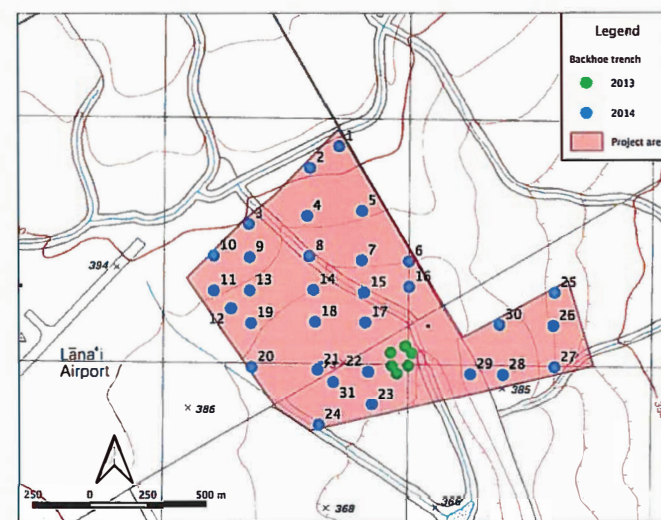


Figure 15: The proposed Miki Basin 200 Acre Industrial Development project area showing the locations of Backhoe Trenches 1-31. The trench locations from the DiVito and Dye [7] investigation are also shown. No trenches were placed in the developed area where the existing Maui Electric Company (MECO) facility lies.

Backhoe Trenches 1-5 were excavated in the northeasternmost portion of the project area and had similar soils (fig. 16, table 7). They contained the plow zone soil, Context 1, to depths ranging from 35 to 45 cm below surface. Context 1 overlay Context 2, a

dark reddish brown silty clay loam hardpan soil present to depths ranging from 65 to 105 cm below surface. Context 2 overlay Context 9, a dark brown silty clay loam present to depths ranging from 100 to 130 cm below surface. It overlay Context 8, a dark reddish brown silty clay loam with gray and red degrading rock fragments present to the base of excavation in each trench.

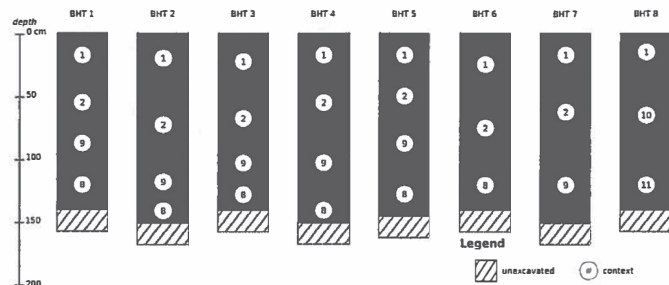


Figure 16: Stratigraphic profiles for Backhoe Trenches 1-8.

Table 7: Sediment descriptions for Backhoe Trenches 1-8

Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 1				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-75	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	75-100	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; clear, wavy lower boundary	Natural deposition process
8	1	100-140+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 2				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-105	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	105-130	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; clear, wavy lower boundary	Natural deposition process
8	1	130-150+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 3				
1	3	0-45	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	45-90	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	90-115	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; clear, wavy lower boundary	Natural deposition process
8	1	115-140+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 4				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-75	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	75-130	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; clear, wavy lower boundary	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
8	1	130-150+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 5				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-65	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	65-110	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; clear, wavy lower boundary	Natural deposition process
8	1	110-145+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 6				
1	3	0-50	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	50-100	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
8	1	100-140+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 7				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-90	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	90-150+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 8				
1	3	0-30	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
10	3	30-100	Dark reddish brown (2.5YR 2.5/4) terrestrial silty clay loam; moderately sticky, moderately plastic; diffuse, wavy lower boundary	Natural deposition event
11	1	100-140+	Red (2.5YR 4/8) terrestrial gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

Backhoe Trenches 7, 10, 12-15, 17-21, and 31 were all excavated in the same general area and had similar soils (fig. 17, table 8). They contained the plow zone soil, Context 1, to depths ranging from 35 to 50 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam hardpan soil present to depths ranging from 80 to 130 cm below surface. Context 2 overlay Context 9, a dark brown silty clay loam present to the base of excavation in each trench. This was the most commonly observed profile within the project parcel.

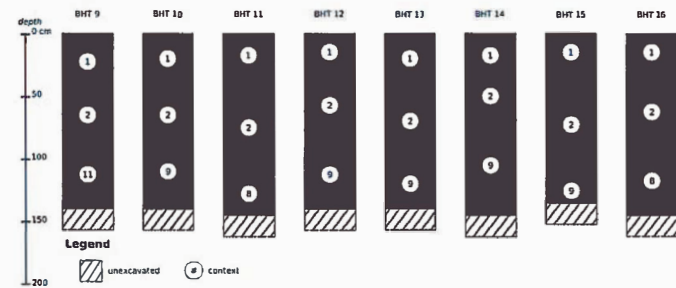


Figure 17: Stratigraphic profiles for Backhoe Trenches 9-16.

