

**HUMU‘ULA A ME PI‘IHONUA:
HE MAU ‘ĀINA LEI ALI‘I
MA KA ‘ĀINA MAUNA O HAWAI‘I**

**HUMU‘ULA AND PI‘IHONUA:
LANDS THAT ADORN THE CHIEFS
ON THE MOUNTAIN LANDS OF HAWAI‘I**

**A COLLECTION OF NATIVE TRADITIONS,
HISTORICAL ACCOUNTS, AND ORAL HISTORY INTERVIEWS**



*Portion of the Humu‘ula-Kalai‘eha Crown Lands–Kalai‘eha Sheep Station Headquarters
Kalai‘eha Pu‘u and Pu‘u Huikau in Background; Pastured Since ca. 1840; 1935 Lava Flow in Foreground
(Photo No. KPA-S1743)*



Kumu Pono Associates LLC

*Historical & Archival Documentary Research · Oral History Interview Studies · Researching and Preparing
Studies from Hawaiian Language Documents · Māhele ‘Āina, Boundary Commission,
& Land History Records · Integrated Cultural Resources Management Planning ·
Preservation & Interpretive Program Development*

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(TMK Overview Sheet 3-8-01)**

By

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Prepared for

*'Ōiwi Lōkahi o ka Moku o Keawe
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Resources Management Planning · Preservation & Interpretive Program Development*

EXECUTIVE SUMMARY

At the request of Bruce Tsuchida, of Townscape, Inc.—on behalf of *‘Ōiwi Lōkahi o ka Mokupuni o Keawe* (*‘Ōiwi Lōkahi*) an organization made up of Native Hawaiian Homesteaders and Hawaiian Home Lands applicants; and as a part of on-going archival and oral historical research pertaining to Mauna Kea and the adjoining *‘āina mauna* (mountain lands), *Kumu Pono Associates LLC* researched and compiled a detailed collection of archival-historical records and oral history interviews. The latter, from a collection of interviews with elder *kama‘āina*, knowledgeable about the lands of Humu‘ula, Pi‘ihonua, Ka‘ohe and the larger region of the *‘āina mauna* on the island of Hawai‘i. The purpose of this study is multifaceted, and seeks to provide Native Hawaiian Homesteaders, planners, the Hawaiian Homes Commission, community members, and other interested readers with documentation pertaining to the traditional, cultural and historical setting of the *‘āina mauna* on the Island of Hawai‘i.

Research cited in this study, represents the product of years of work, focusing on documentation from a wide range of Kingdom and Government records dating from the 1840s to 1950s; native traditions (some translated in this study from the original Hawaiian texts); journals of historic visitors; and detailed records of the lessees and ranching operations. Archival-historical resources were located in the collections of the Hawai‘i State Archives, Survey Division, Land Management Division, and Bureau of Conveyances; the Bishop Museum Archives; the Hawaiian Historical Society; University of Hawai‘i-Hilo Mo‘okini Library; private family collections; the Parker Ranch & Paniolo Preservation Society (PPS) collections; and in the collection of *Kumu Pono Associates LLC*.

The overview of oral history interviews cited in this study (*at end*) represent selections from interviews conducted by Maly between 1998 to 2004, and reflect the recollections of elder native Hawaiians and *kama‘āina* residents of the Ka‘ohe-Humu‘ula-Pi‘ihonua-Waimea region. The interviewees ranged in age from their 60s to 90s, and in their stories they describe life upon the land, and practices of their families.

Native Hawaiian traditions and historical accounts describe the lands of Humu‘ula, Pi‘ihonua, and Ka‘ohe—areas extending from shore to around the 6,000 foot elevation—as having once been covered with dense forests, and frequented by native practitioners who gathered forest-plant resources, birds, and food. The larger *‘āina mauna* were frequented by individuals who were traveling to the upper regions of Mauna Kea to worship, gather stone, bury family members, or deposit the *piko* (umbilical cords of new-born children) in sacred and safe areas; and by those who were crossing from one region of the island to another.

As early as the 1820s, introduced cattle, sheep, goats, and wild dogs had made their way up to the mountain lands, and were bothersome to those who traveled the *‘āina mauna*. In 1834, Scottish naturalist, David Douglas was killed by a wild bullock at Keahua-ai (now called Douglas Pit or Kaluakauka), near the boundary of Humu‘ula and Laupāhoehoe. By 1850, the natural-cultural landscape of the *‘āina mauna* was being significantly altered by the roving herds of wild bullocks, sheep and other ungulates, and ranching interests were being formalized in the region. In 1859, the Crown and Government mountain lands of Humu‘ula and Ka‘ohe were leased to Francis Spencer and the Waimea Grazing and Agricultural Company, which established ranching stations and operations around the mountain lands. Portions of the land of Pi‘ihonua were leased to native bird hunters in the middle 1860s, and subsequently to native and foreign bullock hunters. As a result, Humu‘ula and the larger *‘āina mauna* have been intensively ranched for more than 150 years.

Because hunting, and subsequently ranching of bullocks, cattle and sheep were the primary historic activities on the mountain lands of Humu‘ula and vicinity, areas once forested soon became open pasture land. While the first formal lease of Humu‘ula was issued in 1857 (Keoni Ana to F. Spencer), it was Samuel Parker and Parker Ranch that held the longest lease on the Humu‘ula mountain lands.

In between 1900 to 2002, the Parker interest leases extended around Mauna Kea to the Pu'u Huluhulu vicinity, and for a period, the leases also included portions of the 'Āina Hou lands. The Parker Ranch interests initially focused on sheep ranching in the Humu'ula-Kalai'eha section, but in 1964, the ranch terminated its sheep program. Cattle operations were maintained till the end of the Parker lease in August, 2002.

Today, limited ranching of cattle is continued on Humu'ula, under a permit by the Department of Hawaiian Home Lands, and leases from the State of Hawai'i, though some 6,000 acres between the Pu'u 'Ō'ō and Pu'uloa, have succumb to an infestation of the introduced gorse (first recorded on the land in 1892), which has had little maintenance since ca. 1980.

As early as the 1831, portions of the land of Pi'ihonua Uka and neighboring forest lands were being worked by Daniel Castle, and later, by the Castle and Hitchcock brothers for lumber milling and bullock hunting operations. Subsequently by the 1860s, native lessees were granted the right of hunting in the Pi'ihonua uplands. Then in 1887, the *ahupua'a* of Pi'ihonua (everything from above Hilo Town to the upland boundary with Humu'ula) was leased to John Timoteo Baker, who undertook ranching operations in Pi'ihonua in the 1890s.

Prior to Baker's lease, the Pu'u 'Ō'ō Ranch Station had been established, with buildings built, as a part of the Humuula Sheep Station Company, due to an error in locating the boundary between Humu'ula and Pi'ihonua. In 1896, the boundary matter was settled, and Baker maintained cattle and livestock ranching operations in the area. Baker sold his lease to W.H. Shipman in 1899, which was followed by the sale of a 40 acre parcel—the Pu'u 'Ō'ō Ranch headquarters—in Patent Grant No. 8970, to W.H. Shipman. In 1902, Shipman secured leases on the lands of Pāpa'ikou, Makahanaloa and other Hilo District lands, which were incorporated into the Pu'u 'Ō'ō ranching operation. W.H. Shipman, Limited sold its interest in the Pu'u 'Ō'ō parcel in the 1970s, and it remains in private ownership to the present day.

The State of Hawai'i maintains lease-hold agreements with parties for various sections of the neighboring lands of Pi'ihonua.

Early leases of the Ka'ohē mountain lands date back to 1857 (Keoni Ana to F. Spencer), and the operations of Francis Spencer's Waimea Grazing and Agricultural Company. The lease took in all of the mountain lands (to the summit of Mauna Kea), across Ka'ohē to its Mauna Loa boundary. Activities were all tied to sheep and cattle ranching. Subsequently, in 1870 the lease was acquired by Parker Ranch, which held most of the Ka'ohē mountain lands until their removal in 1905 for the Mauna Kea Forest Reserve, and later withdrawals as a part of the Pōhakuloa Military installation in 1956 (Governor's Executive Order No. 1719; and Presidential Executive Order No. 1167). Portions of the land of Ka'ohē, generally those on the northern (Waimea) side of Mauna Kea, are still grazed by Parker Ranch. The land of Ka'ohē IV (the Pōhakuloa section), were turned over to the United States Army, and have been used for military training operations since that time.

The summit of Mauna Kea, situated in the *ahupua'a* of Ka'ohē, was noted as a site of importance for modern astronomical observations by the Pendulum Party of 1892. In 1964, the first modern observatory was built on top of Pu'u Poli'ahu. By 1968, the scientific community recognized the value of Mauna Kea as a setting for development of multiple observatories, and in 1967, the University of Hawaii Institute for Astronomy was founded. In 1968, the Board of Land and Natural Resources leased the entire summit of Mauna Kea to the Institute by Lease No. S-4191.

The historical record and oral history interviews provide us with some clues as to the types of sites that may be found on the Humu'ula-Pi'ihonua mountain lands. These sites include but are not limited to native trails (portions overlaid by current routes of access); stone mounds—land markers; altars and other ceremonial sites; shelters and habitation caves; resource collection sites; *ilina* (burial features); and later features (dating from the middle 1800s), including pens, walls and fence lines; stone and

wooden houses; water collection and storage facilities; bird hunting blinds—in the form single, double or tri-sided stone walls; former garden plots; and other “support” features.

The oldest named stone wall feature in Humu‘ula, is the “Kulaka” cattle pen, dating from the 1850s, and the above Pu‘u ‘Ō‘ō and towards Pu‘uloa. The most prominent stone wall features, extending from the Pu‘u Huluhulu vicinity, enclosing the ‘Ōma‘okoili Paddocks, and marking the Humu‘ula-Ka‘ohe boundary, date from 1891, constructed by Japanese employees of the Humuula Sheep Station, Company. Also of interest on the cultural landscape are sections of the Kalai‘eha-Laumai‘a Trail, which were paved with stones in the late 1800s to facilitated transportation of goods around the mountain.

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INTRODUCTION

Background

At the request of Bruce Tsuchida, of Townscape, Inc. — on behalf of *‘Ōiwi Lōkahi o ka Mokupuni o Keawe* (*‘Ōiwi Lōkahi*) an organization made up of Native Hawaiian Homesteaders and Hawaiian Home Lands applicants; and as a part of on-going archival and oral historical research pertaining to Mauna Kea and the adjoining *‘āina mauna* (mountain lands¹), *Kumu Pono Associates LLC*² researched and compiled a detailed collection of archival-historical records and oral history interviews. The latter, from a collection of interviews with elder *kama‘āina*, knowledgeable about the lands of Humu‘ula, Pi‘ihonua, Ka‘ohe and the larger region of the *‘āina mauna* on the island of Hawai‘i. The purpose of this study is multifaceted, and seeks to provide Native Hawaiian Homesteaders, planners, the Hawaiian Homes Commission, community members, and other interested readers with documentation pertaining to the traditional, cultural and historical setting of the *‘āina mauna* on the Island of Hawai‘i (*Figure 1*).

While the *‘Ōiwi Lōkahi* study area covers the Kalai‘eha-Keanakolu lands of Humu‘ula, and part of the Pu‘u ‘Ō‘ō section of Pi‘ihonua, this study also includes excerpts of accounts describing Ka‘ohe and smaller lands which neighbor Humu‘ula and Pi‘ihonua, as those lands were crossed by the boundaries of these large lands. Such accounts document the relationship through traditions and historical uses, that these lands shared with one another. This study is partially based on four previous studies conducted by Maly and Maly, pertaining to Mauna Kea and on-going development on the *‘āina mauna* (Maly 1997, and 1999; Maly and Maly, 2002a & b, and 2003), and also includes new archival research and oral history interviews, not previously-, or widely-cited until preparation of this study.

Archival and Historical Research and Oral History Interviews

The archival-historical research conducted as a part of past studies and the present study, was performed in a manner consistent with Federal and State laws and guidelines for such studies. Among the pertinent laws and guidelines are the National Historic Preservation Act (NHPA) of 1966, as amended in 1992 (36 CFR Part 800); the Advisory Council on Historic Preservation’s “Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review” (ACHP 1985); National Register Bulletin 38, “Guidelines for Evaluating and Documenting Traditional Cultural Properties” (Parker and King 1990); the Hawai‘i State Historic Preservation Statue (Chapter 6E), which affords protection to historic sites, including traditional cultural properties of on-going cultural significance; the criteria, standards, and guidelines currently utilized by the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) for the evaluation and documentation of cultural sites (cf. Title 13, Sub-Title 13:275-8; 276:5 – 2003); and the November 1997 guidelines for cultural impact assessment studies, adopted by the Office of Environmental Quality Control (which also facilitate the standardized approach to compliance with Act 50 amending HRS Chapter 343; April 26, 2000).

Maly and Maly have conducted detailed research in archival-historical literature, referencing both native Hawaiian language and English texts; conducted field visits with elder *kama‘āina*; and conducted oral history interviews with individuals known to be knowledgeable about the history, residency and land use on the *‘āina mauna*.

¹ The native term *‘āina mauna*, was used affectionately by elder Hawaiians, to describe the upper regions of all the mountain lands surrounding, and including Mauna Kea. It is used in this text, in the same manner, with particular emphasis on the lands of Humu‘ula, Ka‘ohe, and Pi‘ihonua.

² Kepā Maly, Cultural Historian-Resource Specialist; and Onaona Maly, Researcher.

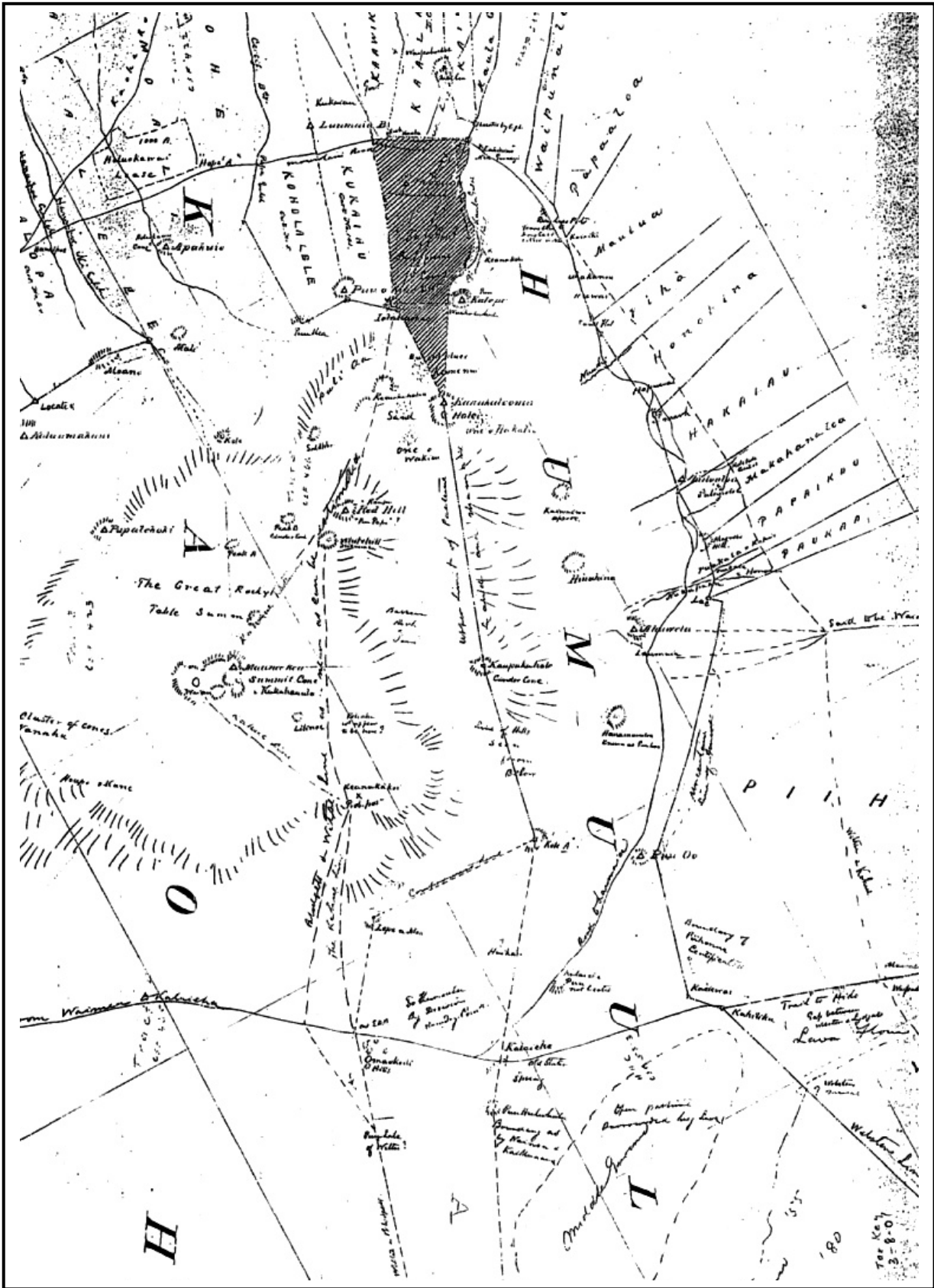


Figure 1. Mauna Kea and Portions of the Ahupua'a of Ka'ohē, Humu'ula, Pi'ihonua, and Neighboring 'Āina Mauna, on the Island of Hawai'i (Portion of Register Map No. 1641; 1891)

Division) of 1848; the Boundary Commission Testimonies and Survey records of the Kingdom and Territory of Hawai'i; and researched historical texts authored or compiled by—D. Malo (1951); S.N. Haleole (1862-1863); J.P. I'i (1959); S. M. Kamakau (1961, 1964, 1976, and 1991); Wm. Ellis (1963); Chas. Wilkes (1845); A. Fornander (1916-1919 and 1996); Isabella Bird (1964); G. Bowser (1880); and many other native and foreign writers. The study also includes several native accounts from Hawaiian language newspapers (compiled and translated from Hawaiian to English, by the author), and historical records authored by nineteenth century visitors, and residents of the region.

Archival-historical resources were located in the collections of the Hawai'i State Archives, Survey Division, Land Management Division, and Bureau of Conveyances; the Bishop Museum Archives; the Hawaiian Historical Society; University of Hawai'i-Hilo Mo'okini Library; private family collections; the Parker Ranch & Paniolo Preservation Society (PPS) collections; and in the collection of *Kumu Pono Associates LLC*. This information is generally cited in categories by chronological order of the period depicted in the narratives.

The overview of oral history interviews cited in this study (*at end*) represent selections from interviews conducted by Maly between 1998 to 2004, and reflect the recollections of elder native Hawaiians and *kama'āina* residents of the Ka'ohē-Humu'ula-Pi'ihonua-Waimea region. The interviewees ranged in age from their 60s to 90s, and in their stories they describe life upon the land, and practices of their families.

The recorded interviews were transcribed and returned (with the recordings) to each of the interviewees. Follow up discussions were then conducted to review each of the typed draft-transcripts. The latter process resulted in the recording of additional narratives with several interviewees. Following completion of the interview process, all of the participants in the tape recorded oral history interviews gave their permission for inclusion of portions of their transcripts in historical studies of the *'āina mauna*. Because of the review and follow-up discussions with interviewees, the final transcripts cited in this study at times differ from the original recorded interview. The final released transcripts supersede the original documentation.

Summary of Land Use Practices on the 'Āina Mauna

The land of Humu'ula is apparently named for a type of stone (Red jasper stone) that was used in making *ko'i* (adze); the place name, Pi'ihonua, describes a land area that rises to the uplands; while the place name, Ka'ohē, may be literally translated as "The-bamboo" or named for a type of *kalo* (taro) that may have been common in the region (cf. Pukui, et al. 1974). Native Hawaiian traditions and historical accounts describe the lands of Humu'ula, Pi'ihonua, and Ka'ohē—areas extending from shore to around the 6,000 foot elevation—as having once been covered with dense forests, and frequented by native practitioners who gathered forest-plant resources, birds, and food. The larger *'āina mauna* were frequented by individuals who were traveling to the upper regions of Mauna Kea to worship, gather stone, bury family members, or deposit the *piko* (umbilical cords of new-born children) in sacred and safe areas; and by those who were crossing from one region of the island to another.

As early as the 1820s, introduced cattle, sheep, goats, and wild dogs had made their way up to the mountain lands, and were bothersome to those who traveled the *'āina mauna*. In 1834, Scottish naturalist, David Douglas was killed by a wild bullock at Keahua-ai (now called Douglas Pit or Kaluakauka), near the boundary of Humu'ula and Laupāhoehoe. By 1850, the natural-cultural landscape of the *'āina mauna* was being significantly altered by the roving herds of wild bullocks, sheep and other ungulates, and ranching interests were being formalized in the region. In 1859, the Crown and Government mountain lands of Humu'ula and Ka'ohē were leased to Francis Spencer and the Waimea Grazing and Agricultural Company, which established ranching stations and operations around the mountain lands. Portions of the land of Pi'ihonua were leased to native bird hunters in the middle 1860s, and subsequently to native and foreign bullock hunters. As a result, the *'āina mauna* have been intensively ranched for more than 150 years.

Humu'ula — Because hunting, and subsequently ranching of bullocks, cattle and sheep were the primary historic activities on the mountain lands of Humu'ula, areas once forested soon became open pasture land. While the first formal lease of Humu'ula was issued in 1857 (Keoni Ana to F. Spencer), it was Samuel Parker and Parker Ranch that held the longest lease on the Humu'ula mountain lands. In between 1900 to 2002, their leases extended around Mauna Kea to the Pu'u Huluhulu vicinity, and for a period, the leases also included portions of the 'Āina Hou lands. The Parker Ranch interests initially focused on sheep ranching in the Humu'ula-Kalai'eha section, but in 1964, the ranch terminated its sheep program. Cattle operations were maintained till the end of the Parker lease in August, 2002.

Today, limited ranching of cattle is continued on Humu'ula, under a permit by the Department of Hawaiian Home Lands, and leases from the State of Hawai'i, though some 6,000 acres between the Pu'u 'Ō'ō and Pu'uloa, have succumb to an infestation of the introduced gorse (first recorded on the land in 1892), which has had little maintenance since ca. 1980.