Table 8: Sediment descriptions for Backhoe Trenches 9-16

Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 10				
1	3	0-50	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	50-80	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	80-140+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 11				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-115	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
8	1	115-145+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 12				
1	3	0-30	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	30-85	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	85-140+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 13				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
2	1	40-100	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	100-140+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 14				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-65	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	65-145+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 15				
1	3	0-30	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	30-115	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	115-135+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 16				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-90	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
8	1	90-145+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 9				
1	3	0-45	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	45-85	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
11	1	85-140+	Red (2.5YR 4/8) terrestrial gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

Backhoe Trench 21 contained a subsurface cultural deposit recorded as Site 50-40-98-1981 (see fig. 9, p. 77). The deposit, documented as Context 12, was a truncated fire-pit remnant exposed in the southern profile of the trench (fig. 18). The fire-pit has been truncated by the plow zone layer, Context 1, present to a depth of 35 cm below surface. It appears to have been hit by a plow moving east to west as the charcoal from the fire-pit is scattered an additional 65 cm to the west along the bottom of the Context 1 plow zone layer. The fire-pit is approximately 65 cm in width, approximately 10 cm thick, basin shaped, and is present between 35 and 45 cm below surface. A single rounded volcanic cobble was observed within the feature. The fire-pit has been excavated into Context 2, a dark reddish brown silty clay hardpan soil present to a depth of 100 cm below surface. The interface between the fire-pit and the Context 2 soil it had been excavated into was recorded as Context 13. Context 2 overlay Context 9, a dark brown silty clay loam present to the base of excavation at 150 cm below surface. A charcoal sample was collected from the Context 12 fire-pit for wood taxa and ¹⁴C analysis.

Backhoe Trench 31 was excavated near Backhoe Trench 21 to search for any additional fire-pit features or associated cultural materials. Backhoe Trench 31 contained the same stratigraphic profile as documented in Backhoe Trench 21. A water line excavation trench with an associated 6 in. PVC pipe was observed in the eastern profile of the backhoe trench. It was recorded as Context 14 and was approximately 25 cm in width and extended to a depth of 140 cm below surface. No additional cultural deposits were documented and no cultural materials were collected from the trench.

Backhoe Trenches 6, 11, 16, and 24 also had similar soils (fig. 19, table 9). They contained the plow zone soil, Context 1, to depths ranging from 35 to 50 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam hardpan soil present to depths ranging from 70 to 115 cm below surface. Context 2 overlay Context 8, a dark reddish brown silty clay loam with gray and red degrading rock fragments to the base of excavation in each trench.

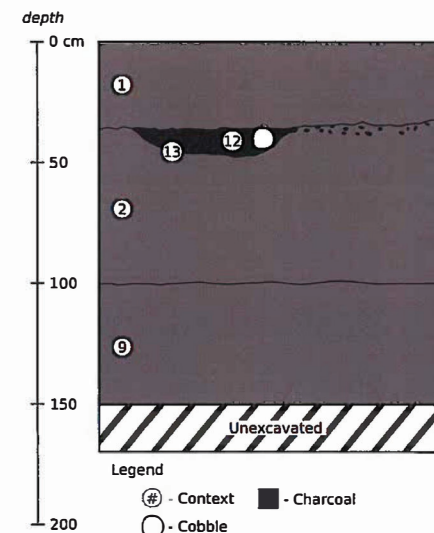


Figure 18: Stratigraphic profile for the Context 12 fire-pit located in Backhoe Trench 21. The feature was later designated Site 50-40-98-1981.

Table 9: Sediment descriptions for Backhoe Trenches 17-24

Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 17				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-85	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	85-135+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 18				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-75	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	75-150+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 19				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-130	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	130-150+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 20				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-110	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	110-140+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 21				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
12	2	35-45	Black (5YR 2.5/1); very abrupt, irregular lower boundary	Cultural deposition event

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
2	1	45-100	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	100-150+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 22				
1	3	0-55	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	55-140+	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 23				
1	3	0-45	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	45-120	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
7	1	120-145+	Dark reddish brown (5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 24				
1	3	0-50	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	50-70	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
8	1	70-150+	Dark reddish brown (5YR 3/2) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

Backhoe Trenches 23 and 29 were excavated along the southernmost portion of the project area. They contained the plow zone soil, Context 1, to depths ranging from 40 to 45 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam

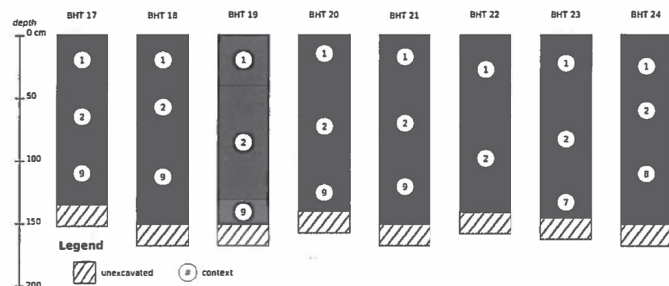


Figure 19: Stratigraphic profiles for Backhoe Trenches 17-24. Note that Backhoe Trench 21 contained the Context 12 fire-pit. See figure 18.

hardpan soil present to depths ranging from 115 to 120 cm below surface. Context 2 overlay Context 7, a dark reddish brown silty clay loam present to the base of excavation in each trench.

Backhoe Trenches 25 and 30 were excavated within the northernmost portion of the parcel located on the east side of Miki Road. They contained the plow zone soil, Context 1, to depths ranging from 35 to 40 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam hardpan soil present to depths ranging from 65 to 70 cm below surface. Context 2 overlay Context 3, a brown silty clay loam present to the base of excavation in each trench.

Backhoe Trenches 26 and 27 were excavated within the easternmost portion of the parcel located on the east side of Miki Road (fig. 20, table 10). They contained the plow zone soil, Context 1, to depths ranging from 35 to 40 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam hardpan soil present to depths ranging from 75 to 110 cm below surface. Context 2 overlay Context 6, a very dark gray silty clay loam with degrading rock fragments present to the base of excavation in each trench.

Table 10: Sediment descriptions for Backhoe Trenches 25-31

Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 25				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
2	1	40-70	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
3	1	70-140+	Strong brown (7.5YR 4/6) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 26				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-110	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
6	1	110-150+	Very dark gray (5YR 3/1) terrestrial very stony silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 27				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-75	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
6	1	75-145+	Very dark gray (5YR 3/1) terrestrial very stony silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 28				
1	3	0-30	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
4	1	30-60	Dark reddish brown (2.5YR 3/4) terrestrial gravelly silty clay loam; moderately sticky, moderately plastic; diffuse, irregular lower boundary	Natural deposition process
5	1	60-145+	Dark reddish brown (2.5YR 2.5/4) terrestrial very gravelly silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

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Context	Phase	Depth*	Description	Interpretation
Backhoe Trench 29				
1	3	0-40	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	40-115	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
7	1	115-135+	Dark reddish brown (5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 30				
1	3	0-35	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	35-65	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
3	1	65-150+	Strong brown (7.5YR 4/6) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process
Backhoe Trench 31				
1	3	0-25	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; abrupt, smooth lower boundary	Secondary deposition event
2	1	25-85	Dark reddish brown (2.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; gradual, smooth lower boundary	Natural deposition process
9	1	85-150+	Dark brown (7.5YR 3/4) terrestrial silty clay loam; moderately sticky, moderately plastic; base of excavation	Natural deposition process

* Centimeters below surface.

Four of the backhoe trenches contained unique or anomalous profiles. The first, Backhoe Trench 8, contained the plow zone soil, Context 1, to a depth of 30 cm below surface. Context 1 overlay Context 10, a dark reddish brown secondarily deposited plow zone soil with plastic fragments and tubing present to a depth of 100 cm below surface. Context 10 overlay Context 11, a red gravelly silty clay loam with degrading rock present to the base of excavation at 140 cm below surface.

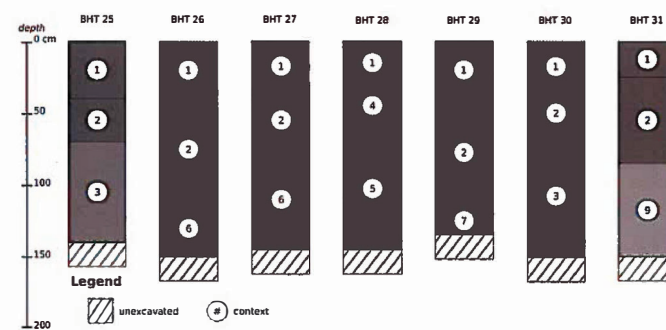


Figure 20: Stratigraphic profiles for Backhoe Trenches 25-31.

Backhoe Trench 9 contained the plow zone soil, Context 1, to a depth of 45 cm below surface. Context 1 overlay Context 2, a dark reddish brown red silty clay hardpan soil present to a depth of 85 cm below surface. Context 2 overlay Context 11, a red gravelly silty clay loam present to the base of excavation at 140 cm below surface.