Pi'ihonua — As early as the 1831, portions of the land of Pi'ihonua Uka and neighboring forest lands were being worked by Daniel Castle (cf. L.C.A. *Helu* 198³); and later, by the Castle and Hitchcock brothers for lumber milling and bullock hunting operations. Subsequently by the 1860s, native lessees were granted the right of hunting in the Pi'ihonua uplands. Then in 1887, the *ahupua'a* of Pi'ihonua (everything from above Hilo Town to the upland boundary with Humu'ula) was leased to John Timoteo Baker, who undertook ranching operations in Pi'ihonua in the 1890s.

Prior to Baker's lease, the Pu'u 'Ō'ō Ranch Station had been established, with buildings built, as a part of the Humu'ula Sheep Station Company, due to an error in locating the boundary between Humu'ula and Pi'ihonua. In 1896, the boundary matter was settled, and Baker maintained cattle and livestock ranching operations in the area. Baker sold his lease to W.H. Shipman in 1899, which was followed by the sale of a 40 acre parcel—the Pu'u 'Ō'ō Ranch headquarters—in Patent Grant No. 8970, to W.H. Shipman. In 1902, Shipman secured leases on the lands of Pāpa'ikou, Makahanaloa and other Hilo District lands, which were incorporated into the Pu'u 'Ō'ō ranching operation. W.H. Shipman, Limited sold its interest in the Pu'u 'Ō'ō parcel in the 1970s, and it remains in private ownership to the present day.

The State of Hawai'i maintains lease-hold agreements with parties for various sections of the neighboring lands of Pi'ihonua.

Ka'ohē — Early leases of the Ka'ohē mountain lands date back to 1857 (Keoni Ana to F. Spencer), and the operations of Francis Spencer's Waimea Grazing and Agricultural Company. The lease took in all of the mountain lands (to the summit of Mauna Kea), across Ka'ohē to its Mauna Loa boundary. Activities were all tied to sheep and cattle ranching. Subsequently, in 1870 the lease was acquired by Parker Ranch, which held most of the Ka'ohē mountain lands until their removal in 1905 for the Mauna Kea Forest Reserve, and later withdrawals as a part of the Pōhakuloa Military installation in 1956 (Governor's Executive Order No. 1719; and Presidential Executive Order No. 1167). Portions of the land of Ka'ohē, generally those on the northern (Waimea) side of Mauna Kea, are still grazed by Parker Ranch. The land of Ka'ohē IV (the Pōhakuloa section), were turned over to the United States Army, and have been used for military training operations since that time.

The summit of Mauna Kea, situated in the *ahupua'a* of Ka'ohē, was noted as a site of importance for modern astronomical observations by the Pendulum Party of 1892. In 1964, the first modern observatory was built on top of Pu'u Poli'ahu. By 1968, the scientific community recognized the value of Mauna Kea as a setting for development of multiple observatories, and in 1967, the University of Hawaii Institute for Astronomy was founded. In 1968, the Board of Land and Natural Resources leased the entire summit of Mauna Kea to the Institute by Lease No. S-4191.

³ In Land Commission Award No.198, Daniel Castle reported that Governor Kuakini set him up in the saw mill operation above Hilo in 1831; in return he received the land of Kula'imano (Aug. 27, 1846).

Nā Ala Hele o ka 'Āina Mauna

Travel across the *'āina mauna* is documented in native traditions, which describe *ala hele* (trails) passing from the coastal lowlands through the forest lands; along the edge of the forests; across the plateau lands, and to the summit of Mauna Kea. These *ala hele* approached Mauna Kea from most of the major districts on the island.

By the early 1800s, foreign visitors began making regular trips across the *'āina mauna* and to the summit of Mauna Kea. Based on their accounts, travel in the region through the middle 1800s basically followed the old trails, or cut across new areas. By the 1850s, the Kingdom of Hawai'i entered into a program of improving ancient trails and identifying new routes, by which to improve travel between various locations and facilitate commerce. The earliest recorded improvements on a trail around Mauna Kea, were made to the Waimea-Kula'imano trail, running above the forest line and to the coast of Hilo. In 1854, the route was improved to accommodate wagon travel. In the later 1850s, as leases were given out for the lands of Humu'ula and Ka'ohē, and the sheep and bullock hunting interests grew, the 1854 route was maintained, and the upper trail between Kula'imano-Makahānaloa, was improved to the Kalai'eha vicinity. In 1862, the Kingdom again initiated a program to formalize the government road across the *'āina mauna*. Two routes were proposed, one between Hilo and Waimea via Kalai'eha, and the second to improve on the trail from Kalai'eha towards Kula'imano-Makahānaloa, and around through Hanaipoe-Mānā and Waimea. These trails, termed *Alanui Aupuni*, were appropriated and completed by the late 1860s, and appear on island maps through 1901.

By the 1870s, the ancient trail between Kalai'eha and the summit of Mauna Kea, had been improved into a horse trail by the Spencers. Other routes, accessing outlying ranching stations, such as at Pu'u 'Ō'ō and Puakala (Pua'ākala), had also been improved by lessees, with routes running around the mountain, and down to Hilo. On the Crown Lands and Government Lands, leases specify that improvements, including trails, revert to the Crown or Government upon termination of the leases. These trails and government roads were primarily used by lessees for transportation of goods—and cared for by the lessees; though numerous accounts by visitors to the mountain lands also document travel in the region. By the late 1890s, the road supervisor, reported that while these roads belonged to the government, they were all but private.

Between the 1930s to 1940s, improvements were made to the Kalai'eha-Waipunalei section of the road to Waimea as a part of the Civilian Conservation Corps (CCC) program, with subsequent work done by the Territorial Forestry Division and Parker Ranch. Likewise, the Kalai'eha-Waikī'i route was maintained by the ranch, and improved by the United States Army-U.S.E.D., in 1942.

Apparently little work was done on the Kalai'eha-Hilo section of the road (trail), after the 1870s. The trail was accessed by ranchers, with routes diverging to Kalai'eha and Pu'u 'Ō'ō, as described in survey records, journals, and *kama'āina* testimonies. It was not until 1942, that the route was formalized as a vehicular road by what became the Saddle Road, following, in areas, the earlier route, and cutting across new lands in other locations. It was not until 1947, the "Saddle Road" was formally turned over to the Territory, that the larger general public had an opportunity to travel to the mountain lands.

Historical accounts cited in various sections of this study, provide readers with detailed descriptions of the histories summarized above.

KA ‘ĀINA MAUNA (THE MOUNTAIN LANDS): A CULTURAL-HISTORICAL OVERVIEW

This section of the study provides readers with a general overview of the Hawaiian natural-cultural landscape of the ‘*āina mauna* on the island of Hawai‘i, of which the Humu‘ula, Ka‘ohe and Pi‘ihonua lands. The narratives include discussions on Hawaiian settlement, population expansion, and land management practices that are the basis of the sustainable relationship shared between the Hawaiian people and the land.

Hawaiian Settlement

Archaeologists and historians describe the inhabiting of these islands in the context of settlement which resulted from voyages taken across the open ocean. For many years archaeologists have proposed that early Polynesian settlement voyages between Kahiki (the ancestral homelands of the Hawaiian gods and people) and Hawai‘i were underway by A.D. 300, with long distance voyages occurring fairly regularly through at least the thirteenth century. It has been generally reported that the sources of the early Hawaiian population—the Hawaiian Kahiki—were the Marquesas and Society Islands (Emory in Tatar 1982:16-18).

For generations following initial settlement, communities were clustered along the watered, *ko‘olau* (windward) shores of the Hawaiian Islands. Along the *ko‘olau* shores, streams flowed, rainfall was abundant, and agricultural production became established. The *ko‘olau* region also offered sheltered bays from which deep sea fisheries could be easily accessed. Also, near-shore fisheries, enriched by nutrients carried in the fresh water running from the mountain streams, could be maintained in fishponds and coastal fisheries. It was around these bays such as at Hilo, that clusters of houses where families lived could be found (see McEldowney 1979). In these early times, the residents generally engaged in subsistence practices in the forms of agriculture and fishing (Handy and Handy 1972:287).

Over a period of several centuries, areas with the richest natural resources became populated and perhaps crowded, and by ca. 900 to 1100 A.D., the population began expanding to the *Kona* (leeward side) and more remote regions of the island (Cordy 2000:130). Kirch (1979) reported that by ca. A.D. 1200, there were small coastal settlements at various areas along the western shore line of Hawai‘i (Kirch 1979:198). In this system of settlement and residency, the near-shore communities shared extended familial relations with those of the uplands.

By the 1400s, upland regions to around the 3,000 foot elevation were being developed into areas of residence and a system of agricultural fields. By the 1500s to 1600s, residency in the uplands was becoming permanent, and there was an increasing separation of royal class from commoners. During the latter part of this period, the population stabilized and a system of land management was established as a political and socio-economic factor (see Kamakau 1961; Ellis 1963; Handy, Handy & Pukui 1972; Tomonari-Tuggle 1985; and Cordy 2000).

The lowlands of Humu‘ula-Ka‘ohe and Pi‘ihonua, extending from the shore to around the 3,000 foot elevation, supported residential and agricultural activities, spanning centuries of Hawaiian residency. The upper mountain lands (of which the study area consists) were frequented by travelers, collectors of natural resources, and for a wide range of cultural practices (see Kamakau, 1961; and Boundary Commission Testimonies, 1873-1891, in this study).

Natural Resources and Land Management in the Hawaiian Cultural System

In Hawaiian culture, natural and cultural resources are one and the same. Native traditions describe the formation (literally the birth) of the Hawaiian Islands and the presence of life on and around them,

in the context of genealogical accounts. All forms of the natural environment, from the skies and mountain peaks, to the plateau lands, watered valleys and lava plains, and to the shore line and ocean depths are believed to be embodiments of Hawaiian gods and deities. One Hawaiian genealogical account, records that Wākea (the expanse of the sky–father) and Papa-hānau-moku (Papa, who gave birth to the islands)—also called Haumea-nui-hānau-wāwā (Great Haumea, born time and time again)—and various gods and creative forces of nature, gave birth to the islands. Hawai‘i, the largest of the islands, was the first-born of these island children. As the Hawaiian genealogical account continues, we find that these same god-beings, or creative forces of nature who gave birth to the islands, were also the parents of the first man (Hāloa), and from this ancestor all Hawaiian people are descended (ref. David Malo, 1951; Beckwith, 1970; Pukui and Korn, 1973). It was in this context of kinship, that the ancient Hawaiians addressed their environment, and it is the basis of the Hawaiian system of land use. Importantly, in these genealogical accounts, we find too, that Mauna Kea is referred to as “*Ka Mauna a Kea*” (Wākea’s Mountain), and it is likened to the first-born of the island of Hawai‘i (Pukui and Korn 1973). A *mele hānau* (birth chant) for Kauikeaouli (Kamehameha III) describes Mauna Kea in this genealogical context:

| | |
|---|--|
| <p><i>O hānau ka mauna a Kea, ‘Ōpu‘u a‘e ka mauna a Kea. ‘O Wākea ke kāne, ‘o Papa, ‘o Walinu‘u ka wahine. Hānau Ho‘ohoku he wahine, Hānau Hāloa he ali‘i, Hānau ka mauna, he keiki mauna na Kea...</i></p> | <p>Born of Kea was the mountain, The mountain of Kea budded forth. Wākea was the husband, Papa Walinu‘u was the wife. Born was Ho‘ohoku, a daughter, Born was Hāloa, a chief, Born was the mountain, a mountain- son of Kea... (Pukui and Korn 1973:13-28)</p> |
|---|--|

Several early descriptions of the lands of Humu‘ula and Ka‘ohe, describe them as sharing the summit region of Mauna Kea (see Wiltse, Register Map No. 668, and Boundary Commission testimonies in this study). While final settlement of the boundaries of Humu‘ula and Ka‘ohe, in 1891, took Humu‘ula down to around the 9,300 foot elevation, the land rests on Mauna Kea, and with Ka‘ohe, extend to the summit of Mauna Loa.

In the generations that followed initial settlement, the Hawaiians developed a sophisticated system of land use and resource management. By the time ‘Umi-a-Līloa rose to rule the island of Hawai‘i in ca. 1525, the island (*moku-puni*) was divided into six districts or *moku-o-loko*. Hilo, extending from the sea to the mountain slopes of Mauna Kea, and on to the summit of Mauna Loa—through the *ahupua‘a* of Humu‘ula—is one of those six major districts (cf. Fornander 1973–Vol. II:100-102).

The large districts (*moku-o-loko*) like Hilo, and sub-regions (*‘okana* and *kalana*) were further divided into manageable units of land. These smaller divisions or units of land were tended to by the *maka‘āinana* (people of the land) (see Malo 1951:63-67). Of all the land divisions, perhaps the most significant management unit throughout the islands was the *ahupua‘a*. *Ahupua‘a* are subdivisions of land that were usually marked by an altar with an image or representation of a pig placed upon it (thus the name *ahu-pua‘a* or pig-altar). In their configuration, the *ahupua‘a* may be compared to wedge-shaped pieces of land that radiate out from the center of the island, extending to the ocean fisheries fronting the land unit. Their boundaries are generally defined by topography and geological features such as *pu‘u* (hills), ridges, gullies, valleys, craters, or areas of a particular vegetation growth (see Boundary Commission Testimonies, 1873-1891; and C. Lyons, 1875, in this study).

The *ahupua‘a* were also divided into smaller manageable parcels of land (such as the *‘ili*, *kō‘ele*, *mahina ‘ai*, *māla*, and *kīhāpai*), that generally run in a *mauka-makai* orientation, and are often marked by stone wall (boundary) alignments. In these smaller land parcels the native tenants cultivated crops necessary to sustain their families, and supplied the needs of the chiefly communities they were associated with. As long as sufficient tribute was offered, and *kapu* (restrictions) were observed, the common people who lived in a given *ahupua‘a* had access to most of the resources from mountain

slopes to the ocean. These access rights were almost uniformly tied to residency on a particular land, and earned as a result of taking responsibility for stewardship of the natural environment and supplying the needs of ones' *ali'i* (see Malo 1951:63-67 and Kamakau 1961:372-377).

Entire *ahupua'a*, or portions of the land were generally under the jurisdiction of appointed *konoiki* or subordinate chief-landlords, who answered to an *ali'i-'ai-ahupua'a* (chief who controlled the *ahupua'a* resources). The *ali'i-'ai-ahupua'a* in turn answered to an *ali'i 'ai moku* (chief who claimed the abundance of the entire district). Thus, *ahupua'a* resources supported not only the *maka'ainana* and *'ohana* who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms. In the Hilo District, the primary chiefly center, extended from the lowlands of Pi'ihonua to the shore of Waiākea.

In 1875, Curtis J. Lyons, son of Reverend Lorenzo Lyons, of Waimea, and one of the foremost surveyors of the Hawaiian Kingdom, authored a paper on "Hawaiian Land Matters" (Lyons 1875). In his discussion, he provided readers important references to the rights of native tenants on the *ahupua'a* of Humu'ula and Ka'ohe. He also discusses their relationship with neighboring mountain lands such as Pi'ihonua, which are situated on the slopes of Mauna Kea:

The ordinary *ahupuaa* extends from half a mile to a mile into this [forest] belt. Then there are larger *ahupuaas* which are wider in the open country than others, and on entering the woods expand laterally so as to cut off all the smaller ones, and extend toward the mountain till they emerge to the open interior country; not however to converge to a point at the tops of the respective mountains. Only a rare few reach those elevations, sweeping past the upper ends of all the others, and by virtue of some privilege in bird-catching, or some analogous right, taking the whole mountain to themselves... The whole main body of **Mauna Kea** belongs to one land from Hamakua, viz., **Kaohe**, to whose owners belonged the sole privilege of capturing the *ua'u*, a mountain-inhabiting but sea-fishing bird. High up on its eastern flank, however, stretched the already mentioned land of **Humuula**, whose upper limits coincide with those of the *mamane*, a valuable mountain *acasia*, and which starting from the shore near Laupahoehoe, extends across the upper ends of all other Hilo lands to the crater of Mokuaweoweo... [Lyons 1875:111; emphasis added]

Traditions and historical records tell us that the practices of district subdividing and land use as described above, were integral to Hawaiian life, and were the product of strictly adhered to resource management planning. In this system, the people learned to live within the wealth and limitations of their natural environment, and were able to sustain themselves on the land and ocean. It is in this cultural system that we can understand the significance of the lands of Humu'ula, Ka'ohe, Pi'ihonua, and the neighboring *'āina mauna*.

NATIVE HAWAIIAN TRADITIONS AND HISTORICAL NARRATIVES OF HUMU‘ULA, KA‘OHE, PI‘IHONUA AND THE ‘ĀINA MAUNA

In Hawaiian *mo‘olelo* (traditions and historical narratives) are found expressions of native beliefs, customs, practices, and history. Indeed, in Hawai‘i the very landscape is storied (*wahi pana*). Each place name is associated with a tradition—ranging from the presence and interactions of the gods with people, to documenting an event, or the characteristics of a given place. Unfortunately, today, many of those *mo‘olelo* have been lost, though some still remain, and from them we are able to glimpse into the history of the lands and people of the *‘āina mauna*.

This section of the study presents readers with several accounts written by native Hawaiian authors and nineteenth century historians, recording history, the occurrence of events and travel, and traditions of place names that have survived the passing of time. Several of the *mo‘olelo* were translated here from the original Hawaiian by Maly; selected place names and events are emphasized by use of bold face, italics and, or underlining. The cited traditions were formally written between 1862 to 1915.

Mo‘olelo ‘Āina: Native Traditions of the Land

One of the most significant sources of native *mo‘olelo* are the Hawaiian language newspapers which were printed between 1838 to 1948. Most of the accounts that were submitted to the papers were penned by native residents of areas being described and noted native historians. Over the last 30 years, the author has reviewed and compiled an extensive index of articles published in the Hawaiian language newspapers, with particular emphasis on those narratives pertaining to lands, customs, and traditions. Several traditions naming places on Humu‘ula, Ka‘ohe, Pi‘ihonua, and neighboring lands have been located. Those accounts describe native practices, the nature of land use at specific locations, and native lore. Thus, we are given a means of understanding how people related to their environment and sustained themselves on the land.

“Ka Moololo o Laieikawai” (1862-1863)

One of the earliest *mo‘olelo* which provides us with references to Humu‘ula, Mauna Kea and neighboring lands, and associates the names of places on Mauna Kea with the goddesses of the mountain, is “*Ka Moololo o Laieikawai*” (The Tradition of Laieikawai). This tradition spans the Hawaiian Island group, and was collected by native historian, S.N. Haleole. While introducing the series, Haleole noted that he originally wrote out the tradition in 1844 (Haleole, November 29, 1862). It was published as a serial in the Hawaiian language newspaper, *Ku Okoa*, between November 29, 1862 to April 11, 1863. In 1919, Martha Beckwith published Haleole’s, account, titled “The Hawaiian Romance of Laieikawai by S.N. Haleole.”

In Beckwith’s translation, Poli‘ahu is referred to as the “goddess of the snow covered mountain,” Mauna Kea. Below, is a synopsis of the account, by Beckwith, focusing on the main characters of the tradition, and their association with Mauna Kea:

The young chief [Aiwohikupua] of Kaua‘i when he goes to seek the beauty of Puna makes a vow to enjoy no other woman until he has won Laieikawai. At Hana on Maui, he is attracted by the lovely Hina-i-ka-malama as she rides the famous surf at Puhele, and he turns in at Haneoo. The chiefess falls in love with the handsome stranger and wins him at a game of *konane* (Hawaiian checkers). He excuses himself until his return and goes on to Hawaii, where he courts an even more beautiful chiefess in the person of ***Poliahu***, who also promises him her hand. When he finally loses hope of winning Laie-i-ka-wai, he “claps his hands before his god” to free himself from his rash vow and proceeds to a marriage with ***Poliahu***, whom he fetches home with a great cortege to Kauai. While the festivities are proceeding at Mana, the disappointed Hina, apprised of

her lover's duplicity, appears and claims the forfeited stake. Aiwohikupua is obliged to relinquish himself to her embraces, but the angry **Poli'ahu** envelopes the lovers in alternate waves of unendurable heat and cold until they are obliged to separate, when the mountain goddess retires to her home attended by her three maidens, **Lilinoe**, **Waiaie** [sic⁴], and **Kahoupokane**, and Aiwohikupua finds himself bereft of both ladies... [Beckwith 1970:222].

Excerpts of the native texts from Haleole's publication in *Ku Okoa* are cited below, with translation by Maly. We focus here on excerpts that mention Humu'ula and specific locations on the upper slopes of Mauna Kea (sites today identified as being in the *ahupua'a* of Ka'ohe):

Mokuna VII (Dekemaba 27, 1862)

la Aiwohikupua ma i haalele ai ia Paliuli, hoi aku la laua a hiki i Keaau, hoomakaukau na waa, a ma ia wanaao, kau maluna o na waa, a hoi i Kauai...

Ma keia holo ana mai Keaau mai, a kau i Kamaee, ma Hilopaliku, a ma kekahi la ae, haalele lakou ia laila, hiki lakou i Humuula, ma ka palena o Hilo, me Hamakua... A hala hope o Humuula ia lakou, hiki lakou mawaho pono o Kealakaha, ike mai la lakou nei i keia wahine e noho ana i ka pali kahakai, e hiamoe ana nae ke Alii ia manawa.

la lakou i ike aku ai i kela wahine, hooho ana lakou iluna o na waa, "E! ka wahine maikai hoi!"

A no keia, hikilele ae la ka hiamoe o Aiwohikupua, ninau ae la i ka lakou mea e walaau nei, haiia aku la, "He wahine maikai aia ke noho mai la i ka pali." Alawa ae la ke Alii, a ike aku la he mea e o ka wahine maikai.

A no keia mea, kauoha ae la ke Alii i na hoewaa e hoe pololei aku ma kahi a ka wahine e noho mai ana, a holo aku la a kokoke, halawai mua iho la lakou me ke kanaka e paeaea ana, ninau aku la, "Owai kela wahine e noho mai la iluna o ka pali maluna pono ou?"

Haiia mai la, "O Poliahu."

A no ka manao nui o ke Alii e ike i kela wahine, peahiia aku la, a iho koke mai la kela me kona aahukapa i hoopuniia i ka hau, a haawi mai la i kona aloha ia Aiwohikupua...

Chapter VII (December 27, 1862)

Aiwohikupua and his companion departed from Paliuli, and went to Keaau, where the canoe was readied in the early morning, and they boarded the canoe to return to Kauai...

While on their way from Keaau, they arrived at **Kamaee**, in Hilopaliku, and on the following day they departed and arrived at **Humuula**, on the boundary of Hilo and Hamakua... Passing Humuula, they were outside of **Kealakaha**, where they saw a woman sitting along the ocean cliff. The chief (Aiwohikupua) was asleep at that time.

Seeing the woman, they called out from the canoe, "Oh! What a beautiful woman!"

Because of this, the sleep quickly departed from Aiwohikupua, and he asked what was this that they were talking about, they said, "There is a beautiful woman there, sitting on the cliffs." The Chief looked, and he saw indeed that there was a beautiful woman there.

Because of this, the Chief ordered the canoe paddlers to paddle straight to the place where the woman was sitting. Arriving there shortly, they met with a man who was pole fishing, and asked, "Who is that woman sitting there atop the cliff above you?"

He answered, "It is **Poliahu**."

Great was the Chiefs desire to see this woman, he waved to her, and *she quickly surrounded herself with her snow garment*, and then extended her *aloha* to Aiwohikupua...

⁴ Waiaie appears as a typesetting error in one section of Haleole's tradition, though is written as "Waiau" in other parts of the account (see Chapters XVIII & XIX, below).

la laua e halawai malihini ana, i aku o Aiwohikupua, “E Poliahu e! E ka wahine maikai o ka pali, pomaikai wale wau ia oe ma ko kua halawai ana iho nei, a nolaila e ke Alii wahine o ka pali nei, ke makemake nei wau e lawe oe ia’u i kane hoao nau, a e noho kanaka lawelawe aku malalo ou, ma kau mau olelo e olelo ai, a malaila wale no wau. Ina hoi e ae oe e lawe ia’u e like me ka’u e noi aku nei ia oe, alaila, e kau kua maluna o na waa, a holo aku i Kauai, a pehea ia?”

I mai la ka wahine, “Aole wau he wahine no keia pali, no uka lilo mai wau, mai ka piko mai o kela mauna, e aahu mau ana i na kapa keokeo e like me keia kapa a’u e aahu aku nei. A pehea la i hikiwawe ai ka loa ana o ko’u inoa ia oe e ke Alii?”

Olelo aku la o Aiwohikupua, “Akahi no wau a maopopo no Maunakea mai oe, a ua loa koke kou inoa ia makou ma ka haiia ana e kela kanaka paeaea.”

“A no kau noi e ke Alii,” wahi a Poliahu, “E lawe wau ia oe i kane na’u, a nolaila, ke hai aku nei wau ia oe, me ka ninau aku; aole anei o oe ke Alii i ku iluna a hoohiki ma ka inoa o kou mau Akua, aole oe e lawe i hookahi wahine o keia mau mokupuni, mai Hawaii nei, a Kauai; aia kau wahine lawe noloko mai o Moaulanuiakea? Aole anei oe i hoopalau me Hinaikamalama, ke kaikamahine Alii kaulana o Hana? A pau ko huakai kaapuni ia Hawaii nei, alaila, hoi aku a hoao olua? A no kau noi mai e lawe kua ia kua i mau mea hoohui nolaila, ke hai aku nei wau ia oe; aia a hoopau oe i kau hoohiki mua, alaila, aole na’u e lawe ia oe, nau no e lawe ia’u a hui kua e like me kou makemake.”

A no keia olelo a Poliahu, pili pu iho la ko Aiwohikupua manao me ke kaumaha no hoi; a liuliu hoopuka aku la o Aiwohikupua i wahi ninau pokole penei, “Pehea la oe i ike ai, a i lohe ai hoi no ka’u mau hana au e hai mai nei? He oiaio, e Poliahu e, o na mea a pau au e olelo mai nei, ua hana wau e like me ia nolaila, e hai mai i ka mea nana i olelo aku ia oe.”

“Aole o’u mea nana i hai mai i keia mau mea, e ke Alii kane, no’u iho no ko’u ike,” wahi a ke Alii wahine, “no ka mea, ua hanau kupuaia mai wau e like me oe, a ua loa no ia’u ka ike mai

Meeting as strangers, Aiwohikupua spoke, “Say **Poliahu!** The beautiful woman of the cliff, I am indeed blessed by you, at our meeting here. So you, Chiefess of these cliffs here, I desire that you would take me as your husband, as one who will live as a person below you. If you will speak the words, there I will be. If you agree to take me as I have asked you, then we two shall board the canoe, and travel to Kauai. How would that be?”

The woman responded, “*I am not a woman of these cliffs, I come from the distant uplands, from the summit of that mountain, always adorned in the white garment, just as I am wearing now. And how is it that you come to have my name, o Chief?*”

Aiwohikupua then said, “I only now, understand that you are from **Maunakea**, but I got your name from the man that is fishing there.

“And regarding your request, o Chief,” **Poliahu** said, “I will consider taking you as my husband. But, I say this of your, request; are you not the Chief who stood and made an oath in the name of your Gods, that you would not take a wife, from Hawaii to Kauai; for your wife is to be taken from Moaulanuiakea? Yet, are you not betrothed to Hinaikamalama, the famous young chiefess of Hana? And when your journey around Hawaii was completed, that you would return and you two would be married? Now that you have asked that the two of us be joined together, I tell you that you must end your previous oath, or else I cannot take you; if you do, then you may have me as you desire.”

Because of these words of Poliahu, Aiwohikupua’s thoughts were saddened; Aiwohikupua then asked, “How do you know, how have you heard of my tasks, as you have stated? Poliahu, it is true, all the things that you have said, I have done as you’ve described. So tell who told you these things.”

“No one has told me these things, o Chief, it is known to me by my own knowledge,” the Chiefess said. “*Because I, like you, am of a wondrous birth, and I have the knowledge from*

ke Akua mai o ko'u mau kupuna a hooili ia'u, e like me oe, a na ia Akua wau i kuhikuhi mai e like me ka'u e olelo nei ia oukou. Ia oukou no e holo mai ana i Humuula, ua ike wau nou na waa, a pela wau i ike ai ia oe."

*the Gods, from my ancestors, as inherited by me, like you. These Gods have directed me in my words to you. When you traveled to **Humuula**, I saw your canoes, and thus, I saw you."*

A no keia olelo, kukuli iho la o Aiwohikupua, a hoomaikai aku ia imua o Poliahu, me ke noi aku e lilo ia i kane hoopalaau na Poliahu, me ke noi aku a holo pu i Kauai...

Because of these words, Aiwohikupua, kneeled down, and praised **Poliahu**, asking her to take him as the promised one of **Poliahu**, and also asked that she travel with him to Kauai... [Maly, translator]

The narratives continue, telling readers that Poli'ahu stated that she would only travel with 'Aiwohikūpua and his companions as far as Kohala. She then told him that if she was to agree to a betrothal, he must first be released from his previous engagement to Hina-i-ka-mālama.

Upon preparing for his departure from Kohala, Poli'ahu gave 'Aiwohikūpua her "kapa hau" (snow mantle), describing its sacred nature. The following events are described in the narratives below:

...Ia lakou ma Kohala, a hiki i ka la i haalele ai o Aiwohikupua ma ia Kohala, lawe ae la o Poliahu i kona kapa hau, a haawi aku la ia Aiwohikupua me ka olelo aku, "O kuu kapa hau, he kapa i papa loaia e ko'u mau makua, aole e lilo i kekahi mea e ae, ia'u wale iho no; aka, no ko kua lawe ana ia kua i kane hoao oe na'u, a pela hoi wau ia oe, nolaila, he haawi lilo aku nei wau i keia kapa, a hiki i kou la e manao mai ai ia'u a loa, iluna o Maunakea, alaila, hoike ae oe ia'u, alaila, hui kino kua..."

Arriving at Kohala, the day for Aiwohikupua's departure arrived, **Poliahu** took here snow mantle and gave it to Aiwohikupua, saying, "This is my kapa hau (snow mantle), it is a mantle that is very sacred to my parents, not to be given carelessly to any other, only for me. But because you are to be my husband, I thus give it to you, until the day that you think of me and take me, there atop **Maunakea**, then you will know me, and we two shall join together..."

...Ia manawa, kii aku la o Aiwohikupua i kona Ahuula, lawe mai la a hooihi aku la ia Poliahu, me ka olelo aku, "E like me kau olelo ia'u mamua o kou haawi ana mai ia'u i ke kapa hau, pela no oe e malama ai a hiki i ko kua hui ana e like me ke kauoha."

At that time, Aiwohikupua took his Feather Cloak, and placed it upon **Poliahu**, saying, "As you have told me, when you gave me your snow mantle, so too shall you keep this until we two are joined together as instructed."

A pau ka laua kamaile ana i ka wanaao, hookaawale lakou i ka wahine noho mauna, a holo aku la a hiki i Hana, a halawai me Hinaikamalama...

It was as the early light of dawn appeared, that they finished their conversation. They then departed from the woman who dwells upon the mountain, sailing to Hana, to meet with Hinaikamalama... [Maly, translator]

'Aiwohikūpua then returned to Kaua'i, though he failed to formally break off his betrothal to Hina-i-ka-mālama. After some time, 'Aiwohikūpua sent his messenger to Hawai'i to arrange for Poli'ahu to meet with him in preparation for their marriage.

At this point, Haleole introduced readers to Lilinoe, Waiiau (a type setting error by the newspaper in this issue gave the name as Waiaie), and Kahoupokane, the companion-goddesses of Poli'ahu, who dwelled upon the mountains; and places for which names are still known on the mountain landscape to the present-day.

The messenger, Koa'e, went to Hawai'i and met with Poli'ahu, giving her the message of 'Aiwohikūpua. Arrangements were made, and on the appointed day, 'Aiwohikūpua and his retinue, departed from Kaua'i, and traveled to Kawaihae, and then on to the designated meeting place at Wai'ula'ula (the boundary between the *ahupua'a* of Kawaihae and 'ili of 'Ōuli, Waimea):

Mokuna XVIII (Ianuali 17, 1863)

...hoouna hou aku la oia ia Koa'e, kekahi o kana mau elele mama e like me ka olelo kauoha i na elele mua.

A hiki o Koa'e i o Poliahu la, halawai aku la laua, hai aku la o Koa'e i ke kauoha a ke Alii e like me ka mea i haiia ma na pauku hope o ka Mokuna XVII o keia Kaa'o; a pau na olelo a ke Alii i ka haiia, hoi aku la ko ke Alii elele, a hai aku la ma ka pololei, alaila, he mea maikai ia i kona Haku.

Noho iho la o Aiwohikupua, a i na la hope o ke kolu o ka malama; lawe ae la ke Alii i kona mau kaukaualii, a me na punahele, i na haiawahine hoi, na hoa kupono ke hele pu ma ke kahiko ana i ka hanohano Alii ke hele ma kana huakai no ka hoao o na Alii.

I na la i o Kaloa kukahi, haalele o Aiwohikupua ia Kauai, holo aku oia he kanaka kaulua, elua kanaka kaukaui, he iwakalua peleleu.

Mamua o ka po hoao o na Alii, i ka po i o Huna, hiki lakou i Kawaihae, ia manawa, hoouna aku la oia ia koa'e, kona elele e kii ia Poliahu e iho mai e halawai me Aiwohikupua, i ka la i kauohaia'i e hoao.

A hiki ka elele imua o Aiwohikupua mai ke kii ana ia Poliahu, a hai mai la i kana olelo mai a Poliahu mai, "Eia ke kauoha a ko wahine, ma Waiulaula olua e hoao ai, ina e ike aku kakou ma ke kakahiaka nui o ka la o Kulu, e halii ana ka hau mai ka piko o Maunakea, Maunaloa, a me Hualalai, a hiki i Waiulaula, alaila, ua hiki lakou i kahi o olua e hoao ai, alaila, hele aku kakou, pela mai nei."

Alaila, hoomakaukau ae la o Aiwohikupua i kona hanohano Alii.

Kahiko aku la o Aiwohikupua i kona mau kaukaualii kane, a me na kaukaualii wahine, a me na punahele, i ka Ahuula, a o na haiawahine kekahi i kahikoia i ka Ahu'eno. A kahiko iho la o Aiwohikupua i kona kapa hau a

Chapter XVIII (January 17, 1863)

...he sent Koa'e, one of his swift messengers, with the command, as given to the first messenger.

Koa'e arrived before **Poliahu**, and they met. Koa'e told her the command of the Chief, as given in the last paragraph of Chapter XVII of this tale. When the words of the Chief had been spoken, the Royal messenger repeated the words to his Lord's satisfaction.

Aiwohikupua then stayed, until the last days of the third month; the Chief then took his royal attendants, favorites, female retainers, and those necessary companions, adorned in their Chiefly manner, and traveled to where the chief would be married.

On the day of *Kaloa kukahi*, Aiwohikupua departed from Kauai with his people on double and single-hulled canoes, and twenty *peleleu* canoes.

Before the night of the Royal wedding, on the night of *Huna*, they arrived at Kawaihae, he [Aiwohikupua] then sent his messenger, Koa'e, to fetch Poliahu, bringing her down to meet with Aiwohikupua, on the day set for the wedding.

Returning from his trip to get Poliahu, the messenger went in front of Aiwohikupua, and gave him the message that Poliahu had given him, "*Here is the command of your woman; at Waiulaula you two will be wed. When, in the early morning of Kulu we see that the snows have spread from the summit of **Maunakea**, to **Maunaloa**, and **Hualalai**, and are descending to **Waiulaula**, we are to go, for there is the place where you two will wed.*"

So Aiwohikupua prepared in his Royal honor.

Aiwohikupua adorned his supporting chiefs and chiefesses, and his favorites in Feather cloaks; his female attendants were adorned in fine woven garments (*ahu'o'eno*). And Aiwohikupua was adorned in the snow mantle, which **Poliahu**

Poliahu i haawi aku ai, kau iho la i ka mahiole *ie* i hakuia i ka hulu o na liwi. Kahiko aku la oia i kona mau hoewaa o ke Alii, pela no na hoewaa o kona puali alii a pau...

had given him, and with an *ie* helmet, covered with the feathers of the *iiwi* birds. He also adorned all of his Royal paddlers and all of his warriors...

Ma ka la o Kulu, ma ke kakahiaka, i ka puka ana ae o ka la a kiekie iki ae, ike aku la o Aiwohikupua ma i ka hoomaka ana o ka hau e uhi maluna o ka piko o na mauna, a hiki i kahi o laua e hoao ai.

On the day of *Kulu*, in the early morning, as the sun was just rising, Aiwohikupua and companions saw that the snow began to cover the summits of the mountains, and then descended to the place where they two were to be married.

I kela manawa, ua hiki o Poliahu, Lilinoe, Waiaie [Waiau], a me Kahoupokane, i kahi e hoao ai na Alii.

At that time, **Poliahu, Lilinoe, Waiaie [Waiau], and Kahoupokane** arrived at the place where the Royal couple was to be wed.

Ia manawa, hoomaka o Aiwohikupua e hele e hui me ka wahine noho mauna o Maunakea. E like me ka mea i oleloia maluna, pela ko ke Alii hele ana.

At that time, Aiwohikupua then went to join the mountain-dwelling woman of **Maunakea**. As described above, the Chief went to meet her.

Ia Aiwohikupua ma e holo aku ana i ka moana mai Kawaihae aku, he mea e ka olioli o Lilinoe i ka hanohano launa ole o ke Alii kane.

Aiwohikupua and his companions traveled across the ocean from Kawaihae, **Lilinoe** rejoiced at the unequalled glory of the Chief.

A hiki lakou i Waiulaula, ua pauia lakou e ke anu, a nolaila, hoouna aku la o Aiwohikupua i kona elele e hai aku ia Poliahu, "Aole e hiki aku lakou no ke anu."

When they arrived at Waiulaula, they were overtaken by the cold. Therefore, Aiwohikupua sent his messenger to tell **Poliahu**, "They could not continue because of the cold."

Ia manawa, haalele e Poliahu i kona kapa hau, lalau like ae la ka poe noho mauna i ko lakou kapa la, hoi aku la ka hau a kona wahi mau.

Poliahu then set aside her snow mantle, as did the others who dwell on the mountain, and the snows returned to their usual abode.

Ia Aiwohikupua ma i hiki aku ai ma ko Poliahu ma wahi e noho ana, he mea lealea loa i ke Alii wahine na mea kani o na waa o ke Alii kane, a he mea mahalo loa no hoi ia lakou ka ike ana i ko ke Alii kane hanohano, a maikai hoi.

When Aiwohikupua and his companions arrived at the place where **Poliahu** and her companions were sitting, there was great joy between the Chiefesses, and those of the canoes of the Chief. They greatly admired the Chief in his glory.

Ia laua i hui ai, hoike ae la o Aiwohikupua, a me Poliahu, i na aahu o laua i haawi muaia i mau hoike no ka laua olelo ae like...

When they met, Aiwohikupua and **Poliahu** both showed one another their garments which they had first given as a sign of their original agreement... [Maly, translator]

Poli'ahu, 'Aiwohikūpua and his party then departed for Mānā, Kaua'i, as had been agreed upon earlier. They joined the Chiefs Hauailiki and Makaweli, and entered into enjoyable contests in the lover's game of *kilu*.

In the meantime, Hina-i-ka-mālama heard of 'Aiwohikūpua's wedding to Poli'ahu, and she determined to travel to Kaua'i to claim her first right to 'Aiwohikūpua as a husband.

As described in the summary of the *mo'olelo* prepared by Martha Beckwith (1970), the promised marriage between Poli'ahu and 'Aiwohikūpua was not meant to be. Outraged, Poli'ahu abandoned 'Aiwohikūpua to Hina, but punished them by sending waves of cold and heat over them.

Mokuna XIX (Ianuali 24, 1863)

...Iloko o ko laua manawa i hoomaka ai no ka hooko ana i ka hooiki, alaila, ua pono ole ia mea i ko Poliahu manao.

Ia manawa, lawe ae la o Poliahu i kona kapa la, a aahu iho la, ia manawa ka hookuu ana'ku o Poliahu i ka wela maluna o Hinaikamalama. Ia manawa, hapai ae la oia he wahi mele, penei:

*"He wela--e, he wela,
Ke poi mai nei ka wela a kuu ipo ia'u,
Ke hooihana nei i kuu kino,
Ke hoonakulu nei hoi i kuu manawa,
No kuu ipo paha keia wela---e."*

I aku o Aiwohikupua, "Aole no'u na wela, malia paha no Poliahu no na wela, ua huhu paha ia kua..."

...I ke kolu o ka po lealea o Hauailiki, i na'lii e akoakoa ana, a me na mea e ae, oia ka po i hui ai o Lilinoe, me Poliahu, o Waiau, a me Kahoupokane, no ka mea, ua imi mai lakou ia Poliahu, me ka manao ke pono nei ko Aiwohikupua ma noho ana me Poliahu.

Ia po, ia Aiwohikupua me Makaweli, e kilu ana, a i ka waenakonu o ko laua manawa lealea, komo ana na wahine noho mauna iloko o ka aha lealea.

Ia Poliahu ma eha e ku ana me na kapa hau o lakou, he mea e ka hulali, ia manawa, nei aku la ka aha lealea no keia poe wahine, no ke ano e o ko lakou kapa. Ia manawa, popoi mai la ke anu i ka aha lealea a puni ka papai kilu, a kau mai la maluna o ka aha ka pilikia a hiki i ka wanao, haalele o Poliahu ma ia Kauai. O keia manawa pu no hoi ka haalele ana o Hinaikamalama ia Kauai...

As described by Beckwith, 'Aiwohikūpua was left without the company of either of the women, Poli'ahu and Hina-i-ka-mālama.

Chapter XIX (January 24, 1863)

...**Poliahu** felt wronged at the time they [Aiwohikupua and Hinaikamalama] set out to fulfill their oath.

At that time, **Poliahu** took her mantle and put it on and she released a heat upon Hinaikamalama. At which time she [Hina-i-kamalama] took up a chant, thus:

It is so hot, so hot,
The heat of my love covers me,
Warming my body,
Causing my feelings to flutter,
Perhaps the heat is from my sweetheart.

Aiwohikupua said, "This heat is not from me, it is perhaps a heat from Poliahu, who is perhaps upset with us..."

On the third night of the contests of Hauailiki, the chiefs gathered together, as well as the others. And it was on that night that **Lilinoe**, **Waiau**, and **Kahoupokane** joined with **Poliahu**. They had been searching for her, thinking that all was good between **Poliahu** and Aiwohikupua.

That night, while Aiwohikupua and Makaweli were playing *kilu*, the women who dwell upon the mountain entered the assembly.

With **Poliahu**, the four of them stood in their glistening snow mantles. The crowd murmured among themselves about these women and the nature of their garments. Then, the assembly in the *kilu* shelter was buffeted waves of severe cold, a trouble which persisted to the early morning light. **Poliahu** and her companions then left Kauai. Hinaikamalama also left Kauai at that time... [Maly, translator]

***Heiau of the Mountain Lands Described in
“Na Kaa a Kekahi Elemakule o Hawaii” (1865)***

Among the early accounts penned by Hawaiian writers, in which reference to features associated with Humu‘ula, Ka‘ohe and the *‘āina mauna* are found, is an 1865 account, originally collected in 1853. The Hawaiian newspaper “*Ke Au Okoa*” published an article titled “*Na Kaa a Kekahi Elemakule o Hawaii*” (May 8, 15, & 22, 1865), taken from the stories collected by Jules Remy, a French man who came to Hawai‘i in 1851. While introducing the article, readers are told that Remy dwelt in Hawai‘i for about three years, during which time he became quite proficient in the Hawaiian language. While here, Remy traveled around the islands documenting sites and events which he witnessed, and recording histories that were related to him. His narratives, written in French, reached Hawai‘i and were translated into Hawaiian by W.D. Alexander at Punahou (*Ke Au Okoa*, Mei 8, 1865).

“*Na Kaa a Kekahi Elemakule Hawaii*” was collected by Remy in March 1853, when he visited Ho‘opūloa, South Kona. Upon landing, Remy records that he was warmly greeted by the people on the shore, and among the many people gathered, he observed an elderly gentleman. He was “stout and broad-chested, and on the account of his age, his hair was reddish gray.”