Backhoe Trench 22 contained the plow zone soil, Context 1, to a depth of 55 cm below surface. Context 1 overlay Context 2, a dark reddish brown silty clay loam hardpan soil present to the base of excavation at 140 cm below surface.

Backhoe Trench 28 contained the plow zone soil, Context 1, to a depth of 30 cm below surface. Context 1 overlay Context 4, a dark reddish brown silty clay loam with degrading rock fragments present to a depth of 60 cm below surface. Context 4 overlay Context 5, a dark reddish brown silty clay loam with red and black degrading rock fragments present to the base of excavation at 145 cm below surface.

5 Summary and Conclusions

At the request of Pulama Lāna'i, T. S. Dye & Colleagues, Archaeologists has completed an archaeological inventory survey for the Miki Basin 200 Acre Industrial Development. Pedestrian survey and subsurface testing were conducted to determine the presence or absence of historic properties and cultural materials within the Miki Basin 200 Acre Industrial Development. During the project, a 100 percent pedestrian survey of the area was conducted and 31 backhoe trenches were excavated. Black plastic fragments, indicative of pineapple cultivation, were observed within the surface layer of soil over the entire project area.

The pedestrian survey resulted in the identification and documentation of a secondarily deposited historic artifact scatter, a secondarily deposited lithic scatter, and an historic

property, Site 50-40-98-1980. Because the two secondary artifact scatters lack integrity of setting, location, and association with other sites and features, they do not represent historic properties and no further investigations of the scatters are warranted.

Subsurface testing included the excavation of 31 backhoe trenches. A truncated fire-pit feature, designated Site 50-40-98-1981, was documented in one of the backhoe trenches. All of the backhoe trenches contained plow zone soils overlying natural hardpan and natural silty clay loam, some of which had degrading rock fragments. No artifacts were collected from any of the trenches excavated.

Both historic properties are evaluated as significant for the important information on Hawaiian history and prehistory that they have yielded. The Miki Basin 200 Acre Industrial Development will have an adverse effect on both historic properties and it is recommended that a data recovery plan be developed for Sites 50-40-98-1980 and 50-40-98-1981, and that this plan be implemented prior to proposed construction activities within the parcel.

It is further recommended that the data recovery plan develop research questions that can be addressed with data yielded by the following laboratory tasks.

Site 50-40-98-1980 Analysis of the wood charcoal collected from the Context 15 fire-pit for taxa identification and ¹⁴C dating. Analysis of artifacts collected from the Context 18 lithic scatter to further investigate the tool-making reduction sequence utilized on the island [32].

Site 50-40-98-1981 Analysis of the wood charcoal collected from the Context 12 fire-pit for taxa identification and ¹⁴C dating.

A Stratigraphic Contexts

Context	Description
0	Surface of the project area.
1	Dark reddish brown silty clay loam plow zone soil with black plastic fragments and tubing throughout.
2	Dark reddish brown silty clay loam hardpan soil.
3	Brown silty clay loam.
4	Dark reddish brown silty clay loam with degrading rock fragments throughout.
5	Dark reddish brown silty clay loam with red and black degrading rock fragments throughout.
6	Very dark gray silty clay loam with degrading rock fragments throughout.
7	Dark reddish brown silty clay loam.
8	Dark reddish brown silty clay loam with gray and red degrading rock fragments.
9	Dark brown silty clay loam.
10	Secondarily deposited plow zone soils with plastic fragments and tubing.
11	Orange brown silty clay loam with degrading rock throughout.
12	Fire-pit located in Backhoe Trench 21.
13	Interface between the Context 12 fire-pit and the material it had been excavated into, Context 2.

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Context	Description
14	Excavation trench for a 6 in. PVC waterline.
15	Fire-pit remnant exposed on the surface of the Context 2 soil.
16	Secondarily deposited silty clay loam sediment covering the Context 15 deposit.
17	Interface between the Context 15 fire-pit and the soil it had been excavated into, Context 2.
18	Surface scatter of flakes, coral, a cowry shell fragment, two adze rejects, and two possible hammerstones located near the Context 15 fire-pit.
19	Surface scatter of flakes and a single hammerstone.
20	Historic artifact scatter located on the ground surface.