Remy learned that the old man was Kanuha⁵, a man of chiefly descent, born before the time that Alapa‘i-nui died, in 1752 (*Ke Au Okoa*, Mei 8, 1865). Remy noted that Kanuha was nearly 116 years old, and in good health. Because of his advanced age, he spoke with authority on ancient customs and history of the Hawaiian people, that few, if any, other people were able to (*Ke Au Okoa*, Mei 8, 1865).

Among the traditions which Kanuha told Remy, was an account of the ascent of ‘Umi to the position of king on the island of Hawai‘i. In the account, Kanuha describes the history behind the construction of the famed *heiau* (temple) Ahu-a-‘Umi, and the construction of three other *heiau* on the *‘āina mauna*—one on Mauna Kea, one on Mauna Loa, and one on a hill near the Ka‘ohe-Waikōloa boundary. By description, and in some cases physical features on the ground, these *heiau* were situated in the lands of Humu‘ula (perhaps two of the *heiau*), Ka‘ohe, and Keauhou.

It is noted here that, in his own work, Abraham Fornander (1973) acknowledged the age and authority of Kanuha, but he also found inconsistencies in the genealogical relationship of individuals mentioned by Kanuha (Fornander 1973:99-101). In particular, Remy reports that Kanuha conveyed to him that ‘Umi went to war with Keli‘iokaloa, a chief of Kona. Historical accounts by native writers and Fornander record that Keli‘iokaloa was the son of ‘Umi, and that he became King of Kona for a time following his father’s death (Fornander 1973:99-101). It should be considered here that this historical inconsistency may actually be attributed to Remy’s own hand, rather than the narratives of Kanuha.

Regardless of the possible genealogical differences, one of the unique qualities of the account is that it provides us with otherwise unrecorded documentation regarding construction and occurrence of *heiau* in the high mountainous region of Hawai‘i. The following narratives, with excerpts of the original Hawaiian and translations of the accounts (translated by Maly), are taken from Remy’s recording of Kanuha’s story in 1853, and published in *Ke Au Okoa* on May 22, 1865:

Umi ruled in place of Hakau, and his friends Koi and Omaokamau dwelt with him. Piimaiwaa, Umi’s war leader dwelt in Hilo. With Umi, there was also his trusted companion Pakaa, and his priest Lono. At this time, Umi ruled the eastern side of Hawaii, while on the western side, his relative Keliokaloa, ruled and dwelt at Kailua... In the time that he dwelt in Kailua, Keliokaloa was known

⁵ Kanuha is found in several historical accounts recorded by Kamakau (1961) and Fornander (1973). One of the historical events in which Kanuha participated with Kame‘eiamoku *mā* was in the capture of the vessel Fair American, in 1790, at Ka‘ūpūlehu (Kamakau 1961:147).

as an evil chief, he cut down the coconut trees and desecrated the cultivated fields. It was because of these evil deeds that Umi made preparations to go to war against him. Umi marched to battle, joined by his famous warrior, Piimaiwaa, and his companions Koi and Omaokamau. Also with him were his favorite, Pakaa, and his priest Lono.

The Hawaiian narrative then reads:

*Mawaena o **Maunakea** a me Hualalai ka hele pualu ana o ua alii nei me kona manao e iho ae i Kailua. Aole nae i kali o Keliokaloa, aka, ua pii nui aku oia me kona poe koa e houka aku ia Umi. Ua halawai na puulu kaula a i elua maluna o kekahi wahi papu i hoopuni ia e na mauna ekolu, a i kapaia hoi ke **Ahu a Umi**. Kaula mai o Laepuni ma (he mau kanaka makaainana pili alii ole) ia Umi, a aneane e make o Umi ia laua, lele mai o Piimaiwaa e kokua ia ia, a oia ka mea nana i hooholo ae ka lanakila ma ko Umi aoao. Aohe mau mea nui i hai ia mai, aka, me he mea ia, ua make ke alii o Kailua iloko oia kaula ana. Ma keia kaula ana, ua lilo holookoa ia Umi ke Aupuni, a lilo iho oia ke alii ai moku o ka mokupuni o Hawaii. I mea e ili aku ai ka hoomanao ana no ia kaula ua hanauna aku a ia hanauna aku, ua kukulu ae la ia i ke ahua aa, e o ia nei a hiki i keia wa ke **ahua a Umi**...*

Between **Mauna Kea** and Hualalai the chief and all his party traveled, with the thought of descending to Kailua. Keliokaloa did not wait though, but instead, traveled with his warriors to meet Umi in battle. The two armies met on a broad open plain, surrounded by the three mountains, at the place [now] called **Ahu a Umi**. There, Laepuni and them (people who were unattached to a chief) fought with Umi. Umi was almost killed, but Piimaiwaa leapt in and helped him, it was he who turned the battle in the favor of Umi's side. There is not much else that is said, but, it is known that the chief of Kailua died in the battle. Thus, with this battle, the entire kingdom was gained by Umi. He became the chief that controlled the entire island of Hawaii. So that the battle would be remembered from generation to generation, he (Umi) built the stone altar, that remains to this day, **the altar (ahua) of Umi**... [Ke Au Okoa; Mei 22, 1865]

The narrative records that early in 'Umi's life, the priests Nunu and Wawa had discerned 'Umi's nature, and foretold that his god Kā'ili, made with a feather from the god Halulu, had empowered him. Indeed, 'Umi was a religious chief, and made many temples for his god. Among the temples were—

*...Ua kukulu no hoi ia he heiau malalo o **Pohaku Hanalei**, a ua kapaia o ke **ahua o Hanalei**; a ma na aoao o **Maunakea** e hele ala i Hilo, ua kukulu no ia i ke kolu o ka heiau, ma kahi i kapa ia o **Puukekee**⁶; a ma **Mauna Halepohaku** malaila ia i kukulu ai i ka ha o na heiau, a malaila no hoi i olelo ia ai ua noho o **Umi** malaila me kona mau kanaka. Ua olelo ia o Umi he alii noho mauna, no kona aloha i kona poe kanaka, nolaila, ua hoi aku ia i waenakonu o ka mokupuni ilaila kona wahi i noho ai me kona poe kanaka, a na kona makaainana e noho ana ma na kapakai, e lawe mai i ka ai na lakou, mai kela pea, keia pea...*

⁶ Puukekee (Pu'u Kēke'e or Pu'u Ke'eke'e) is a hill that sits on the boundary between Waikōloa, Kohala, and Ka'ōhe, Hāmākua.

...He (Umi) also built a *heiau* (temple) below ***Pohaku Hanalei***, it is called the ***ahua o Hanalei*** (altar of Hanalei); and on the side of Mauna Kea, by where one travels to Hilo, he built the third of his temples, at the place called ***Puukekee*** [also written Puu Keekee in historical texts]; and there at ***Mauna Halepohaku*** he built the fourth of his temples; there, it is said, Umi dwelt with his many people. It is said that Umi was a chief who dwelt upon the mountain, it was because of his love of his people, that he (Umi) returned and dwelt in the middle of the island [Ahu-a-Umi], that is where he dwelt with his beloved people. His commoners lived along the shores, and they brought food for them (in the uplands), from one side of the island to the other... [Ke Au Okoa; Mei 22, 1865; Maly, translator]

Also in the 1860s, Hawaiian historian Samuel Mānaiakalani Kamakau (1961), provided readers with several early Hawaiian historical accounts of Mauna Kea and environs (either directly or indirectly by association with place names). These accounts are particularly significant because they can be dated by genealogical associations with individuals identified in text. Two of Kamakau's narratives are set in the period of the great king 'Umi-a-Līloa, who in c. 1525-50, unified the island of Hawai'i under his rule, and established the land division and land management system that remained in place until the *Māhele* of 1848.

In Kamakau's description of the rise of 'Umi to power, we learn of his conquest of Hilo, and the route traveled from Waipi'o, Hāmākua, crossed Mauna Kea, via the trail that ran across Humu'ula-Pi'ihonua, and through Kaūmana, to the royal community on Hilo Bay:

It was decided to make war on the chiefs of Hilo and to go without delay by way of ***Mauna Kea***. From back of Ka'umana they were to descend to Hilo. It was shorter to go by way of the mountain to the trail of ***Poli'ahu*** and Poli'ahu's spring [Waiau] at the top of ***Mauna Kea***, and then down toward Hilo. It was an ancient trail used by those of Hamakua, Kohala, and Waimea to go to Hilo. They made ready to go with their fighting parties to ***Mauna Kea***, descended back of Hilo, and encamped just above the stream of Wai-anuenue... [Kamakau 1961:16-17]

Later during the reign of 'Umi, Kamakau relates an account of the death and burial of the *Kahuna*, Pae, who served 'Umi. Kamakau reports that Pae was "a descendant of Lilinoe, the woman of the mountains" (Kamakau 1961:215). Kamakau also reported that Lilinoe was an important ancestral figure in the genealogy's of Hawai'i's *ali'i* (royalty), and that she was buried on Mauna Kea. He observes that in 1828 Ka'ahumanu traveled to Hawai'i to:

...attempt the recovery of the bones of ***Lilinoe*** on ***Maunakea*** where her body was said to have lain for more than a thousand years in a well-preserved condition, not even the hair having fallen out. Others deny this and say her body was too well-hidden ever to have been found. Her offspring count from Hua-nui-i-ka-la'ila'i; she was the ancestress of ruling chiefs, and from her line was born 'Umi-ka-lani [father of the Mahi family on Hawaii], son of Keawe-nui-a-'Umi by Ho'opili-a-Hae. It is said that Ka-'ahu-manu did not find the bones of ***Lilinoe***... [Kamakau 1961:285]

"Kao Hooniua Puuwai no Ka-Miki" ***(The Heart Stirring Story of Ka-Miki)***

Perhaps one of the most detailed native traditions which includes rich accounts of place names and practices of natives of the land, and describing features of Mauna Kea, Humu'ula, Ka'ohe, Pi'ihonua and the *'āina mauna*, is a historical account titled "*Ka'ao Ho'oniua Puuwai no Ka-Miki*" (The Heart Stirring Tale of Ka-Miki). The story of Ka-Miki was published in the Hawaiian language newspaper *Ka*

Hoku o Hawaii between 1914 to 1917. It is a long and complex account that was recorded for the paper by Hawaiian historians John Wise and J.W.H.I. Kihe with contributions by local informants.

While “Ka-Miki” is not entirely an ancient account, the authors used a mixture of local traditions, tales, and family accounts in association with place names to tie together fragments of site specific history that had been handed down over the generations. The complete narrative includes historical accounts of more than 800 place names (many personified, commemorating particular individuals) around the island of Hawai‘i. While the personification of specific individuals in this account, and their associated place names may not at all times be an “ancient” application, such place name-person accounts are common throughout Hawaiian traditions (as noted in the preceding *mo‘olelo*); and the locational documentation within the “story of Ka-Miki” is of both cultural and historical value.

The selected narratives below, are excerpted from several sections of the tradition, and provide readers with descriptions of the land, resources, areas of residence, and practices of the native residents, as handed down by *kama‘āina* (those familiar with the land). The English translations (Kepā Maly, translator), are a synopsis of the Hawaiian texts, with emphasis upon the main events of the narratives. Also, when the meaning was clear, diacritical marks have been added to help with pronunciation of the Hawaiian.

Synopsis of Translations from the Historic Account of Ka-Miki

This *mo‘olelo* is set in the 1300s (by association with the chief Pili-a-Ka‘aiaea), and is an account of two supernatural brothers, Ka-Miki (The quick, or adept, one) and Maka‘iole (Rat [squinting] eyes). The narratives describe the journey of the brothers, as they walked around the island of Hawai‘i along the ancient *ala loa* and *ala hele* (trails and paths) that encircled the island. During their journey, the brothers competed alongside the trails they traveled, and in famed *kahua* (contest fields) and royal courts, against *‘ōlohe* (experts skilled in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawai‘i. Ka-Miki and Maka‘iole were empowered by their ancestress Ka-uluhe-nui-hihi-kolo-i-u-ka (The great entangled growth of *uluhe* fern which spreads across the uplands), who was one of the myriad of body forms of the goddess *Haumea*, one of the creative forces of nature—also called *Papa* or *Hina*—and was also a goddess of priests and competitors.

The excerpted narratives from Ka-Miki, in this study, include place name accounts that range from the summit of Mauna Kea, to the plains of Humu‘ula, Ka‘ohe, and Waimea, and to the depths of Waipi‘o Valley. In a Hawaiian cultural context, the narratives demonstrate depth of the relationship of various points of land and resources to one another—

Born in *‘e‘epa* (mysterious – premature) forms, Ka-Miki and Maka‘iole were the children of Pōhaku-o-Kāne (*kāne*) and Kapa‘ihilani (*wahine*), the *ali‘i* of the lands of Kohana-iki and Kaloko, North Kona. Maka‘iole was the first born child and Ka-Miki was the second. Following their birth, Ka-Miki was given up for dead and placed in the cave of Pōnahanaha, and though Maka‘iole was of a misshapen form, he was taken to his paternal grandparents Pohokinikini and Pu‘uwalea to be cared for. Being aware of all that took place at the time of their birth, Ka-uluhe retrieved Ka-Miki from the cave and reared him at Kalama‘ula on the heights of Hualālai. It was there that Ka-uluhe began instructing Ka-Miki in the uses of his supernatural powers. Maka‘iole joined his young brother and together, they learned various techniques of contest skills, in preparation for their journey around Hawai‘i Island.

After a period of training and tests, Ka-uluhe instructed Ka-Miki to journey to the *hālau ali‘i* (royal compound) of one of their elder relatives, **Poli‘ahu**. Poli‘ahu and her companion **Lilinoe**, were the guardians of **Waiau** and *the sacred water of Kāne*. Maka‘iole, in turn, was to go collect the *‘awa* (*Piper methysticum*) of the god Luanu‘u at Waipi‘o. These two items would be used in an *‘ai-lolo* (ceremony of graduation),

commemorating the sacred nature of the brothers and the completion of their training in 'ōlohe skills. Ka-uluhe told the brothers:

Waipi'o
Ha'iwahine
'awa of
Waipi'o

O 'oe e Maka-'iole, e ki'i 'oe i ka 'awa 'ili lena a ke akua e inu ala, a 'ona, 'ōleha, kūnewanewa nā maka, aia la ia i ka pali kapu o Waipi'o i ka poli (ka-ulu) o Ha'iwahine - i ka papa lohi mai o 'Āpua...

...You, Maka-'iole, are to fetch the yellow barked 'awa which the gods drink till they are drunk and bleary eyed, till their eyes are reeling, it is the 'awa that is there along the sacred cliff of Waipi'o in the breast (the ledge) of Ha'iwahine - at the long plain of 'Āpua...

Maka-'iole stood up straight, prepared to fly like the 'iwa bird soaring upon the winds... The ancestress then called to Ka-Miki, telling him:

Poli'ahu
Lilinoe
Waiau
Pōhaku-a-Kāne
& Pōhakuoa
a platform
feature on
Mauna Kea

...e ki'i 'oe i ka wai a Kāne, aia i luna i ka piko o ke kuahiwi i ka hālau ali'i o Poli'ahu a me Lilinoe, me ka hānai a lāua o Ka-piko-o-Waiau. Aia malalo mai o kaulu o ka paepae o Pōhaku-a-Kāne e nānā iho la iā Pōhakuoa, o ka 'ohana 'ia o ko makuakāne. E ki'i 'oe i ka wai no ka 'awa o 'olua...

(...You are to fetch **the water of Kāne** which is there atop the summit of the mountain (Mauna Kea), at *the royal compound* of **Poli'ahu, Lilinoe**, and their ward, **Ka-piko-o-Waiau**. The water is there below the ledge of the platform of **Pōhakuakāne**, from where you may look down to **Pōhakuoa**; they are your family through your father's genealogy. You are to fetch the water that will be used to make the 'awa for you two...)

Telling Ka-Miki to travel with all swiftness, Ka-uluhe then offered a traveling chant, to keep Ka-Miki warm while traveling the trail to the *hālau ali'i* of **Poli'ahu** —

| | | |
|---|--|---|
| A mele for traveling on Mauna Kea | <i>Ala hele mauka la Ala hele makai la Ala hele mehameha i ke kualono Ala hele kuo-ū ko'eko'e He ahi kou kapa e mehana ai</i> | The path goes to the uplands The path goes to the lowlands It is a lonely path to the mountain A damp dreary path A fire will be the wrap which warms you |
| | <i>E lala ai i ke ala kapu la A ko kūpuna wahine kino manamana Manamana ke ala nui ou e ku'u kama E Nana-i-ka-ulu-o-Kamalama</i> | Warming you along the sacred trail [Fire] of your ancestress with many body forms Your path will have many branches my child O Nana-i-ka-ulu-o-Kamalama (Ka-Miki) |
| | <i>Ku ana ho'olono i ka leo o'u O ko kūpuna wahine nei la Kū—e, kū la Kū ho'olono, lono e!</i> | Stand and heed my voice It is I your ancestress Stand, make ready Stand and hear, listen! |

Ka-uluhe also told the brothers that they were to:

Lani-mamao
items used for
an 'awa

Go to the place of their ancestress Lani-ku'i-a-mamao-loa (whose name is commemorated in the place name **Lani-mamao** at Waimea); for she had the *kānoa* ('awa bowl) that was called **Hōkū'ula** and the *mau'u* 'awa (strainer)

ceremony Ka-lau-o-ke-Kāhuli, which would be used in preparing the ‘awa ceremony. Ka-uluhe then told Ka-Miki:

Sacred water of Kāne and Kanaloa; awe inspired by Mauna Kea

...e ukuhi ai i **ka wai kapu a Kāne mā lāua me Kanaloa**, a e hi‘i a‘e i ka poli a huli ho‘i mai. Maluna mai ‘oe o nā kualono, kuahiwi, kuakea, e lehe ana ma nā kuamauna, mauna kapu kameha‘i ho‘opa‘e‘e i ke kanaka, a moe luhi ka leo—e, ‘ae...

(...dip into **the sacred water of Kāne and Kanaloa** and hold it close to your breast while returning. You shall be at the heights of the mountainous region, at the whitened peaks, leaping on the mountain top, the sacred and astonishing mountain, that causes people to go astray, and the voice is wearied by calling out—indeed it is so...)

Lani-mamao Ka-Miki and Maka-‘iole then set out to complete their tasks, first traveling to meet their ancestress Lani-mamao on the windward plains of Waimea (in the region of Mahiki). [February 5, 1914]

The brothers greeted their *kupuna* with genealogical chants, and gained her recognition of their descent. When Lani-mamao inquired of their journey and quest, Maka-‘iole called out to her with a *mele* (chant):

| | | |
|-----------|--|---|
| Mele ‘awa | <i>Aia la ilalo o Waipi‘o, I ka pali o Kaholokuaī I ka ‘awa ‘ili lena I ka papa lohi o ‘Āpua A kini o ke akua A ka mano o ke akua A ka lehu o ke akua e inu a—i...</i> | [The ‘awa] is there below in Waipi‘o Along the cliff of Kaholokuaīwawa The yellow barked ‘awa of the long plain of ‘Āpua [‘Awa] of the 40,000 gods [‘Awa] of the 4,000 gods [‘Awa] which the 400,000 gods drink... |
|-----------|--|---|

Lani-mamao exclaimed:

Luanu‘u, the god of ghosts What is your *kupuna* thinking of, sending you to fetch the cherished ‘awa of Luanu‘u-a-nu‘u-pō‘ele-ka-pō-loa, king of the hordes of ghosts who dwelt at Waipi‘o? And where is the water that she told you to fetch?

Ka-Miki answered:

| | |
|--|---|
| The water of Kāne and Kanaloa; sacred platform of Kāne; the mountain mist Kākīkepa | <i>I ka wai kapu a Kāne mā lāua me Kanaloa, i ka paepae kapu o ka Pōhaku-a-Kāne, ke na‘i ‘ia ala e ka ‘ohu Kākīkepa, e ka ‘uwahi noe a ka wahine o ka lua...</i> (It is the sacred water of Kāne and Kanaloa at the sacred platform of Pōhaku-a-Kāne , overcome by the mists Kākīkepa, that is like the steaming mists of the woman [Pele] who dwells at the crater...) |
|--|---|

The thick mountain fog likened to a supernatural net

Because of the great challenges the brothers would face while going to fetch the ‘awa and water of the gods, Lani-mamao tested their ‘*ōlohe* skills to make sure that they were prepared to meet the challenges which lay ahead of them. Lanimamao set out the supernatural net *Ku‘uku‘u* which was also called *Kanikawī - Kanikawā* [the thick rain belt fog] that trapped and ensnared many travelers. She told Ka-Miki and his brother to leap into the net, which they did, she then pulled the net closed and placed high overhead in the rafters of her house. In no time, Ka-Miki had pulled on the lines and caused the net to *ho‘omōhala* (to blossom or open), thus the brothers were freed.

Lani-maomao then told *Nana-i-ke-kihi-o-Kamalama* (Ka-Miki):

Great is your alertness, bravery, skill, cleverness, strength, and wisdom; indeed if you possessed only half of your abilities, you would not have been able to free yourself. No one has ever escaped from this net, and if you had not been able to free yourselves, your training would not have been adequate. Because of this sign, it is you Ka-Miki who must fetch the 'awa of the ghost king *Luanu'u*, for only you could succeed. [February 12, 1914]

Waipi'o
Waikōloa
Thus, Ka-Miki agreed to go to Waipi'o. *Lanimamao* then told *Maka-i'iole*, that he was to go to fetch the strainer *Ka-lau-o-ke-kāhuli* [from the plain of Waikōloa]. And this is why *Ka-uluhe* sent you to me, to test your abilities. *Lanimamao* then warned Ka-Miki not to make any sounds lest he awaken the gods as he drew near the ledge of *Ha'iwahine*. She went on to tell him:

Sites and features in Waipi'o
"When you reach the hill of *Pua'ahuku*, gaze below to the *heiau* of *Pāka'alana*, and look upon Waipi'o, there you will see the cliff of *Kaluahine*. Then look to the side and go into the 'ōhi'a forest of *Ka'auana*. It is there that you will find the 'awa container called *Ka-pāpāiaoa* [*Ka pāpāia'awa* (The ceremonial 'awa)], which *Luanu'u-a-nu'u-pō'ele-ka-pō* uses as his pillow so that no one may take it. *Luanu'u* will be there in the center of his *hālau hale ali'i* (royal compound), and the assembly of 4,000, 40,000, 400,000 ghosts will be outside."