B Field Catalog

Catalog	Site	Unit	Context	Contents
1	No site number	Backhoe Trench 30	1	Sediment
2	No site number	Backhoe Trench 30	2	Sediment
3	No site number	Backhoe Trench 30	3	Sediment
4	No site number	Backhoe Trench 28	4	Sediment
5	No site number	Backhoe Trench 28	5	Sediment
6	No site number	Backhoe Trench 27	6	Sediment
7	No site number	Backhoe Trench 29	7	Sediment
8	No site number	Backhoe Trench 16	8	Sediment
9	No site number	Backhoe Trench 5	9	Sediment
10	No site number	Backhoe Trench 8	10	Sediment
11	No site number	Backhoe Trench 8	11	Sediment
12	No site number	Backhoe Trench 21	12	Charcoal sample
13	No site number	Ground surface	15	Charcoal sample
14	No site number	Ground surface	20	Artifacts
15	No site number	Isolated Find 1	0	Adze reject
16	No site number	No unit	19	Artifacts
17	No site number	No unit	18	Artifacts
18	No site number	No unit	18	Artifacts
19	No site number	Isolated Find 2	0	Adze reject

C Artifact List

Bag	Material	Class	Period*	#	Wt. [†]	Whole	Notes
15	stone	adze reject	trad.	1	86.1		Discarded due to a transverse fracture sustained during flaking; length 6.7 cm; width 3.7 cm; thickness 1.9 cm

* trad. = Traditional, hist. = Historic; † Weight in grams.

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Bag	Material	Class	Period*	#	Wt. [†]	Whole	Notes
19	stone	adze reject	trad.	1	242.5		Adze reject proximal end. Sustained a transverse fracture while attempting to remove flakes across the dorsal side; length 6.0 cm; width 3.4 cm; thickness 2.2 cm
Context 18							
17	coral	manuport	trad.	1	30.7		Length 5.4 cm; width 3.4 cm; thickness 2.1 cm
17	stone	adze reject	trad.	1	126.8		Proximal end of an adze reject discarded due to an end shock fracture; length 7.8 cm; width 4.2 cm; thickness 2.7 cm
17	stone	adze reject	trad.	1	76.4		Distal end of an adze reject, likely broken off due to an end shock fracture. The artifact has cortex on its dorsal side and shows evidence of problems thinning the cross section of the artifact during flaking; length 6.0 cm; width 3.9 cm; thickness 1.9 cm
17	stone	adze reject	trad.	1	110.5		Distal portion of a large flake with signs of heavy step fracturing along one edge. It is likely to have been discarded due to a transverse fracture sustained during flaking along the edge in addition to trouble removing flakes across the artifact. Made of a dark gray fine-grained basalt; length 8.5 cm; width 4.6 cm; thickness 2.3 cm
18	stone	hammerstone	trad.	1	144.5		Large waterworn pebble manuport with battering on at least one edge from use as a hammerstone; length 5.8 cm; width 5.2 cm; thickness 3.6 cm

* trad. = Traditional, hist. = Historic; † Weight in grams.

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Bag	Material	Class	Period*	#	Wt. [†]	Whole	Notes
18	stone	waterworn pebble	trad.	1	53.8		Waterworn pebble manuport, possibly a sling stone; length 3.9 cm; width 3.3 cm; thickness 2.8 cm
Context 19							
16	stone	adze reject	trad.	1	20.6		The distal end of an adze reject broken due to an end shock fracture during flaking; length 4.8 cm; width 2.6 cm; thickness 1.2 cm
16	stone	waterworn cobble	trad.	1	142.2		Small waterworn cobble manuport; length 8.7 cm; width 4.6 cm; thickness 2.8 cm
Context 20							
14	ceramic	semi-porcelain	hist.	1	26.7		Undecorated base sherd with footring and partial cobalt blue maker's mark that reads "TRADEMARK/MADE IN JAPAN" with a rising sun logo between the lettering. "Made in Japan" maker's marks on ceramics were required starting in 1921 and continued to 1941. Part of the same vessel as the hand-painted fragment; length 5.7 cm; width 5.3 cm; thickness 0.6 cm
14	ceramic	semi-porcelain	hist.	1	12.6		Body sherd with footring and a hand-painted cobalt blue design with crisscrossing lines. Part of the same vessel as the sherd with the maker's mark; length 5.1 cm; width 3.0 cm; thickness 0.6 cm
14	ceramic	semi-porcelain	hist.	1	0.9		Rim sherd that is undecorated on the inside and has a green glaze on the outside; length 2.4 cm; width 0.8 cm; thickness 0.2 cm

* trad. = Traditional, hist. = Historic; † Weight in grams.

Continued on next page

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Bag	Material	Class	Period*	#	Wt. [†]	Whole	Notes
14	ceramic	semi-porcelain	hist.	1	0.4		Undecorated body sherd; length 1.3 cm; width 1.2 cm; thickness 0.3 cm
14	ceramic	white earthenware	hist.	1	6.7		Undecorated rim sherd; length 4.0 cm; width 2.5 cm; thickness 0.6 cm
14	ceramic	white earthenware	hist.	1	6.7		Undecorated body sherd with footring; length 3.1 cm; width 2.9 cm; thickness 0.6 cm
14	glass	bottle	hist.	1	19.0		Clear glass bottle shoulder shard; length 5.4 cm; width 3.6 cm; thickness 0.6 cm

* trad. = Traditional, hist. = Historic; † Weight in grams.

Glossary

abrupt A transition between *horizons* that is 0.5 cm or greater but still less than 2 cm. See also *horizon*.

caldera A caldera is a cauldron-like volcanic feature usually formed by the collapse of land following a volcanic eruption. They are sometimes confused with volcanic craters.

Christmas berry The ornamental tree, *Schinus terebinthifolius*, known for its bright red berry-like fruits.

clay Fine earth particles less than 0.002 mm.

clear A transition between horizons that is 2 cm or greater but still less than 5 cm. See also *horizon*.

cobble Rock fragment ranging from 76 mm to less than 250 mm.

Contact A period in Hawaiian history marked by the arrival of Captain James Cook in 1778 and characterized by the social changes that eventually brought about the end of traditional Hawai'i.

context A unit of stratification associated with a natural or cultural process or event.

cortex The weathered outer rind that covers the unweathered inner material of a piece of tool stone.

diffuse A transition between horizons that is 15 cm or greater. See also *horizon*.

fee simple An estate of inheritance, held without limitation to a particular class of heirs; unconditional inheritance.

fire-pit A pit of varying depth, often bowl shaped at the base, usually identified by a concentration of charcoal and/or burned material in the fill, especially at the feature interface.

gradual A transition between horizons that is 5 cm or greater but still less than 15 cm. See also *horizon*.

guava The historically introduced tree or shrub, *Psidium guajava*, common in Hawai'i today.

historic property According to Hawai'i Administrative Rules §13-198-2, an "historic property" is any building, structure, object, district, area, or site, including underwater site, that is significant in the history, architecture, archaeology, or culture of the state of Hawai'i, its communities, or the nation.

irregular A soil boundary in which the depth of undulation is greater than its width.

manuport A natural object found in an unnatural position, having been carried there by man.

material culture In *rock art* recording, a category which includes images that are cultural objects, e.g., spears, paddles, gourds, cape, etc.

midden A heap or stratum of refuse normally found on the site of an ancient settlement. In Hawai'i, the term generally refers to food remains, whether or not they appear as a heap or stratum.

moderately plastic A 4 mm diameter roll of soil will support itself if held on end, but a 2 mm diameter roll of soil will not.

moderately sticky Soil adheres to both fingers, after release of pressure and stretches some on separation of fingers.

phase A grouping between an individual unit of stratification and a *period*: several units of stratification make up a phase and several phases compose a period.

phasing Arrangement of the stratification into a stratigraphic sequence, and the division of the sequence into phases and periods. See also *periodization*.

project The archaeological investigation, including laboratory analyses and report preparation. See also *undertaking*.

significance A quality of a historic property that possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The qualities are set out in SHPD administrative rule §13-275-6, *Evaluations of Significance*.

site The fundamental unit of archaeological investigation, a location that exhibits material evidence of past human activity.

smooth A soil boundary which is planar with few or no irregularities.

stone Rock fragment ranging from 250 mm to less than 600 mm.

stratigraphic relationships These are either of a superpositional nature, where one deposit lies above another, or they are made up of correlations, where strata or features have been cut into isolated parts by later digging.

sugarcane A grass, *Saccharum officinarum*, widely grown in warm regions as a source of sugar. See also *kō*.

unit of stratification number A number assigned to each natural and man-made layer, upstanding stratum, and vertical and *horizontal feature interface*. Once numbered, each unit will automatically have a set of stratigraphic relationships which must be defined and recorded.

wavy A soil boundary in which the width of undulation is greater than its depth.