Mahiki
The royal compound of *Luanu'u*
When *Lanimamao* completed her instructions, she allowed Ka-Miki to depart. In the blink of an eye Ka-Miki disappeared, leaping to the forest of *Mahiki*. Leaping again, Ka-Miki arrived at *Pua'ahuku*, and he looked upon the beauty of Waipi'o. Ka-Miki then turned and leapt to the heights of *Ka'auana*, and went to the cliff of *Kaholokuaīwa* where he saw the royal compound of *Luanu'u* along the ledge of *Hea-ke-Akua*, overlooking *Nā-po'opo'o* (The nooks and crannies), in Waipi'o, not *Kona*.

The ghost hordes of *Luanu'u*;
Hālau thatched with bird feathers
Indeed, there were innumerable ghost beings throughout the region. Ka-Miki called upon *Ka-'ohu-kolo-mai-iluna-o-ka-lā'au*, and a thick mist settled on Waipi'o, even covering the compound of the god [*Luanu'u*]. Ka-Miki then leapt and landed upon the ridge pole of the god's long house. Ka-Miki parted the bird feathers, for this is what the house was thatched with, and looked in. He saw that the god and those with him were sleeping, nestled in the mists of the 'awa. Now those in the house were of various shapes and sizes, some with hollow eyes, others with long thin necks, or hands that reached to their feet, truly, things which living people would fear.

While Ka-Miki was looking in the house, he heard the voice of *Luanu'u*'s lead ghosts, *Hio* and *Nana-nui* call out in *mele*:

| | | |
|-------------------|-----------------------------|--|
| <i>mele kahea</i> | <i>Mū e, Mū a</i> | O <i>Mū</i> ghosts, Say <i>Mū</i> |
| | <i>Mū ho'i, Mū na'ana'a</i> | Return <i>Mū, Mū</i> of the protruding bellies |
| | <i>Mū ho'okiki'i,</i> | <i>Mū</i> which lean back, |
| | <i>Mū ho'olono a lono</i> | <i>Mū</i> which listen and hear |
| | <i>Mū kānaka, Mū hauna</i> | <i>Mū</i> like men, <i>Mū</i> of the unpleasant odor |
| | <i>Mū hono—a, 'Oia...</i> | <i>Mū</i> of the excrement, So it is... |

Upon hearing the call, all of the ghosts arose and left *Luanu'u* alone in his house with only his guardians *Mū-kī* and *Mū-kā*, who also served as *Luanu'u*'s messengers.

Before taking *Luanu'u*'s 'awa, Ka-Miki played a trick on *Luanu'u* and awakened him from his 'awa induced sleep. Ka-Miki then hid unseen amongst the rafters of the

hālau. *Luanu'u* called upon his *kūkini*, *Mū-kā* and *Mū-kī*, commanding that they capture the one who would attempt stealing his cherished *'awa*.

Luanu'u sent his messengers to places where *'awa* was grown or would be consumed.

Sites in Ka'ū,
Kohala, Kona;
And the god
Kapu-ko-malo

Mū-kā was sent to the cliff of Mōlīlele by Palahemo, Ka'ū. *Mū-kī* was sent to start at the cliff of Ka'enamakaohue (at Neue, Kohala), where the wind entered along the cliff of Makanikāhiō. *Mū-kī* was then to encircle the island searching, Kapākai and Kahuā (Kohala), Kalina'ōpelu, on the plain of Kanikū; and image ascend the hills of Anahulu (Kona) to look for a sign from the god Kapu-ko-malo.

Humu'ula;
The hills of
'Ōma'oko'ili &
'Ōma'okanihae;
Poli'ahu, Lili'noe
& Waiau; an
'auwai from
the spring

Then they were to circle around to the heights of Humu'ula and inquire of 'Ōma'oko'ili and 'Ōma'okanihae if either of them knew who this rascal thief was. "Encircle ***Ka-piko-o-Waiiau***, the ward of the chiefesses ***Poli'ahu*** and ***Lili'noe***. Pier down upon the multitudes, and watch *the sacred water of Kāne mā*⁷. Look too, to where *they dug the 'auwai (water channel)*." Then *Luanu'u* commanded them to "go to Pu'u-o-Moe'awa in the forest of Mahiki and stand guard."

Mahiki &
Pōkāhi
Pū'awali'i

Mū-kā and *Mū-kī* departed and the multitudes of other ghosts wandered (*'auana*) through the depths of the forests of Mahiki and Pōkāhi in search of this rebel. Ka-Miki heard the indistinct voices of these many ghosts ascend the cliff, and pass through the forests to the heights of Pū'awali'i in the thick mist which ensnares the fished birds (Pōkāhi). When all the ghosts were gone *Luanu'u* fell back to sleep with the *'awa* container as his pillow. Ka-Miki then leapt from the ridge pole and took *Ka-pāpāiaoa* which was filled with *'awa* that had been made ready to use and bundled into balls [wrapped] with *limu pā'ihī'ihī* (a native *limu pōhaku* (rock moss) weed [*Nasturtium sarementosum*]).

The 'awa
container
of Luanu'u;
'awa preparation

Luanu'u arose greatly angered thinking that he would ensnare this rascal upstart in the net of *Nananana-nui-ho'omakua* (*Nana-nui* was also one of *Luanu'u*'s ghost marshals). But unseen, Ka-Miki hid on the ridge pole of the *hālau hale ali'i* where he held the *'awa* container. [February 19, 1914]

Luanu'u, also
called Pahulu-nui;
Pahu Hāwea
Pāka'alana

Luanu'u, who was also called *Pahulu nui* then leapt to the place where the sacred *pahu* (drum) *Lono Hāwea* was kept at the *heiau* of Pāka'alana. Striking the *pahu*, he called all the wandering ghosts to return to the low-lands of Waipi'o. The voice of this drum was a great sign that all of the path ways were to be sealed. The command was heard by all; along the *hula'ana* cliffs from Waipi'o to the ledge of Makanikāhiō; heard by those who were at Koholālele and Maulua; heard by those who were by the steep cliffs looking to the uplands of ***Kalai'eha***; and heard by those who were in the forests of Mahiki. And so all of the pathways and swimming trails were blocked, and the net trap was set.

Koholālele,
Maulua,
Kalai'eha
Mahiki

Ka-Miki departs
from Waipi'o

While all of this occurred Ka-Miki remained hidden in the rafters of the *hālau*. One of the ghosts looked inside and saw Ka-Miki upon the ridge pole and prepared to call out on the *hōkio* (gourd nose flute) which would alert the ghosts that the upstart had been found. With great speed, Ka-Miki then leapt from Heakeakua up to the ridge heights, and landed on a *kāwa'u (Ilex anomala)* tree branch. *Ka-'ohu-kolo-mai-iluna-o-ka-lā'au* then covered the region in a thick mist, blocking everything from sight.

⁷ *Mā* is a Hawaiian word that means "and companions, friends," or "and others."

Ka-Miki thwarts the hordes of Luanu'u's ghosts; accounts of various place name origins

The cry of the ghost hordes could be heard from uplands to shore, as they hungrily looked for Ka-Miki, having been thwarted in their attempts to ensnare him in their supernatural net *Nananana-nui-ho'omakua*, just as birds were caught. Because the ghosts wandered along the cliffs and forests of Ka'auana (Kohala side of Waipi'o) and Mahiki (Hāmākua side of Waipi'o), and were unable to catch Ka-Miki, they went hungry. Under the cover of his ancestresses' mist body form, Ka-Miki leapt from the *kawa'u* tree to Pu'u-o-Moe'awa in the forest of Mahiki. The ghosts wandered hungrily about and two place names commemorate their wandering and having gone hungry: Ka'auana (The wandering), and in Mahiki, *Pōloli-ke-akua* (The gods [ghosts] are hungry) which is also called *Pōloli-(i)-ka-manu* (Hungry for the bird). At Pu'uomoe'awa, Ka-Miki met with the ghost runner *Mū-kī* who had been stationed there by *Luanu'u*. [February 26, 1914]

Ka-Miki thwarted his efforts at catching him by throwing foul smelling dirt (dabs of excrement) at him. Though many other ghosts arrived for the fight, they were all driven off, as Ka-Miki began destroying them.

The conch Kihapū

Hio and Nana nui Luanu'u's ghost marshals told their chief about the events at Pu'uomoe'awa, and Luanu'u blew the conch *Hā-nō*, also called *Kiha-pū*, which was the conch that the supernatural dog *Puapualenalena* stole from the ghosts of Waipi'o. Hearing the call of the conch, the remaining ghosts fled from Pu'uomoe'awa, leaving Ka-Miki who returned to *Lanimaomao*. Ka-Miki presented the sacred 'awa container *Kapāpāiaoa* and 'awa to his ancestress, and she bathed him in her rains, and caused lighting and thunder to praise his accomplishments.

Hōkū'ula Lono-Makahiki water of Kāne (Mauna Kea)

Lanimamao then gave Ka-Miki the *kānoa* 'awa ('awa bowl), Hōkū'ula—with the *kapu* of Lono-Makahiki—so that he could go get *the wai kapu* (*sacred water*) of Kāne and Kanaloa (at Mauna Kea). [March 5, 1914]

Ka-Miki then leapt and disappeared in the mists that seemed to crawl upon the forest growth. Arriving at the spring, Ka-Miki began dipping the ladle into the *sacred water of Kāne*, to fill the 'awa bowl Hōkū'ula...

Naming of Ka-wai-hū-a-Kāne

...*a ia wā i 'ike mai ai ua wahi akua kia'i i ka 'ale o ka wai a hū a'e lā mawaho o ka pūnāwai. A iā lāua i holo mai ai, o ka mā'alo o ke aka ka lāua i 'ike a nalo aku lā. A ua kapa 'ia ka inoa o ua pūnāwai ala o "Ka Wai Hū a Kāne," a hiki i kēia lā. No ka hū ana i ke kī'o'e ana a Ka-Miki i ka wai iloko o ke kānoa 'awa o ke akua.*

(...at that time, the guardians [Pōhakuakāne and Pōhakuloa] saw the water rippling, and overflowing from the spring. As they went to investigate, they saw a shadow pass them by. Because of the overflowing of the water, *the spring came to be called Ka-wai-hū-a-Kāne* (*The overflowing waters of Kāne*), and so it remains named to this day. It overflowed because Ka-Miki scooped the water, filling the 'awa bowl of the god.)

Holoholokū; the wind goddess Waikōloa;

Ka-Miki then joined Maka'iole at **Holoholokū** on the plain of Waikōloa. As they traveled along the hill tops, the wind goddess **Wai-kō-loa** (Water carried far) caused the water to splash over the brim of *Hōkū'ula*. Some of the water was carried afar by the wind and fell, forming a new spring. When the spring appeared, Pōhaku-a-Kāne fetched some of the water. Because Pōhaku-a-Kāne fetched some of the water that had fallen, that place is called **Wai-ki'i** (water fetched) to this day. This happened near the hills of **Pu'u Keke'e**.

Pōhaku-a-Kāne; naming Waiki'i; Pu'u Keke'e

Mauna Kea; Pōhakuoloa; & the deity of Mauna Kea make other springs

Pōhaku-a-Kāne took the water he retrieved to the base of the cliffs of **Mauna Kea** and dug into the earthen plain of **Pōhakuoloa** and placed the water there. From Pōhakuoloa, the water flowed underground and appeared as springs at several other places, including **Ana-o-Hiku** at **Hanakaumalu**, Honua'ula, and **Kīpaha'e-wai** on the slopes of Hualālai...

...Having successfully completed their tasks, and collected the necessary items, the brothers returned to Kalama'ula. Ka-uluhe performed the 'awa and 'ailolo ceremonies, marking the completion of their 'ōlohe training, at Kaukahōkū. The ghost king and his hordes had followed after Ka-Miki, thinking they would trap him, but Ka-Miki ensnared the king and his ghost hordes in the supernatural net Ku'uku'u. Luanu'u was bound so tightly that his eyes bulged out and they were used for the pūpū 'awa ('awa drink condiment) for the ceremony. After the 'ailolo ceremony was completed, Ka-Miki took the net filled with the bodies of Luanu'u mā and deposited them in the ocean of Makalawena... [March 12-19, 1914]

'Ailolo and 'awa ceremonies

Luanu'u killed by Ka-Miki

In a later section of the tradition of Ka-Miki, we find that Ka-Miki and his companions have traveled around the island from Kona, and arrived at Waiākea in the District of Hilo. During competitions on the *kahua* (arena) of Kalepolepo, Ka-Miki defeated all challengers. One last hope was held out for the 'ōlohe of the region, and a message was sent into the uplands of Pi'ihonua, at Kīpuka-'āhina, to call Kālanakāma'a, the 'ōlohe-ward of Kīpuka-'āhina^(k), Hale-aloha^(w), and Hale-loulu^(k). The names of these individuals are also preserved as place names of sites on the mountain slopes of Humu'ula. The narratives record:

Waiākea Pi'ihonua Pana'ewa Kalepolepo

...The lands of Waiākea were named for the high chief Waiākea-nui-kumuhonua, the brother of Pi'ihonua-a-ka-lani^[k] and Pana'ewa-nui-moku-lehua^[w]. After departing from Pana'ewa, Ka-Miki mā met Haili-kula-manu, who was a guardian of Waiākea. Haili led Ka-Miki and his companions to his chief's compound at Kalepolepo [February 17, 1916]. Arrangements were made for Ka-Miki to compete with the 'ōlohe – experts of Waiākea, with the events to be held at the *kahua* [contest site] at Kalepolepo...

Ka-Miki—"the image of the war club of Ka-uluhe-nui-hihi-kolo-i-uka"—entered the *kahua* and the contest rules were set. It was agreed that the method of competition would be 'ōka'a lā'au [war club fighting], and that the loser would be killed and baked in an *imu*... Ka-Miki and the champion 'Ūpēloa competed, and to everyone's amazement, 'Ūpēloa was defeated...

'Ūpēloa

Hearing that his foremost champion had been defeated by Ka-Miki, Waiākea called to his messenger, Kapunakō to go get Kaūmana the foremost teacher of *lua*, *ha'ihai*, *kākā lā'au* [bone breaking fighting, and spear fighting], and all other manner of fighting, and bring him to the *kahua*. Upon arriving before his chief, Kaūmana asked Waiākea to send his messenger Kapunakō, to bring Kalanakāma'a, Kaūmana's foremost student to join him at the *kahua* of Kalepolepo.

Kapunakō Kaūmana Kalanakāma'a

[The place called] Kalanakāma'a was named for Kalana-kāma'a-o-uli, the foremost 'ōlohe student of Kaūmana, and champion of Waiākea. Kalanakāma'a was the ward of **Kīpuka-'āhina**^[k], **Hale-aloha**^[w], and **Hale-loulu**^[k], who dwelt above Hilo at places which now bear their names. When Kapunakō arrived before Kīpuka-'āhina, he spoke about the great rains and rivers of Hilo; a poetic reference to the many skilled 'ōlohe for which Hilo was famed. It was in this way that Kapunakō described the overwhelming skills of Ka-Miki and his victory over 'Ūpēloa. Kīpuka-'āhina then asked—

Kīpuka-'āhina Hale-aloha Hale-loulu

Māmā Hilo i ka wai? – Is Hilo [without] lightened of its water?

Describing
Hilo rains
and the
mountain
terrain

Kapunakō responded – ‘*Ae māmā Hilo i ka wai ‘ole, ua kau i ka lani ka holo [wa‘a] ua o Hilo, na ka Māluhua e ki‘i ala i pulu ka liko o ka lehua a me ka māmane!* – Indeed one can move swiftly through *Hilo*, for the streams are without water, the water trough [figuratively the clouds] of Hilo are set in the heavens, it is the *Māluhua* which fetches moisture for the budding *lehua* and *māmane*. Kīpuka-‘āhina then asked in amazement – *Nawai e nele o Hilo i ka wai? He lau ka pu‘u, mano ka ihona, he kini nā kahawai o Hilo, e ‘au i ka wai o Hilo a pau ke aho!* (Who could possibly make Hilo destitute of water? There are 400 hills, 4,000 places to descend, and 40,000 streams to cross, indeed one is worn out swimming through the waters of Hilo!)

It was in this way that Kīpuka-‘āhina learned that a master ‘*ōlohe* had come to Hilo challenging it’s many ‘*ōlohe*. Using his *ipu hōkiokio* (gourd nose flute), Kīpuka-‘āhina awakened Kalanakāma‘a, for this was the only way in which Kalanakāma‘a could be safely awakened, or he would kill whoever awakened him [February 24-March 2, 1916].

Kalanakāma‘a
and Ka-Miki
compete

Kalanakāma‘a joined his teacher Kaūmana, and met with the assembly at Kalepolepo. Carrying his club *Pūpū-kani-oe-i-ka-ua-o-Hilo* (Land snails singing in the rain of Hilo), Kalanakāma‘a entered the *kahua* with Kaūmana and a great cry arose praising the abilities of these Hilo champions. Ka-Miki and Kalanakāma‘a exchanged taunts, Ka-Miki stated that Kalanakāma‘a would become the *kāma‘a lau-ī i hili kuanaka ‘ia* (twined ti leaf sandals) which Ka-Miki wears upon his feet. Outraged, Kalanakāma‘a leapt to attack Ka-Miki with his club *Pūpū-kani-oe-i-ka-ua-o-Hilo*, Ka-Miki leapt out of the way, and took ‘Upēloa’s club from Maka-‘iole. Seeing his student miss, Kaūmana called out to Kalanakāma‘a telling him how to strike Ka-Miki—

Placed in the heavens is the water trough of Hilo, entwined in the cordage of the rains, ‘*lo* [Hawk] is the war club strike to use, for there is no place that can’t be hit. Strike at the head and reach to the feet, for once struck, there will be no movement. If there is any movement, he is indeed a skilled expert of the depths [deepest knowledge], then return and strike again in the manner of the wind swept *koa* tree [March 9, 1916].

Kaūmana
and Ka-Miki
compete

Ka-Miki then attacked Kalanakāma‘a and quickly overcame him, Kaūmana then leapt to the *kahua* and was beaten as well. After Ka-Miki defeated Kaūmana, word spread throughout the region, and Pi‘ihonua, Waiākea’s brother called his council together wondering how they might help regain the honor of Hilo from this stranger... [March 16, 1916]

This section of the account ends with Ka-Miki meeting the chief Hanakāhi—for whom the section of Hilo Hanakāhi was named—in honorable competition at Kalepolepo. Because of the honest and humble nature of Hanakāhi, Ka-Miki befriended him and peace was restored in the region of Hilo-one and Hilo-Hanakāhi.

Boundary Commission testimonies of 1873 (cited later in this study), and the writings of E.D. Baldwin (1890) give us the locations of three of the upland residential sites referenced in the narratives above (see also Register Map No. 1718). In summary, we find:

Kīpuka-‘āhina is situated on *pāhoehoe* flats, crossed by the boundary of Pi‘ihonua and Waiākea (Kainoa Boundary Commission, 1873:57). In drawing near to Kīpuka-‘āhina, Baldwin reports “We are now nearing the main base of Mauna Kea,” and once at Kīpuka-‘āhina, he states “We are now on the slopes of Mauna Kea” (Baldwin 1890:55).

Hale-aloha is situated at approximately the 4,050 foot elevation. Baldwin noted: “the trail leaves the woods about two miles from Halealoha,” and he states that Halealoha is about five miles from Kīpuka-‘āhina (Baldwin 1890:55).

Hale-loulu was identified as being near the boundary of Humu‘ula, where Ka‘ula gulch meets Ka‘ala (below Ahu-a-po‘o-pua‘a and near the mountain road) (Waiki Boundary Commission, 1873:41).

1823-1913: SELECTED NARRATIVES AND SITE DESCRIPTIONS RECORDED BY FOREIGN VISITORS

The historic records of native writers share that in the Hawaiian mind, Mauna Kea—from shoreline to the dense forests and lofty peaks—was a source of awe and inspiration. The natural resources and mountain itself, were believed to be manifestations of various creative forces of nature, and were revered. Though on a different level, the natural beauty of Mauna Kea also inspired foreign visitors of the eighteenth and nineteenth centuries to wax poetically. In the journals of many eighteenth and nineteenth century visitors, readers can find descriptions of the natural environment and glimpses into the native history of the mountain. Selections from several early foreign journals and historians, describing travel across the mountain lands, and traditions learned, are cited below.

The Journal of William Ellis (1823)

In 1823, British missionary William Ellis, and members of the American Board of Commissioners for Foreign Missions (ABCFM) toured the island of Hawai'i seeking out community centers in which to establish church strongholds for the growing Calvinist mission. In Ellis' Journal (1963), we find the first Hawaiian tradition written in reference to Mauna Kea (Mouna-Kea). Following a sermon, in which Ellis had mentioned the biblical account of the Great Flood and Noah's Ark, several Hawaiians approached Ellis with questions. Ellis reports:

They said they were informed by their fathers, that all the land had once been overflowed by the sea, except a small peak on the top of Mouna-Kea, where two human beings were preserved from the destruction that overtook the rest, but they said they had never before heard of a ship, or of Noah, having always been accustomed to call it the *kai a Kahinarii* (sea of Kahinarii)... (Ellis 1963:321).

In his journal, Ellis also described his impressions of the mountain lands—their breadth, the nature of the forests and summit of Mauna Kea, and that natives did travel to the mountain lands:

On approaching the islands, I have more than once observed the mountains of the interior long before the coast was visible, or any of the usual indications of land had been seen. On these occasions, the elevated summit of Mouna Kea, or Mouna Roa, has appeared above the mass of clouds that usually skirt the horizon, like a stately pyramid, or the silvered dome of a magnificent temple, distinguished from the clouds beneath, only by its well-defined outline, unchanging position, and intensity of brilliancy occasioned by the reflection of the sun's rays from the surface of the snow.