Hawaiian Terms

- ahu** Heap, pile; altar, shrine, cairn.
- ahupua'a** Traditional Hawaiian land division, usually extending from the uplands to the sea.
- 'āina** Land, earth.
- akua** God, goddess, spirit, ghost, devil, image, corpse.
- 'ālae** A bird, *Fulica americana alae*, the mudhen or Hawaiian gallinule. See also *'ālae kea*.
- ali'i** Chief, chiefess, officer, ruler, monarch, peer, head man, noble, aristocrat, king, queen, commander.
- aloha** Love, affection, compassion, mercy, sympathy, etc.
- 'apapane** A honeycreeper, *Himatione sanguinea* with crimson body and black wings and tail, found on all the main Hawaiian Islands. Its feathers occasionally were used for featherwork.
- 'aumakua** Family or personal gods, deified ancestors who might assume the shape of animals, rocks, clouds, or plants.
- 'awa** A shrub, *Piper methysticum*, the root of which is the source of a narcotic drink of the same name used in ceremonies, prepared formerly by chewing, later by pounding.
- hale** House, building, station, hall.
- he'e** Octopus.
- heiau** Traditional Hawaiian place of worship.
- helu** To count, number, compute, take a census, figure enumerate, list, include, impute; to assess, as taxes; to chant a list of names, as of genealogy; including, counting, enumeration, census, list, rate, number, figure, total, inventory; statistics.
- 'ili** A land section, next in importance to *ahupua'a*, and usually a subdivision of an *ahupua'a*.
- 'ilihi** Native trees and shrubs belonging to the genus *Santalum*, or sandalwood. Traditionally, it was powdered and mixed with coconut oil to make perfume for *kapa*.
- imu** Underground oven.
- ipu** The gourd, *Lagenaria siceraria*.
- kahiki** Tahiti, foreign land.
- kahuna** Priest, sorcerer, magician, wizard, minister, expert in any profession.
- kala** A generic name for fish in the Unicornfish genus *Naso*. It is generally caught in nets or with a spear. The flesh has a strong odor and is rarely eaten raw; it is often broiled or partially dried and broiled.
- kalo** The taro, *Colocasia esculenta*, was a staple food in traditional Hawai'i and all parts of the plant were used. The rootstock was baked or steamed, then eaten sliced or pounded to make *poi*, raw taro was also grated and mixed with coconut milk to make desserts, the leaves, leaf stems and flowers were also used in cooking. Medicinally the leaves and rootstock were used to treat many ailments. The plant was also used ritually, as bait for fish, glue, and to make dye.
- kama'āina** Native-born, one born in a place, host.
- kapa** Tapa cloth, as made from *wauke* or *māmaki* bark.
- kapu** Taboo, prohibition; special privilege or exemption from ordinary taboo; sacredness;

prohibited, forbidden; sacred, holy, consecrated; no trespassing, keep out.

kāula Prophet, seer, magician.

kawakawa Bonito, little tunny (*Euthynnus yaito*).

kihāpai Small land division, smaller than a *paukū*; cultivated patch, garden, orchard, field, small farm.

kō Sugarcane, *Saccharum officinarum*, was introduced to Hawai'i by Polynesian settlers, who cultivated it widely. The stalk was chewed between meals for its sweetness, brought on long journeys to ease hunger, and eaten in times of famine; juice from the stalk was fed to nursing babies, and used as a sweetening agent in medicinal herbal concoctions; the leaves were used as thatching for houses; the leaf midrib was used for plaiting braids that were made into hats; the stem of the flower was used to make darts for a child's game.

ko'a Shrine, often consisting of circular piles of coral or stone, built along the shore or by ponds or streams, used in ceremonies as to make fish multiply; also built on bird islands, and used in ceremonies to make birds multiply.

koa haole A historically introduced small tree, *Leucaena glauca*.

Kona Leeward sides of the Hawaiian Islands. Name of a leeward wind.

konohiki Head man of an *ahupua'a* land division under the chief; land or fishing rights under control of the *konohiki*. See also *ahupua'a*.

Ko'olau Windward sides of the Hawaiian Islands.

kūkini Runner, swift messenger, as employed by old chiefs, with a premium on their speed.

kukui The candlenut tree, *Aleurites moluccana*, introduced to Hawai'i by Polynesian settlers. The outer husk of the fruit or nut was used to make a black dye for tapa and tattooing; sap from the fruit was used as medicine to treat thrush, and used as a purgative; the hard shell of the nut was used in *lei* making; the kernel of the nut was the source of an oil that was burned for illumination and also used as a wood varnish for surfboards and canoes; the kernel was also chewed and spit on rough seas to calm the ocean and baked kernels were mixed with salt and chili pepper to make a relish (*'inamona*); the trunk was used to make canoes and floats for fishing nets; a reddish dye was made from the bark and/or root; a gum exuded from wounded bark was used to treat tapa; the flower was mixed with sweet potato to treat thrush; the leaves were used in a poultice for swelling and infection.

kula 1. Plain, field, open country, pasture; land with no water rights. 2. School.

kuleana Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.

lawai'a Fisherman; to catch fish.

lehua The flower of the 'ōhi'a tree, *Metrosideros polymorpha*; also the tree itself. See also 'ōhi'a lehua.

lei Garland, wreath.

mahalo Thanks, gratitude.