The height of these mountains has been computed by some navigators who have visited the Sandwich Islands, at 12,000, and by others at 18,000 feet. The estimate of Captain King [1779], we think exceeds their actual elevations, and the peaks of Mouna Kea, in the opinion of those of our number who have ascended its summit, are not more than 1000 feet high. But admitting the snow to remain permanent on the mountains of the torrid zone at the height of 14,600 feet, the altitude of Mouna Kea and Mouna Roa is probably not less than 15,000 feet.

The base of these mountains, is, at the distance of a few miles from the seas shore, covered with trees; higher up, their sides are clothed with bushes, ferns, and alpine plants; but their summits are formed of lava, partly decomposed, yet destitute of every kind of verdure.

There are few inland settlements on the east and north-west parts of the island, but, in general the interior is an uninhabited wilderness. The heart of Hawaii, forming a vast

central valley between Mouna Roa, Mouna Kea, and Mouna Huararai, is almost unknown, no road leads across it from the east to the western shore, but it is reported by the natives who have entered it, to be "Bristled with forests of *ohia*," or to exhibit vast tracts of sterile and indurated lava... (Ellis 1963:3-4)

Reverend Joseph Goodrich, who accompanied Ellis on part of his journey around Hawai'i ascended to the summit of Mauna Kea from both the Kawaihae-Waimea route, and from Waiākea. In Goodrich's description of the journey by Dr. Blatchely and Mr. Ruggles across the mountain lands of Pi'ihonua and Humu'ula, to the summit of Mauna Kea, he described the various conditions of the landscape at elevational zones, commented on the presence of wild cattle, sheep, dogs and goats. There was also further discussion on traditions associated with Mauna Kea, as "*the abode of the gods*," and customs of natives they encountered, to stay away from the summit of Mauna Kea:

Other Trips to Mauna Kea

...Dr. Blatchely and Mr. Ruggles ascended Mouna-Kea, from Waiakea bay. After travelling six days, they reached the summit of the mountain, where, within the circumference of six miles, they found seven mountains or peaks, apparently 800 or 1000 feet high; their sides were steep, and covered with snow about a foot thick. The summit of the mountain appeared to be formed of decomposed lava, of a reddish brown colour. The peak in the centre, and that on the western side, are the highest.

The following observations respecting a subsequent visit to this mountain from Waiakea, contained in a letter from Mr. Goodrich to Professor Silliman, of New Haven, are copied from the Philosophical Magazine for September, 1826.

Description of Hilo Slope of Mauna Kea

There appear to be three or four different regions in passing from the sea-shore to the summit. The first occupies five or six miles, where cultivation is carried on in a degree, and might be to almost any extent; but, as yet, not one-twentieth part is cultivated.

The next is a sandy region, that is impassable, except in a few foot-paths. Brakes, a species of tall fern, here grow to the size of trees; the bodies of some of them are eighteen inches in diameter. [Ellis 1963:291]

The woody region extends between ten and twenty miles in width.

The region higher up produces grass, principally of the bent kind.

Strawberries, raspberries, and whortleberries flourish in this region, and herds of wild cattle are seen grazing. It is entirely broken up by hills and valleys, composed of lava with a very shallow soil. The upper region is composed of lava in almost every form, from huge rocks to volcanic sand of the coarser kind. Some of the peaks are composed of coarse sand, and others of loose stones and pebbles. I found a few specimens, that I should not hesitate to pronounce fragments of granite. I also found fragments of lava, bearing a near resemblance to a geode, filled with green crystals, which I suppose to be augite.

Wild Sheep, Dogs and Goats

"Very near to the summit, upon one of the peaks, I found eight or ten dead sheep; they probably fled up there to seek a refuge from the wild dogs; I have heard that there are many wild dogs, sheep, and goats. Dogs and goats I have never seen. I was upon the summit about 2 o'clock p.m., the wind S.W., much resembling the cold blustering winds of March, the air being so rare produced a severe pain in my head, that left me as I descended."

Legends of Mauna Kea

In the native language, the word *kea*, though seldom used now, formerly meant, white. Some white men, who are said to have resided inland, and to have come down to the sea shore frequently in the evening, and to have frightened the people, were called *na kea*, (the whites).

The snow on the summit of the mountain, in all probability, induced the natives to call it Mouna-Kea, (mountain white), or, as we should say, white mountain. They have numerous fabulous tales relative to its being the abode of the gods, and none ever approach its summit—as, they say, some who have gone there have been turned to stone. We do not know that any have ever been frozen to death; but neither Mr. Goodrich, nor Dr. Blatchely and his companion, could persuade the natives, whom they engaged as guides up the side of the mountain, to go near its summit.

We could not but regret that we had no barometer, or other means of estimating the actual elevation of this mountain, either here or at Waiakea. [Ellis 1963:292]

The Journal of Hiram Bingham (notes of 1830)

In 1830, Reverend Hiram Bingham and family visited Waimea, and in September they were joined by members of the royal household. It was during the September visit that Kauikeaouli (Kamehameha III) and party, in the company of Bingham, traveled to the summit of Mauna Kea, via the Waimea-Waiki'i-Kalai'eha route. Bingham's journal (1969) documents the royal visit to Mauna Kea, also includes descriptions of visits to Kīlauea, and a subsequent journey overland to the plateau lands between Mauna Loa and Mauna Kea, on their way to Waimea. The trip took the group past Kalai'eha, and in the shadow of Waihālulu [Waikahālulu] Gulch where water was found. The excerpts below describe the lands about Kalai'eha, Humu'ula, and out to Pōhakuloa and Ka'ohē:

...After spending about thirty hours at Pele's chief seat, we set off, towards evening, on the 21st, to cross the wilderness to Waimea, which required the time of a little more than two days and two nights. Walking till late, we laid ourselves down where we could find a place. The next day we continued our journey northwardly, towards Mauna Kea, lodging out in the wilderness, in the same manner, at night, the majestic mountain being half a day's walk to the north of us.

Rose at four o'clock from our mountain couch, — a day's journey from any human habitation; saw lightning at a great distance at sea – our elevation being 4000 or 5000 feet; packed our sleeping *kapa*; offered our morning sacrifice in these solitudes of the centre of Hawaii, and as the day dawned, set forward on our journey. We passed over several large tracts of lava, of different kinds, some smooth, vitreous, and shining, some twisted and coiled like huge ropes, and some consisting of sharp, irregular, loose, rugged volcanic masses, of every form and size, from an [page 393] ounce in weight, to several tons, thrown, I could not conceive how, into a chaos or field of the roughest surface, presenting a forbidding area, from one to forty square miles in extent, and though not precipitous, yet so horrid as to forbid a path, and defy the approach of horses and cattle. In the crevices of the more solid lava we found the *ohelo*, somewhat resembling the whortleberry, nourished by frequent showers and dew. At ten o'clock, we halted for breakfast; raised a smoke, as a signal for the horse keeper, at the watering-place, at the south base of Mauna Kea, to approach, and moved on, till twelve o'clock, when I was very glad to see and mount the horse sent over from Waimea to meet me. Our company having become considerably scattered, and pressing on, under a mid-day, tropical sun, were soon collected together by the loud shout, "Here's water," made by the keeper of the horse, who had very considerately brought us a calabash from **Waihalulu**, cold and sweet, for the refreshment of our weary and thirsty travellers. We drank round, and this gourd bottle soon sounded empty. I mounted and set forward with comfort and revived courage, leaving most of the company to proceed at their leisure.

One of the keepers of the horse wishing to accompany me, girded up his loins, and like Elijah before Ahab, ran cheerfully before me, westward, along the south side of Mauna Kea, about ten miles, then northward, over its undulated, western slope, about the same distance. We halted on the ridge, half an hour, then pressed on till six o'clock, when the sun, having finished his daily race, sank with great grandeur and beauty into the western waters of the vast Pacific, sending back a pleasant farewell to the clouds that hung over Hualalai, Mauna Loa, and Mauna Kea, the three Hawaiian mountains, and shooting upwards his diverging rays with peculiar beauty, after the last limb of his broad, golden disk had disappeared. About seven, we reached Waimea, thus completing my excursion of about 175 miles, with improved health for resuming the labors of the station...[page 394]

Narratives from Trips to Mauna Kea in 1840 and 1841

In 1840, J.J. Jarves, editor of the Hawaiian Government Newspaper, *The Polynesian* (printed in the English language), accompanied "Mr. Cushingam," a lead member of the United States Exploring Expedition (see Chas. Wilkes, 1970, below) on a journey to the island of Hawai'i. On June 26th, Jarves, Cushingam, and another associate landed at Kailua, Kona, on the *Clementine*. After procuring the assistance of Governor Kuakini, the party traveled from Kailua to Kawaihae, and then on to Waimea. Guided by "Honoa," who was reported as knowing all of the trails of the island, the party departed from Waimea (passing Kemole Gulch, by description of the landscape) and traveled up the slopes of Mauna Kea. The party then descended to Humu'ula, crossed the Humu'ula plains to Keawewai at Keaouhou (Ka'ū), and then went on to Kīlauea.

In July and August of 1840, Jarves published detailed notes describing the sites seen, and experiences along the way. The narratives below, are excerpted from the larger series of articles written by Jarves. In his account, Jarves noted that at Waimea—

...It was with great difficulty that men could be procured for our route, which was to ascend Mauna Kea, Mauna Loa, thence to the volcano, new streams of lava and Hilo. After considerable negotiation, twelve were procured from the headman, and a guide named Honoa, who professed to know every path and route upon the island... The trip to occupy fourteen days... [Jarves, in *The Polynesian*, July 25, 1840]

In the issue dated August 1, 1840, Jarves continued his description of the trip to Mauna Kea, and discussion on varying accounts regarding the elevation of the summits of Mauna Kea and Mauna Loa; including the letters of Dr. David Douglas from 1833-1834. Jarves then described his party's descent to the Humu'ula Plains. It appears by the description of the route taken, that the party descended along Waikahalulu Gulch, as they describe a spring visited on the way down the slope of Mauna Kea—

...Douglas speaks also of the "apparent non diminunon of sound," as being a matter of astonishment to him. The case and distinctness with which we heard voices, and even conversation at long distances, was frequently noticed by us, also, the rapidity with which sound was transmitted.

Before my friends reached the camp, I had started with our men, to descend the mountain, zigzagging in a southerly direction. They were quite benumbed with cold, and it was not until the sun had been up some hours, that they became sufficiently thawed to proceed with any vigor. The descent was exceedingly steep and toilsome. This side of the mountain was nothing but a vast pile of compact volcanic rocks, of all sizes, broken in every variety of shape, all presenting sharp sides, and jagged points, and thrown at random into a loose, sliding bed of gravel, which slipping from under our feet at every step, endangered our limbs by avalanches of rocks which it carried with it. After a few miles of such slope, the men discovered a spring [perhaps at Waikahalulu] of clear, cold water gushing out of the mountain to which we all hastened, having been upon an

allowance of that article for the last twenty-four hours. Here the missing ones rejoined our party. Mr. C. had brought with him a handkerchief filled with snow, with which we turned too, and had a fine snow balling, while it lasted, pelting each other right merrily. Our Honolulu friends, puffing and panting with heat and dust, no doubt, would have envied us the occupation. The declivity proved equally steep, the whole way down, with soil enough to bear a few grasses, and a small species of *cassia* with a yellow blossom. Herds of bullocks were frequently seen, some of which were quite tame, and did not run until we approached within pistol shot. Before reaching the plain we were exceedingly annoyed by a strong wind suddenly springing up, which drove the sand in dense clouds before it, cutting our faces and blinding our eyes by its violence. The plain, bounded by Mauna Kea on the north, Mauna Loa on the south, and Mauna Hualalai on the west, and embracing nearly a third of the superficial extent of the whole island, appears to have been to most persons a "*terra incognita*." On some of the earlier charts a swamp or morass is delineated as occupying much of this area, and even to this day it is but seldom visited, except by bullock-catchers. It is mostly a table land, gradually swelling from both sides of the island, until it attains an elevation of four thousand feet. On the south and east it is cut up by streams of lava, apparently of not very ancient date, which have flowed from the adjacent mountains. Numerous small conical craters of exceedingly regular shape, and composed of slag and sand, dot these streams. As they approach Mauna Kea, vegetation commences, on a soil composed of sand and ashes, through which the volcanic layers occasionally show themselves, but not frequently enough to prevent a tolerable cart-road from running along by the base of the mountain. On this side, the plain, hills, and small craters, for many miles are beautifully diversified with groves of an elegant laurel, which we noticed no where else on the island, or indeed on any other of the group. It grew in clusters of from thirty to forty feet in height, with small dark green leaves, delicate white blossoms, and branches that nearly swept the ground. Their foliage formed a graceful dome, impervious to the sun; while beneath was a green sward, free from all underbrush. Upon the whole they were decidedly the prettiest trees that we met on the island. The plain is too dry ever to become fertile, or of any value to the agriculturist, being like a sponge, so porous that water cannot remain upon it.

After leaving the mountain we traveled at a rapid rate for nine miles, the latter part through a driving rain, until we reached a bullock-catchers hut. It was a mere temporary shelter, thrown up by them while in their hunting excursions, but it proved a welcome haven to us. Having built a fire, dried our clothes, and supped on pork, which by this time had become quite *lively*, we laid down upon a bed of leaves, and enjoyed a sound night's rest... [August 1, 1840]

In 1840-1841, Charles Wilkes, Commander of the United State Exploring Expedition, traveled around the islands documenting various aspects of the natural and cultural landscape of Hawai'i. In 1841, members of Wilkes' party traveled to the summits of both Mauna Loa and Mauna Kea. The narratives below (Wilkes, 1844, reprint of 1970), describe the approach to Mauna Kea via the trail from Hilo, passing through Pi'ihonua, to the upper reaches of the Wailuku River; across Humu'ula, and on to the summit of the mountain. Wilkes' narratives also include observations made by the traveling party of the nature of the forest at various elevations; native practices associated with bird catching on the mountain lands; the danger presented by wild cattle on the mountain lands, and the residence of cattle hunters in the Humu'ula-Keanakolu vicinity mountain lands, and the saw mill of Daniel and Charles Castle, formerly situated at Kapahukeya in the Pi'ihonua forest:

...During the time of our residence on Mauna Loa, Dr. Pickering and Mr. Brackenridge volunteered to make the ascent of Mauna Kea. They were furnished with guides, among them Sandwich Jack, our bullock-driver, whose true name I believe was Dawson, though he went by the sobriquet of Billy Lilly. They set out on the 8th of January, attended by natives from Hilo, belonging to Kanuha, having agreed to pay each of them fifty cents a day. Their first stage was to the sawmill erected on the Wailuku, distant about seven

miles from Hilo, and three miles within the verge of the forest: here they stopped for the night with a man by the name of Simons, who is the occupant of the mill, which belongs to a Mr. Castle. The mill, as I understand, had proved but a bad speculation: it is now out of repair, and there is not sufficient demand for boards to make it at all profitable...

...On the 10th of January they resumed their journey, and followed the "Long Road" for about two miles, which is the whole distance to which it extends; the removal of the chief who was engaged on it had put a stop to its further progress. They were now fairly in the forest, [Wilkes 1970:199] which was thought by our gentlemen to be a fine one; it consisted altogether of two kinds of trees, the *ohea* (*Callistemon*), and *koa* (*Acacia*); they also met with several species of the tree-fern, which seem to vie with each other in beauty. Many of these were of genera and species that had not before been met with, one of which afforded the silky down before spoken of, and another, the edible fern, a drawing of which will be seen at the end of this chapter. On reaching the bed of the stream, which is one of the routes through the wood, the guides led them upon it. As they proceeded, they overtook one of the boys who had preceded them, endeavoring to catch a large bird. He had armed with bird-lime one of the pendent branches of a small *ohea* tree that overhung the stream and was in full flower. As they were passing, the bird was seen hovering about, while the boy was slyly watching its movements. When they had passed it a short distance they heard the scream of the captured bird, but by some mishap it afterwards escaped.

Their encampment was under an *ohea* tree, where the natives built a hut for them with boughs and the fronds of ferns. From the prevalence of heavy rain they found all the wood wet, and could not succeed in making a fire: they consequently passed a miserable night; for in almost any climate, when encamped in the open air at night, a fire seems to be necessary for comfort, particularly when the weather is wet.

Conglomerates were the most frequent rock in the bed of the stream. This rock had not been met with on the trip to Mauna Loa; and on diverging from the stream, the compact rock of that mountain seemed to prevail.

Their guide, Dawson, during the morning showed much alarm at their starting some young cattle, lest the old cows should be near, who he thought might be troublesome: the cattle, however, were discovered afterwards to be tame. At the forks of the stream they took the left branch, and after a walk of two miles, came to some huts occupied by natives who had been bullock-hunting. In this illegal practice they seem to have been extensively engaged, judging from the quantities of jerked meat they had on hand.

The cattle have been tabooed for five years, from the year 1840, in consequence of the slaughter that had been made among them. Upwards of five thousand hides, I was told, had been procured in a single year, and when this became known to the government, it interdicted the hunting of the animal. I heard no estimate of the number of the wild cattle, but they are believed to be very considerable, and all from the stock left by Vancouver in 1795.

From these natives they procured some jerked beef, and were told [Wilkes 1970:200] that ice had formed there the night before. The effects of frost on the foliage was evident, and yet the elevation did not exceed five thousand feet.

They encamped at night in an open space in the woods, near some shallow pools called the Duck-Ponds [Wai-koloa], from the quantity of these birds frequenting them. The ground was chiefly covered with tufts of a small *Carex*. The trees now began to appear gnarled and covered with moss, resembling oaks in habit. The ground had become much drier, and the brushwood was gradually disappearing.

On the 12th, they started at sunrise, and by eleven o'clock found they had cleared the forest. Their altitude was about six thousand feet. The woods had become for some time previously much scattered. They passed also a distinct lava stream, of no great size. The ground was frozen, and the pools of water were covered with a thin ice.

This upper part of the forest afforded a greater variety of trees, though of smaller dimensions: here they met with the false sandalwood (*Myoporum*); the *koa* was, however, still the principal tree.

To the forest succeed the plains; but why this region should be so termed, our gentlemen were at a loss to conceive, for there is an ascent, although gradual, towards the base of the higher peaks; and there are, besides numerous conical hills, varying in height from two to eight hundred feet: even between these the surface is undulating, and cut up by ravines.

This district is famous, according to report, for the number of wild cattle found on it, and from that circumstance would be supposed to produce fine pasturage; but this is far from being the case, for there is nothing but a few scattered tufts of grass, and a species of *ranunculus*, which is of so acrid a nature that the cattle will not eat it. The prevailing feature of the country is aridity, and concealed rocks cover a great part of it. Shrubs seem to be almost absent, but the scattered *mamane* trees are every where conspicuous.

It was now evident that their guide had taken them a wrong route, having pursued that leading across the island; they therefore changed their course, and took a direction to the northwest, crossing the country for an eminence, where Mr. Castle, (the proprietor of the mill,) formerly had a station. When they reached it, they enjoyed a fine view over the distant forest, with the bay of Hilo and the sea beyond; the day being clear, the whole extent was distinctly visible; even a small vessel, which had sailed for Oahu, was seen going out of the bay.

They chose their encampment just above this eminence, under a [Wilkes 1970:201] projecting ledge of lava: close by there were several pools of water. Such pools form in the compact lava; and where this rock occurs, water is to be met with at intervals, while in the porous lava none is to be found.

On the 13th, they set out at an early hour, and passed a belt where the vegetation became very rich, and the variety great, particularly on the sheltered banks of the ravines. Among the plants were several *Compositae*, two or three with decussate leaves, *Pelargonium Douglasii*, five or six species of ferns several *Rubiaceae*, grasses and other small plants.

About three miles beyond this, they reached a cave, where they intended to leave the natives and baggage. It was difficult to induce the former to come up even thus far, on account of the cold; but being here in the vicinity of wood, they were enabled to have a fire to keep themselves warm; water was also at hand. This cave was a convenient rendezvous, and sufficiently near the top to allow them time to reach it and return in a day. Some of the natives had gone down to a larger cave, three quarters of a mile below.

A few wild cattle were to be seen in the distance; but, according to the report of Dawson, their guide, they ought to have heard from this position cattle lowing in every direction.

On the 14th, one of their guides was sent off after a bullock; Kanuha, the chief, having granted permission to the party to shoot one... [Wilkes 1970:202]

...The golden plover is very abundant on the plain, as every where else; but is said to quit the islands in the breeding season. No geese were seen on this mountain; but many small birds appeared as high up as the *mamane* trees. They also saw hawks, which, by a perversion of language, are called "crows."

They then went towards "Ned's House" (now deserted), and took the path leading in a southeast direction, along the margin of the woods. This was the route that Douglass followed, when he left Ned's House, on the morning of his death. In about three quarters of an hour, they arrived at the pits; in one of which he was found dead. They are situated in an open clearing, in the centre of which is a low marshy spot, sometimes containing water, which the cattle come in search of. The annexed diagram [Figure 2] will give an idea of the locality. These pits are covered with raspberry and other fragile bushes; which are covered again with soil, and the hoofs of cattle imprinted on them, to deceive.

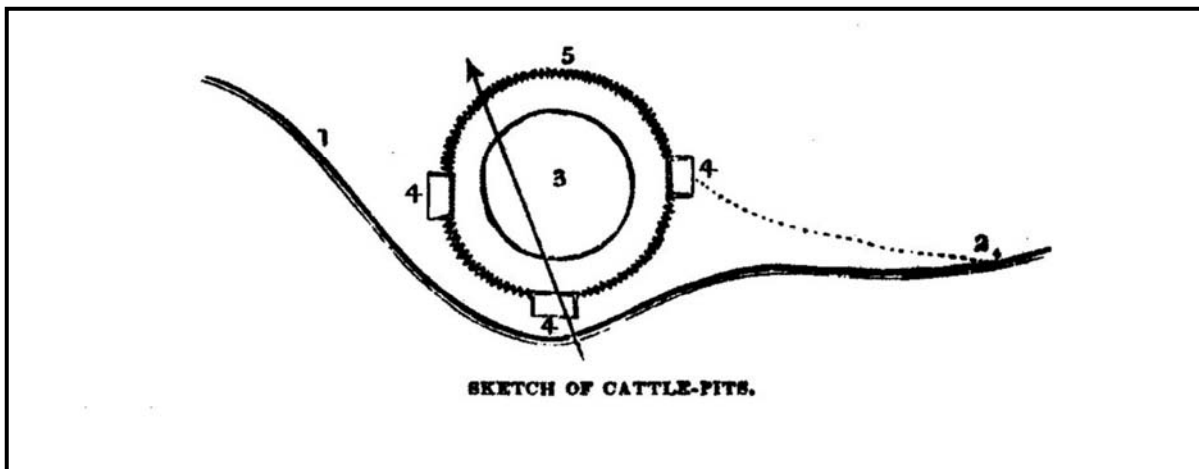


Figure 2. Sketch of Cattle-Pits – Keanakolu Vicinity (Wilkes 1970:204).

1. Path leading from Ned's House. 2. Place where Mr. Douglass left his bundle and dog. Track towards the pit in which he was found with the bull, gored to death. 3. The pool of water. 4. The three pits. 5. The fence which surrounds the pool and compels the cattle to pass over the pits.

The locality of these pits is in a dell, with banks sloping on both sides: the one to the northwest is about twenty feet high, while that to the southeast is about thirty feet. On each side, both above and below, thickets close the dell.

These pits are about seven or eight feet long, and four feet wide, and are walled up: they are placed broadside to the water.

There were many circumstances attendant upon the death of Douglass, leading to the suspicion that he had been murdered by Ned, at whose house he had breakfasted. The general character of Ned gave rise to a feeling that such was the fact, he having been a runaway convict from New South Wales. It seems somewhat singular that Mr. Douglass should have laid down his bundle and returned after passing the pits; and it is remarkable too that his servant, who had parted from him the same morning, should also have perished. [Wilkes 1970:204]

Ned's conduct afterwards was not a little suspicious, for he mentioned he had warned Mr. Douglass against the dangers of these pits, and had accompanied him to within a short distance of them. So strong were the suspicions against him, that a post-mortem examination took place by Drs. Judd and Rooke; but nothing could be elicited, for all the

wounds were such as Mr. Douglass might have received from the animal. Few deaths could be more awful than that which he is supposed to have suffered.

Bullock-hunting seems to partake somewhat of the dangers of the chase of wild beasts, and has much of its attraction. Many stories are related of natives having been tossed, gored, and carried on the animal's horns for hours, and from these reports the natives are easily alarmed with the appearance even of a half-tamed animal, as we had abundant reason to observe on our way up Mauna Loa.

A story was related of a native, who, having prepared a pit, succeeded in entrapping a large bull, but became so excited at his success, that he slipped and fell in himself; however, being armed with a knife, he succeeded in killing the animal; when discovered both were dead.

Mr. Castle had three ribs broken, and Ragsdale, our old guide, a leg fractured, while hunting; and many other *rencontres*, partaking too much of the marvelous to be repeated here, were told me.

They encamped for the night in an old bark hut, in the line of woods. The 16th was rainy, but they continued their way down the mountain in a north-northeast direction, passing through the woods. The path was wretched, and full of mud and mire. The last part of the way the trees became more numerous, and consisted, besides the *ohea* [*ohia*] and *koa*, of the *Ilex*, *Aralia*, *Myoporum* (false sandalwood), several *Compositae*, a *Silene*, and four or five species of *Lobelias*, with handsome flowers, mostly blue. Lower down, near a deserted hut, they unexpectedly found a *mamane* tree, which they were told had been painted for the purpose of enticing the birds.

From scrambling over roots and through mire, they were much fatigued before they reached Puahai. This village contains a few straggling houses on the table-land: it is distant about two miles from the sea and twenty-five miles to the northwest of Hilo. The natives here appeared to be much more primitive than they were in other places, and had had but little intercourse with strangers. It was with some difficulty that provisions could be procured: a dollar was demanded for a turkey, and four needles for a chicken. No more than three of the latter could be found in the village. Their guide met with considerable delay in getting the necessary quantity to supply the [Wilkes 1970:205] party. At Puahai they were permitted to occupy the school-house, and remained over Sunday... [Wilkes 1970:206]

Kalai'eha-Humu'ula-Ka'ohē and the Mauna Kea Mountain Lands Described in Letters of Charles De Varigny (1855-1868)

Charles De Varigny, Secretary of the French Consulate, resided in Hawai'i for fourteen years (1855-1868). In that time he made at least two trips to Mauna Kea. On November 18, 1857, De Varigny passed through Humu'ula on the Laumai'a side of Mauna Kea, and upon reaching the 7,000 foot elevation, he reported:

Here the atmosphere of these upland plateaus has an exceptional power to carry the sound of the human voice, making ordinary tones audible a mile away; But there are no traces of inhabitants. Only some great wild cattle, recognizable by their curly hair, trouble the silence of these solitudes when during their wanderings a dead branch is broken... Halemakule [the native guide] was struck by the unfortunate idea of testing the effects of his Hawaiian chanting as it reverberated among the mountain echoes.

Still one more point on which we failed to agree. We preferred the song of the native birds to his slow, monotonous *melopoeia*... [De Varigny in Korn, 1981:86]

De Varigny later wrote about arrangements made between himself and Jack Purdy—known to be very knowledgeable about the trails and mountain region of Mauna Kea—for a trip to the summit, made from Kalai'eha. The following excerpts from De Varigny's narratives describe the journey, and offer an explanation of the depletion of *nēnē* population and high numbers of introduced feral animals that roamed the mountain:

...As dawn was breaking, we left for **Kalaieha**, situated between Mauna Kea and Mauna Loa. From that approach the ascent of the mountain presented less difficulty. Our horses were fresh, the plain was level...

The cloudless sky and the clear, transparent atmosphere made objects appear so close that our undertaking seemed an excursion for a party of children... At five o'clock in the evening we reached Kalaieha, where we were planning to camp. Kalaieha is neither a town, nor a village, nor even a huddled corral of grass huts. It is an immense plain which sprawls between two mountains. At certain periods of the year, especially in July and August the plain abounds in wild geese attracted by the *ohelo*, small red berries with a rather insipid flavor. The shrub bearing this fruit is more plentiful at Kalaieha than anywhere else. More over, during the period of our excursion, sportsmen and amateur hunters looking for game pay frequent visits to Kalaieha for the pleasure of shooting.

Unfortunately, the wild geese begin to spoil very quickly and cannot stand being shipped to Honolulu... The plain was entirely deserted and the bushes were stripped of their fruits. In compensation, though the geese were missing, the wild bullocks, boars, and stray dogs who had reverted to a state of nature were present in hoards. The place swarmed with wild boars... [De Varigny in Korn, 1981:90-91]

A Trip to the Mountain Lands of Hawai'i (1859)

The Pacific Commercial Advertiser, a newspaper of the Hawaiian Islands, printed in English, published as series of letters in 1859, penned by an individual who wrote under the penname of "Hualalai." Hualalai described the mountain lands of Hawai'i, and the work of bullock hunters; and his journey from Kailua, up the slopes of Hualālai Mountain; across the 1859 lava flow of Mauna Loa; and then across the plateau lands towards Waiki'i. The party then traveled to, and camped at Pōhakuloa; and then continued on to Kalai'eha. The first two of Hualalai's narratives provide us with an early description of the Kalai'eha environs, and the party's subsequent attempted trip to the summit of Mauna Kea (thwarted by a heavy fog); and the third letter, provided readers with an eyewitness account of bullock hunting, the round-up of wild cattle and pigs, and the hunter's camp, on the slopes of Mauna Kea. The following narratives are excerpted from the accounts of "Hualalai"

July 21, 1859

Mr. Editor—Having just returned from a trip to Mauna Kea, it has occurred to me that in this dull season of the year, a short account of our jaunt might perhaps prove sufficiently interesting to find a place in your journal.

Our party consisted of six, on horseback, with blankets and guns, followed by three natives with pack bullocks, carrying a canvas tent and the provisions and other necessary outfits for a ten days' absence from the haunts of civilization... [Pacific Commercial Advertiser; July 21, 1859]

July 28, 1859

...On reaching the open ground we found our horses were much cut up and bleeding about the feet, while one bullock was so exhausted and worn down that we were obliged to take off his load and leave him to shift for himself. Pushing along, we arrived at sundown at our camping ground in "the big gulch" [Pōhakuloa] among the hills which form the base of Mauna Kea. This was a beautiful spot, the grass growing luxuriantly in

the valleys, and the ravines being lined with *mamani* trees. Wild hogs were plentiful; we disturbed a drove of forty or fifty as we entered the gulch, and they went scampering up the mountain. Cattle too, were seen in droves, but very shy. Unfortunately, however, there was no water in the gulch, and, after stopping one night, we started on Thursday morning for *Kalaieha*, an elevated point on the east side of Mauna Kea, where report said that water and game were to be found in plenty.

From the “big gulch” to Kalaieha, a distance of some fifteen or twenty miles, the road lays over a beautiful rolling country, made up of wash from the conical hills which so frequently occur along the base of Mauna Kea, with here and there patches of sand. This would be a magnificent country for sheep farms, or for wheat growing, but for one drawback—the want of water. There is ample evidence, however, in the numerous water courses with which the face of the country is seamed, that at times there is “too much of water.” Huge boulders are seen scattered about, brought from the hills and carried far out on the plains by the streams; but at the time of our visit not a drop of water could be found in any of the gulches or ravines. We reached our camping ground [Kalai’eha] a little after noon, and pitched our tent at the foot of a hill in a magnificent grove of *koa* and *mamani* trees. We found the country here equally parched up with that on the other side, there having been no rain for months. Here the clinkers from Mauna Loa came up within a short distance of the base hills of Mauna Kea, and just on the edge of these ragged rocks, in the last place one would have thought of looking for it, we found a hole, just large enough to insert a quart pot, containing about half a barrel of delicious water, as cold as if it had been iced. This was the first supply of water, we had obtained since leaving Kona, and as our kegs were quite empty, it came just in time. The long ride from the big gulch was made without water and our throats were well parched. Those who have never known the actual *want* of water cannot appreciate the blessing of a constant supply. I found the sense of thirst, much alleviated by carrying one or two small pebble stones in my mouth.

At Kalaieha we remained until Tuesday, the 5th instant, employing the time in rambling about the country, shooting wild hogs, geese and ducks. The latter were not very plentiful, but the hogs were in countless numbers. The ground for miles about our camp was ploughed up in every direction by them in their search after the roots upon which they feed. Our party consumed sometimes four or five small pigs of a day, such as you could buy in Honolulu for \$1.50 each, besides a proportionate quantity of taro, crackers and butter, pickles and coffee. Our appetites, however, in this keen mountain air, (about 7000 feet above the sea,) were prodigious, and digestion never failed to “wait on appetite.” Two of us demolished a whole goose at a sitting, besides *et ceteras*—one was a supposed sick man, who six weeks before in Honolulu could scarcely walk, and was sent up to Kona by his physician as a last hope of recovery. He is now as strong and hearty as could be desired. On Monday the 4th, we essayed the ascent of Mauna Kea, and would doubtless have succeeded but for an envious fog—farther down it would be called cloud—which completely enveloped us, and the fear of getting lost, turned us back to grope our way to camp... [Pacific Commercial Advertiser; July 28, 1859]

August 11, 1859

...The imported vaqueros of Hawaii have disappeared before the march of time, and their perilous adventures in pursuit of the wild cattle among the gulches and over the hills and plains of Mauna Kea are only remembered and rehearsed by some of the old residents. In their place has sprung up a class of Hawaiian mountaineers, equally skilled as horsemen as their foreign predecessors, but leading a vagabond sort of life, alternating between hardships and privation on the mountain and plenty of lavish expenditure on their return to the settlements. During a recent trip to Mauna Kea, I came across a camp of some thirty of these bullock hunters, and accompanying them on one or two of their expeditions, was no little interested in their somewhat romantic and exciting mode of life.

The government conjointly with the King, I believe, are the owners of the unmarked wild cattle on Hawaii, and have sold or leased the right to slaughter to private parties, upon what precise terms I am unable to say. An agent resides at Waimea, who engages the hunters, agreeing to pay them at the rate of \$1.25 for each bull hide and \$1 for each cow's hide, properly dried and delivered at a certain point on the mountains. From thence they are conveyed to Waimea in carts, salted and shipped to Honolulu. During the first half of 1859, 222,170 lbs. of hides were exported, mostly, I presume, to the United States, where a fair quotation per last mail, would be twenty-five cents per lb., giving us an export value of \$55,542, wherewith to help pay our debts in New York and Boston...

The wild cattle are now hunted almost solely for their hides, and they possess the advantage over those of the tame herds for the purposes of commerce that they are not mutilated with the branding iron. Under the present indiscriminate and systematic slaughter of these cattle, by which young and old, male and female, are hunted alike for the sake of their skins alone, they have greatly diminished in numbers, and a few years only will suffice to render a wild bullock a rare site where they now flock in thousands.

The country through which they roam is in many parts composed of fine grazing lands. Thousands of acres could be devoted to wheat growing, being composed, to a good depth, of a light, sandy soil, capable of being plowed with facility. The only drawbacks to this as an agricultural country, would be, — first, the great scarcity of water, second, the depredation of the wild hogs. As to the first, water no doubt could be found in plenty by digging; and the hogs would have to be exterminated. I wonder that some one has not, ere this, purchased the government right in these hogs, and set up a lard factory on the mountain. Why would not it pay at 12 ½ cents per lb., — or even for soap grease?

But I started to tell you something about the life of the hide-hunters. First, for their camp. This was situated on a side hill, in a grove of *koa* trees, that sheltered them somewhat from the trade winds, which here blow fresh and cold, and furnish them with firewood — no small consideration at this elevation. The hut was built of three walls of stone, open to the south, the roof formed of *koa* logs, plastered on the outside with dry grass and mud. The floor was the ground covered with hides for a flooring, and perfectly swarmed with fleas of enormous size and bloodthirsty dispositions. In front, within a few feet of the sleeping places, a large fire was constantly kept burning, and all around, for an acre or so, the ground was covered with drying hides.

In the hut, within a space of about 15 by 20 feet, some twenty-five or thirty native *vaqueros* found a sleeping place by night, and a place to play cards in by day when not engaged in the chase. Near by was their "corral," and enclosure of sticks and hides, containing some sixty horses, all owned by natives, and which had been collected for a grand "drive in," to take place on the morrow... ..The pen which generally encloses a half an acre, is built square of strong posts and rails, and from the narrow entrance a long line of fence gradually diverges like the upper half of the Y, extending its arms out towards the mountain from which cattle are to be driven...

...We spied a great cloud of dust some three or four miles up the mountain side, and here came at a full gallop several hundred head of cattle of all sizes, closely pursued by semicircles of *vaqueros*, driving the game right down for the corral. As they rapidly approached the arms of the trap, the ground shook beneath their hoofs, and they wedged crowded each other into a compact body to avoid the dreaded horsemen...

...Mixed up with the cattle, and driven along with them, were probably not far from a thousand wild hogs, who, disturbed in their interior haunts, had got into the trap designed for nobler game. Their piercing squeals as, kicked and tossed by the frantic cattle, they rolled over in the dust, added no little to the amusement of the scene... [Pacific Commercial Advertiser, August 11, 1859]

Waimea and the Mountain Lands Described by Isabella Bird (1873)

Isabella Bird (1964), an English woman ahead of her time, traveled solo about Hawai'i, and in the company of native and local guides, during which time she explored many of the remote regions on the Island. Her narratives are colorful and filled with important descriptions of landscape, practices and conditions on the island. Of particular interest to a study of the *'āina mauna* on Hawai'i, are Bird's narratives of travel past Waiki'i (via the Waimea-Waiki'i Trail, coming out near Pu'u Lā'au), to the Pu'u Ke'eke'e-Pōhaku flats, Kalai'eha and up to the summit of Mauna Kea. In her letters, Bird included important descriptions of the sheep and cattle industry in 1873; observed that the mountain lands were remote, and in all but a couple of areas, unpopulated. She also observed the conditions and operations of Kalai'eha; and discussed the adze quarries, situated a short distance below the summit of Mauna Kea.

Having arrived in Waimea village, Bird described her approach to, and reception at the home of Francis Spencer (the Spencer house at Pu'uloa – still standing today), and her journey across the plains to the *'āina mauna*:

...Mr. S. [Spencer] is a Tasmanian, married to a young half-white lady... Sheep are the source of my host's wealth. He has 25,000 at three stations on Mauna Kea, and, at an altitude of 6000 feet they flourish, and are free from some of the maladies to which they are liable elsewhere. Though there are only three or four sheep owners on the islands, they exported 288,526 lbs. of wool in 1872^{*}. Mr. S— has also 1000 head of cattle and 50 horses... [Bird 1964:133]

Journey to Mauna Kea

...A few days ago I was so fortunate as to make the acquaintance of Mr. W. L. Green (now Minister of Foreign Affairs), an English resident in Honolulu... He asked me to make the ascent of Mauna Kea with him, and we have satisfactorily accomplished it today.

The interior of the island, in which we have spent the last two days, is totally different, not only from the luxuriant windward slopes, but from the fiery leeward margin. The altitude of the central plateau is from 5000 to 6000 feet, there is not a single native dwelling on it, or even a trail across it, it is totally destitute of water, and sustains only a miserable scrub of *mamane*, stunted ohias, *pukeawe*, ohelos, a few compositae, and some of the hardiest ferns. The transient residents of this sheep station [Kalai'eha], and those of another [Kealapū'ali] on Hualalai, thirty miles off, are the only human inhabitants of a region as large as Kent. Wild goats, wild geese (*Bernicla sandvicensis*), and the *Melithreptes Pacifica*, constitute its chief population. These geese are web-footed, though water does not exist. They build their nests in the grass, and lay two or three white eggs.

Our track from Waimea lay for the first few miles over light soil, destitute of any vegetation, across dry, glaring, rocky beds of streams, and round the bases of numerous tufa cones, from 200 to 1500 feet in height, with steep, smooth sides, composed of a very red ash. We crossed a flank of Mauna Kea at a height of 6000 feet [around Pu'u Lā'au], and a short descent brought us out upon [page 231] this vast tableland [the Pu'u Ke'eke'e-Pōhaku region], which lies between the bulbous domes of Mauna Kea, Mauna Loa, and Hualalai, the loneliest, saddest, dreariest expanse I ever saw.

The air was clear and the sun bright, yet nothing softened into beauty this formless desert of volcanic sand, stones, and lava, on which tufts of grass and a harsh scrub war with wind and drought for a loveless existence. Yet, such is the effect of atmosphere, that Mauna Loa, utterly destitute of vegetation, and with his sides scored and stained by the black lava-flows of ages, looked liked a sapphire streaked with lapis lazuli. Nearly blinded

* In 1875 the export of wool had increased to 465,469 lbs.

by scuds of sand, we rode for hours through the volcanic wilderness; always the same rigid *mamane* (*Sophora Chrysophylla* ?) the same withered grass, and the same thornless thistles, through which the strong wind swept with a desolate screech.

The trail, which dips 1000 feet, again ascends, the country becomes very wild, there are ancient craters of great height densely wooded, wooded ravines, the great bulk of Mauna Kea with his ragged crest towers above tumbled rocky regions, which look as if nature, dis- [page 208] gusted with her work, had broken it to pieces in a passion; there are living and dead trees, a steep elevation, and below, a broad river of most jagged and uneven *a-a*. The afternoon fog, which serves instead of rain, rolled up in dense masses, through which we heard the plaintive bleating of sheep, and among blasted trees and distorted rocks we came upon ***Kalaieha***.

I have described the "foreign residences" elsewhere. Here is one of another type, in which a wealthy sheep owner's son, married to a very pretty native woman, leads for some months in the year, from choice, a life so rough, that most people would think it a hardship to lead it from necessity. There are two apartments, a loft and a "lean-to." The hospitable owners gave me their sleeping-room, which was divided from the "living-room" by a canvas partition. This last has a rude stone chimney split by an earthquake, holding fire enough to roast an ox. Round it the floor is paved with great rough stones. A fire of logs, fully three feet high, was burning, but there was a faulty draught, and it emitted a stinging smoke. I looked for something to sit upon, but there was nothing but a high bench, or chopping-block, and a fixed seat in the corner of the wall. The rest of the furniture consisted of a small table, some pots, a frying-pan, a tin dish and plates, a dipper, and some tin pannikins. Four or five rifles and "shot-guns," and a piece of raw meat, were hanging against the wall. A tin bowl was brought to me for washing, which served the same purpose for everyone. The oil was exhausted, so recourse was had to the native expedient of a jar of beef fat with a wick in it.

We were most hospitably received, but the native wife, as is usually the case, was too shy to eat with us, or even to appear at all. Our host is a superb young man, very frank and pre-possessing looking, a thorough mountaineer, most expert with the lasso and in hunting wild cattle. The "station" consists of a wool shed, a low grass hut, a hut with one side gone, a bell-tent, and the more substantial cabin in which we are lodged. Several saddled horses were tethered outside, and some natives were shearing sheep, but the fog shut out whatever else there might be of an outer world. Every now and then a native came in and sat on the floor to warm himself, but there were no mats as in native houses. It was intolerably cold. I singed my clothes by sitting in the chimney, but could not warm myself. A fowl was stewed native fashion, and some rice was boiled, and we had sheep's milk and some ice cold water, the drip, I think, from a neighbouring cave, as running and standing water are unknown.

There are 9000 sheep here, but they require hardly any attendance except at shearing time, and dogs are not used in herding them. Indeed, labour is much dispensed with, as the sheep are shorn unwashed, a great contrast to the elaborate washings of the flocks of the Australian Riverina. They come down at night of their own sagacity, in close converging columns, sleep on the gravel about the station, and in the early morning betake themselves to their feeding grounds on the mountain. [page 209]

Mauna Kea, and the forests which skirt his base, are the resort of thousands of wild cattle, and there are many men nearly as wild, who live half savage lives in the woods, gaining their living by lassoing and shooting these animals for their skins. Wild black swine also abound.