Māhele The mid-nineteenth century land division responsible for the introduction of fee simple land title in Hawai'i.

mai'a All kinds of bananas and plantains.

maika Ancient Hawaiian game suggesting bowling.

maile A native twining shrub, *Alyxia olivaeformis*, used in traditional Hawaiian religion to evoke Laka, the goddess of hula. *Maile* sticks gummed with lime were used as part of a rig to catch birds.

māla Garden, plantation, patch, cultivated field.

māmāne A native tree, *Sophora chrysophylla*, that thrives at high altitudes. Traditionally the wood was used for a variety of wood implements, and also in *hōlua* sleds. The flower was used medicinally as an astringent.

manō Shark. In Hawaiian culture, there are two classes of sharks. *Manō kākā* are sharks with human affiliations, and *manō i'a* are wild sharks. *Manō kākā* were revered and cared for, and were *akua* or 'aumakua.

mō'i King, queen, sovereign, monarch, or a rank of chiefs who could succeed to the government but who were of lower rank than chiefs descended from the god Kāne.

mo'o 1. Narrow strip of land, smaller than an 'ili; 2. Lizard, reptile of any kind, dragon, serpent; water spirit.

naio A native tree, *Myoporum sandwicense*, with hard, dark, yellow-green wood. The wood was used traditionally for the main timbers of houses.

pala A native fern (*Marattia douglasii*), with a short trunk and large, long-stemmed, much divided, dark green fronds. In time of famine, the thick, starchy, hoof-shaped bases of the frond stems, which cover the short trunk, were eaten after being baked in an *imu* overnight. The mucilaginous water resulting from slicing and soaking the raw stems in water was used medicinally. Pieces of the fronds mixed with *maile lei* enhanced their fragrance. The fern was also used in *heiau* ceremonies.

pānini A cactus, *Opuntia megacantha*, introduced to Hawai'i in the 1800s. The Hawaiian name means "unfriendly wall." Hawaiians made a fermented drink from the fruits and also ate them raw.

paukū A land section smaller than a *mo'o*.

pili A native grass, *Heteropogon contortus*, whose leaves were used traditionally as house thatch.

pipi 1. Hawaiian pearl oyster, *Pinctada radiata*. In songs this is known as the *i'a hāmau leo o 'Ewa*, 'Ewa's silent sea creature—it was believed that talking would cause a breeze to ripple the water and frighten the *pipi*. 2. Cattle.

poi The Hawaiian staff of life, made from cooked taro corms, or rarely breadfruit, pounded and thinned with water.

pua kala A native perennial herb, *Argemone glauca*, whose seeds mixed with a yellow sap from the stalk were used as a narcotic for pain relief; the sap was also used to treat warts.

pūhi Any eel.

pule Prayer, magic spell, incantation, blessing.

'uala The sweet potato, *Ipomoea batatas*, introduced to Hawai'i by Polynesian settlers, was a staple food. The tuber was cooked whole and eaten or it was made into poi and mixed with coconut milk to make a dessert; it was used as bait for mackerel fishing; and to make a fermented drink called 'uala 'awa'awa. The vine made a *lei* which was worn by nursing mothers to ensure a good flow of milk; when dried, the

vine was also used as padding underneath floor mats. All parts of the plant were used as food for pigs. Kamapua'a was the god of the sweet potato.

uhu An adult fish in the family Scaridae.

'ulu 1. Discoidal, smooth stone as used in 'ulu *maika* game; 2. Breadfruit, *Artocarpus altilis*.

wahine Woman, lady, wife; sister-in-law, female cousin-in-law of a man.

wauke A small tree or shrub, *Broussonetia papyrifera*, whose bark was made into *kapa* cloth. The inner bark was used to make cordage, and the shoots were used to treat childhood diseases. The leaves, along with banana and taro leaves, were used ceremonially to wrap the bodies of *ali'i* after death.

weke Certain species of Mullidae, surmullets, or goatfish, which have large scales and are usually found in reefs. Red and light-colored *weke* were popular as offering to the gods.

Abbreviations

ac. A unit of land area equal to 4,840 square yards (0.405 hectare).

AD *Anno Domini*, the Christian era in the Gregorian calendar, starting from the year AD 1 as the calculated year in which Christ was born.

cm The centimeter, a derived unit of length in the International System of Units, equal to 10^{-2} m. See also m.

GPS Global Positioning System, operated by the government of the United States. The term is often used for the unit used to communicate with the GPS.

in. A unit of linear measure equal to one twelfth of a foot (2.54 cm).

LCA Awards issued by the Board of Commissioners to Quiet Land Titles between 1846 and 1855 to persons who filed claims to land between 1846 and 1848.

m The meter, a base unit of length in the International System of Units, equal to the length of the path traveled by light in vacuum during a time interval of $1/299,792,458$ of a second.

USGS A federal agency that provides reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect the quality of life.

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