The mist as usual disappeared at night, leaving a sky wonderful with stars, which burned blue and pale against the furnace glare on the top of Mauna Loa, to which we are

comparatively near. I woke at three from the hopeless cold, and before five went out with Mr. Green to explore the adjacent lava. The atmosphere was perfectly pure, and suffused with rose-colour, not a cloud-fleece hung round the mountain tops, hoar-frost [page 233] whitened the ground, the pure, white smoke of the volcano rose into the reddening sky, and the air was elixir. It has been said and written that there are no steam-cracks or similar traces of volcanic action on Mauna Kea, but in several fissures I noticed ferns growing belonging to an altitude 4000 feet lower, and on putting my arm down, found a heat which compelled me to withdraw it, and as the sun rose these cracks steamed in all directions. There are caves full of ferns, lava bubbles in reality, crust over crust, each from twelve to eighteen inches thick, rolls of lava cooled in coils, and hideous a-a streams on which it is impossible to walk two yards without the risk of breaking one's limbs or cutting one's boots to pieces.

I will not weary you with the details of our mountain ascent. Our host provided ourselves and the native servant with three strong bullock-horses, and accompanied us himself. The first climb is through deep volcanic sand slashed by deep clefts, showing bands of red and black ash. We saw no birds, but twice started a rout of wild black hogs, and once came upon a wild bull of large size with some cows and a calf, all so tired with tramping over the lava that they only managed to keep just out of our way. They usually keep near the mountain top in the daytime for fear of the hunters, and come down at night to feed. About 11,000 were shot and lassoed last year. Mr. S— says that they don't need any water but that of the dew-drenched grass, and that horses reared on the mountains refuse to drink, and are scared by the sight of pools or running streams...

The actual forest, which is principally *koa*, ceases at a height of about 6000 feet, but a deplorable vegetation beginning with *mamane* scrub, and ending with withered wormwood and tufts of coarse grass, straggles up 3000 feet higher, and a scaly orange lichen is found in rare patches at a height of 11,000 feet... [Bird, 1964:210]

In 1880, George Bowser, editor of "*The Hawaiian Kingdom Statistical and Commercial Directory and Tourists Guide*" wrote about various statistics and places of interest around the Hawaiian Islands. In his "Itinerary of the Hawaiian Islands..." (Chapter IV Hawai'i), Bowser described ranching interests on the island of Hawai'i, and the journey between Waimea, Kalai'eha, and the trip to the summit of Mauna Kea. Bowser referenced springs on the side of the mountain—presumably Houpo o Kāne (Hopukani) and Wai hū a Kāne, the lake of Waiau, and Kaluakāko'i. He also reported that Francis Spencer had "made" the road from his sheep station at Kalai'eha to Waiau (Bowser, 1880:544).

Geological Survey Trip To Humu'ula, Kalai'eha, Ka'ohē, and the Summit of Mauna Kea (1882)

During the summer of 1882, Captain Clarence E. Dutton, of the United States Ordnance Corps conducted a geological survey of the Hawaiian Islands. His first stop on the island of Hawai'i was the district of Ka'ū, then on to Kīlauea, and the Puna District. He then traveled into Hilo, and via the old Hilo-Kalai'eha trail to the slopes and summit of Mauna Kea. Dutton described the summit plateau, and the presence of workshops where stone was quarried and made into tools and weapons; though he did not comment on Waiau. He then returned to the Humu'ula area, by the route ascended, and went to Kalai'eha, where he and his party stayed at the sheep station. Dutton and party then departed from Kalai'eha, crossed Mauna Kea, on the western slope, below the summit plateau, and traveled to the Waimea region.

Duttons' report to the Secretary of the Interior in 1883, was published in the Fourth Annual Report of the United States Geological Survey (1884). Excerpts from the report, describing the mountain lands, are cited below:

CHAPTER VII. FROM HILO TO MAUNA KEA.

...From Hilo I decided to make an advance at once upon Mauna Kea and to visit the interval between that mountain and Mauna Loa. Mauna Kea may be approached from many directions, the easiest lines of access being from the northwest and north. The approach from Hilo is the most difficult of all, because it involves the necessity of traversing the belt of forest which lies between the middle slopes of the mountain and the sea. No one can imagine the density and exuberance of tropical vegetation until he has seen it. In truth, the forest can be penetrated only by hewing a way through it or by traversing a route which has already been cut by main force.

It is well to point out here that the forest region of this island is regulated by the precipitation. The windward side has very heavy rainfall, and a portion also of the western side is similarly favored. Most of the region under the lee of the island is arid, and in many places extremely so. Although vegetation upon the windward side is very abundant, even down to the margin of the sea, it never has that close impenetrable character near the sea-coast which it assumes further inland. The reason for this is not difficult to discern. The windward coast of the island is for the most part very abrupt, and the water which falls upon it rapidly drains away. The trade-wind striking the shore is deflected upward by the gradual ascent of the land, and at heights varying from 1,000 to 4,000 or 5,000 feet the clouds envelop the land in fog and yield an almost constant rain. The effect of this upward deflection producing a condensation of moisture is not so fully felt at altitudes below a thousand feet, and thus we have near the sea-coast a margin of land which enjoys a great deal of sunshine, and even long periods of drought sometimes occur along the immediate neighborhood of the coast, while a mile or two inland it rains almost incessantly. The forest has its maximum density in the region of clouds.

The rainfall upon the windward side of Hawaii is phenomenally great. The mean annual precipitation as shown by the records extending through eighteen or twenty years ranges from 150 to 240 inches. This, however, is the result of measurements made near the sea-coast. Further inland it must be still greater, and may even attain more than 300 inches. Hardly a day passes at Hilo without a copious shower, and in the winter time long continuous rains always occur.

There are two routes leading from Hilo to Mauna Kea. One extends along the coast northwestward for about 30 miles, then turns abruptly upwards, striking the northeastern flank of the mountain. The other ... [page 152]

...leads directly inland, and passing through the forest belt reaches the southern base of the mountain and the interval between it and Mauna Loa. Each route has difficulties peculiar to itself. The first one leading along the coast strikes into a country which is deeply scored with very abrupt ravines and ridges. Here the land terminates in a cliff from 300 to 500 feet in height, plunging down into deep water; and against the base the heavy swell of the Pacific, driven before the trade wind, is constantly breaking. Along the front of this cliff near the water's edge no pathway is possible. The country can be traversed only by going up and down the walls of the ravines which at frequent intervals score the platform above. The sides of these ravines are very steep, and in many places have all the abruptness of canyons. With much labor, very fair trails have been cut zigzag in the sides, and sure-footed animals may go up and down with perfect safety, but with great labor. Within a distance of less than 30 miles there are upwards of 60 of these ravines of varying depths, and steadily increasing in dimensions as we go northward...

In going from Hilo to Mauna Kea I declined the coast route across the gorges, and chose the much more direct line of approach passing through the forest. For two or three miles from Hilo the trail, if such it may be called, for scarcely any trail was visible, led through a country which was quite open and densely clothed with high grass. This grass is worthy of some little mention, for it is an exotic plant. Several accounts are given of the manner

in which it was imported. Some describe it as a native of Holland, others as a native of Italy, and still others as coming from the Cape of Good Hope. It is said to have been brought to the island by accident; that the dried grass containing the seeds was used as the wrapping of bottles containing wine or oil; that the seed accidentally scattering at once took root, and finding the soil and climate specially adapted to its growth, spread with marvelous rapidity, and flourished with such vigor that in the moist districts of the island it has almost exterminated all other grasses. In its green state it is hardly fit for pasture. The cattle and horses eat it, but apparently get very little nourishment from it; for leaner and more cadaverous-looking horses and horned cattle it would be difficult to find than those which are pastured in the vicinity of Hilo. So dense and high is this grass that a passage through it on horseback is attended with extreme labor. It looks very green and inviting, but its very inferior [page 153] character as a food for animals is abundantly demonstrated. It is said, however, to be very much better in the form of hay than when green. A dry climate is not well suited to it, and in such localities other grasses appear to hold their own. Perhaps the best variety is one which was brought from Mexico early in the century, about the time that horses were first imported. It is called, locally, *maniania* grass, and wherever it grows forms the richest and most velvety award imaginable. It is highly nutritious and animals are very fond of it. It flourishes best in a medium or very slightly arid climate. It was once universal all over the island, but the Hilo grass in all the wet districts of Hawaii has completely exterminated it.

Upon the outskirts of the village of Hilo we find the end of the great lava-stream which flowed the year before my visit. It is typical *pahoehoe*. From a convenient standpoint in the vicinity we can see the last 3 or 4 miles of this stream, spreading out with a width of nearly a mile over the broad, open, grassy plain which lies just west of Hilo... [page 154]

...Three miles of travel through tall Hilo grass growing in a muddy soil brings us to the verge of the forest. Years ago a trail leading from Hilo up into the central wilderness of the island was cut through the forest and corduroyed. The trees used for the corduroy were trunks of the great tree ferns which form a large part of the undergrowth of the forest. These are soft, spongy, and perishable, and lasted but a very few years. They quickly became rotten, and wherever they were laid the trail has become worse than it would be if they had never been put there. The effects of the incessant rain are now abundantly visible, and that to our great discomfiture. The trail is a mixture of rocks, mire, and fragments of rotten fern-trees. Progress is difficult and extremely harassing. Every few rods some poor animal sinks his fore legs or hind legs into tough, pasty mud, and must be unloaded and pried out. Four miles of this kind of travel was accomplished in the space of about six hours. Suddenly and without warning a sharp turn of the trail brought us upon a wide expanse of naked *pahoehoe*. The relief was indescribable. Nobody would pretend that *pahoehoe* is pleasant traveling. It is good only in comparison with clinker fields and forests. The exchange is that of misery which is intolerable for misery which can be borne readily by the exercise of patience. The animals being exhausted by the desperate struggle, we at once made camp upon the lava rock, finding a pool of swampy water hard by.

We had landed upon the termination of the great flow of 1855, the grandest of all the historic eruptions of Mauna Loa. The next day we had an opportunity to observe and appreciate its immensity. Our route lay upon the upward course of this flow, which soon widened out on either hand until the forest was miles away from us in both directions.

Already a few straggling ferns and other humble plants have begun to take root upon its surface, but without a vestige of soil. Except for these stragglers all is now bare rock, rolling in heaps and mounds, twisted ropes and huge wrinkles, with now and then a network of cracks rifting the mass into fragments, and large holes where the arch over some great lava pipe has fallen in. One characteristic of this great flow is the exceptional unevenness of it and the large size of the mounds and hills formed by the *pahoehoe*. It

seems to lie very much thicker than in most other eruptions. In many places it has formed high hills or ridges, and everywhere there are abundant indications that sheet after sheet of lava was piled up to form its final mass. The width of it a few miles above its extremity could only be estimated roughly by the eye, and seemed in many places to exceed six miles. In the course [page 155] of an hour the forest was dim in the distance on either hand, the tall *ohia* trees appearing like mere shrubs...

...A little more than 20 miles from the end of the flow we found ourselves confronted by a high barrier of clinkers stretching far out towards [page 156] the base of Mauna Loa on the left and plunging into the forest on the right. Turning sharply to the right the trail crosses several spurs of this ridge of clinkers and at length leaves the lava field and enters the forest. The character of the forest is now greatly changed. It is no longer a swamp and jungle. We have gained an altitude of about 5,500 feet, and although we are not wholly above the wet region we are in one which is considerably dryer than that which is occupied by the main forest belt. The soil in the summertime is generally dry, and the undergrowth is so moderate that it offers little obstruction to progress. Winding through the forest we come frequently upon open parks densely clothed with mountain grass. The trail ascends slowly but steadily, and as we progress the trees become fewer and the parks larger and more numerous. Numberless trails of wild or half wild cattle traverse the country in every direction. The soil is abundant, but so too are the ledges of lava and fragments of clinker which project through it. Ascending a rocky shelf, Mauna Kea discloses its magnificent mass in close proximity on the one hand, while Mauna Loa, more distant and yet more grand, rises sublimely upon the other... Turning around with Mauna Loa at our backs, the majestic pile of Mauna Kea rises immediately before us. The contrast is very great. The eye is instantly caught by the large number of cinder cones which [page 157] everywhere stud its surface, from the summit where they cluster thickly, down its flanks to the plain below. All of them are symmetrical and normal in their outline, and in an admirable state of preservation. They are truncated at their tops, showing the existence of regular craters within the truncated portions. Some of these cones, by a careful eye estimate and comparison with known magnitudes, appear to be more than 1,000 feet in height and more than three-fourths of a mile in diameter. The number is too great to be easily counted. They are most numerous upon the summit platform, but they are very abundant, not only upon the immediate base of the mountain, but at all intermediate zones, and they ramble away far beyond the base like a crowd dispersing from a common center... [page 158]

...The volcano has been extinct for many centuries, and although the degradation on this side of the mountain has made comparatively little progress, we shall soon find reason for believing that the epoch of final cessation, historically speaking, is quite ancient. The impression produced is that the period which has elapsed since the last sign of activity should be reckoned by thousands of years rather than by hundreds. Soil is everywhere abundant, and no fresh looking rocks are known. The dense forest comes up only to the level where the steeper part of the mountain begins its ascent; that is, to altitudes varying from 5,000 to 6,000 feet. Above that are many scattering groves with a gradually increasing proportion of open spaces. Up to an altitude of nearly 10,000 feet the mountain is clothed with long mountain-grass, which has a pale yellowish color. The cinder cones have that faint reddish cast often assumed by basaltic *lapilli* which has long been exposed to weathering.

Winding onward by a rough stony trail, where old rotten clinkers and slabs of weathered basalt project up out of the soil, we at length reach a pool of stagnant water, where we make camp. Just before reaching camp the way was somewhat obstructed by a thicket of thorny bushes which at once aroused the keenest interest. They were apparently raspberries, but such raspberries! The bushes were gigantic and the fruit equally so, the berries being over two inches in length and an inch in diameter. Conceive our ordinary pale red garden raspberries magnified two and half to three times in linear dimensions

whether in stalk, leaf, or fruit, and we shall have a very good idea of its appearance. Its flavor, however, was somewhat inferior, though by no means unacceptable. The taste of the fruit is almost exactly the same as our common Lawton blackberry. The abundance of fruit was remarkable. For two or three miles the banks and hillsides were covered with them and they could have been gathered by thousands of bushels. They were growing at an altitude of about 6,000 feet, where snow frequently falls in winter and where the climate probably does not differ greatly from that of the coast range of California; though I presume this climate is rather the more equable of the two, being cooler in summer and perhaps a trifle milder in winter.

The journey from Hilo had been a very long and arduous one. Unpleasant as was the struggle with the forest, the journey of twenty miles over *pahoehoe*, so coarse and rough as that of the flow of 1855, proved in the end to be almost as harassing to the animals. The foothold upon the rocks is all that could be desired, but the constant ascent and descent of the smooth rounded hummocks produced an incessant lurching and strain upon the animals the effects of which were now manifest in the shape of sore and scalded backs. Two days' rest was deemed absolutely necessary to recuperate the sore, weary, and half-starved brutes. I occupied the time in tramping over the rolling hills and half-concealed lava beds around the base of Mauna Kea, and in exploring three or four [page 159] long caverns or ancient lava pipes, which are quite as common here as they are upon Mauna Loa. No results of any importance attended the investigation... [page 160]

...After two days' rest and recuperation the ascent of Mauna Kea was determined upon. The summit is easily reached from the southern side, so easily in fact that no great precaution is necessary in the choice of routes. Still, some routes are much easier than others, and it was thought best, in view of the long and tedious character of the ascent, to take a guide familiar with the mountain. I found a native who had been to the summit many times and who had hunted sheep, cattle, and goats all over its southern flanks. At daylight the party was in motion with three pack animals carrying photographic apparatus, provisions, and also blankets, in case it should be found necessary to spend the night upon the mountain top. The guide went afoot from preference, a most unusual thing for a *kanaka*, while the rest of the party were well mounted.

Our camp was situated at an altitude of about 5,670 feet, and the top of the mountain was more than 8,000 feet above us. Two hours were spent winding deviously among the foothills and cinder cones around the base of the mountain before the principal slope of the mass was reached... [page 161]

...In the afternoon of the day following the ascent of Mauna Kea, I moved camp about five miles further westward, to a locality called ***Kalaieha***. This point is now used as a sheep station. The pasturage upon the slopes of Mauna Kea is very abundant and rich, but there is no water. At first it was a mystery to me how these animals could flourish with nothing to drink. It appears, however, that the fog is so abundant that a night rarely passes without more or less rain or a condensation of vapor sufficient to thoroughly saturate the grass, and the animals thus obtain sufficient moisture from the grasses they feed upon. They seem to thrive very well, and I have never heard of any serious loss arising from want of moisture.

Kalaieha is situated near the summit of the pass between Mauna Kea and Mauna Loa, at an altitude of about 6,900 feet. Both to the eastward and to the westward there is a very gentle slope towards the ocean, so gentle in fact that from here it appears to the eye like a broad level plain. The lavas from Mauna Loa have flooded it again and again, and are now outspread over a vast expanse in fields of black, ominous, naked *aa*. These lava floods stretch all the way up to the very base of Mauna Kea and find a sharp line of demarkation upon its lowest slopes. The base of Mauna Kea is well covered with soil and

volcanic sand, giving life to an abundant herbage and no inconsiderable number of trees, thus offering a strong contrast to the desolation and blackness of the lava fields beyond. Around us are very many cinder cones, some of noble proportions, and from the summit of any one [page 165] of them we may obtain an overlook of these Phlegrean fields. The sense of desolation which they awaken is exceedingly impressive... Several days were spent at Kalaieha searching for varieties among the lavas and for such other facts of interest as might present themselves. Very little, however, was discovered. The lavas of Mauna Kea, especially around the base of the mountain, show but little variety, and those of Mauna Loa are even more homogeneous.

Leaving Kalaieha, my next objective point was the valley of Waimea, on the northern side of Mauna Kea. To reach it, it was necessary to go over the mountain. This was not a serious undertaking, for it presents no difficulty except the length of the journey, and this is readily overcome by dividing up the march between two days... [Dutton, 1884:166]

Surveyor's Ascent of Mauna Kea (1889)

E.D. Baldwin, Kingdom surveyor, and author of Register Map No. 1718 (*Figure 3*), depicting Mauna Kea and Central Hawai'i mountain lands, traveled from Hilo, across Pi'ihonua, to Halealoha and Pua'ākala; then across Humu'ula, and past Kaupakuhale (identified by typographical error in the *Hawaiian Annual* as "Kaupaloihale"), to the summit of Mauna Kea in August 1889. In the *Hawaiian Annual* of 1892, he provided readers with an account of the journey, including interesting descriptions of the mountain lands, vegetation, and the occurrence of wild cattle:

A Trip to the Summit of Mauna Kea (1889).

Mauna Kea, so seldom visited by any one, yet claiming universal admiration, as it looms up gradually and beautifully decked in its shroud of snow is truly named the "White Mountain." What wonders there were to be seen thereon, amongst its numerous cones, which looked like so many mole hills from the distance, could only be ascertained by actual ascent. Thus, with expectations rife to aid the arduous duties of an advance surveying party—consisting of six—we left Hilo at eight o'clock A.M. of August 6th, 1889. We followed the Hitchcock road to near Bougainville—a distance of about four and one-half miles—where the road enters the woods. They call it a mile and three-quarters by measure through the woods. We believed the distance correctly measured; but some of the party thought it the longest mile and three-quarters ever traveled. We sympathized, however, with them and wondered if it could be possible for the chain to have stretched. Evidently the road through the woods had not been used very lately. The *oi* bushes and ferns had interlocked across the road, hiding from view the numerous mud holes. Our animals were not very fond of mud, or of pushing through the *oi* and fern jungle—though some of them came from Hilo. But for all that they plunged bravely through the *oi*, only to land in a "slough of Despond;" into one of such places one of our pack mules became so firmly imbedded that we had to unload him, and pull him out by main force. Many quizzes about this time came from down along the line, "Was there any end to the woods?" "Were we ever going to get out?" But the woods suddenly ended, and what a contrast! As we emerged from those beautiful Hilo woods, where the *ieie* and *iwi* vines vie with each other in their attempt to wreath the trees with beautiful garlands. Before us lay a bleak waste.

We were at the end of the 1855 flow, at a point where the 1881 flow had overlapped it a little. To our left, the 1881 flow stretched out like a huge glossy black monster. To our right, thinly covered with stunted *ohia*, ferns and numerous *ohelo* bushes, stretched the great 1855 flow. After refreshing ourselves on some boiled eggs, which one of the party had considerably brought, and resting the animals a little, we proceeded on our trail over this older flow. For about half a mile it was very narrow; from thence it had banked up fully between 200 and 300 feet above the surrounding country, and spread out over



Figure 3. Portion of E.D. Baldwin's, Register Map No. 1718 (1891, State Survey Division).

two miles in width. One could only imagine what [page 54] consternation this great flow, directly above and only seven miles from Hilo, must have caused its residents as month after month it banked itself up here, extending even to the Wailuku river; then broke out near the center of the embankment with a sudden rush, and made directly for Hilo, but only to reach a distance of about a half mile, where it ended its mad career.

Our advance over the flow was slow and tedious. The trail, marked every few hundred yards by piles of stones, being very rough and hardly visible in places. Bleaching bones of many poor animals lay strewn all along the trail. Night overtook us before we reached a suitable camping place, but as it was moonlight we pressed on to the *aa* part of the flow, some twenty miles from Hilo. The flow at this point is not more than a mile in width. Our trail then turns to the right and enters the woods again, where a short distance brings us, about eight o'clock P.M., to **Halealoha**, our camp for the night. Our barometer gave this point an elevation of 4,050 feet, being nearly the same elevation as the Volcano House.

The next morning two of the party started on ahead with the rifles. The trail leaves the woods about two miles from Halealoha, thence skirts along over *pahoehoe*, mostly near the edge of the woods. Many sheep paths cross and recross this section of the trail, making it very difficult at times to keep the right trail. We are now nearing the main base of Mauna Kea, which looms up in its full majesty before us. A sudden turn in the trail to the right carries us off from the Mauna Loa lavas through a narrow belt of woods to Hitchcock's camp, **Kipukahina** [Kīpuka-'āhina], about five miles from Halealoha. We are now on the slopes of Mauna Kea. The whole character of the surrounding country has changed. Instead of a bleak waste of lava there are open fields of fine pasture land. A short way below Kipukahina two wild young bulls were shot, which gave us plenty of meat for several days. Leaving Kipukahina we stayed off on a sheep trail, but headed for **Puu Oo**, where we found the trail leading around the mountain towards *Waimea*, which we followed, reaching **Puakala**—Hitchcock's mountain house—at five o'clock P.M. This house is sixteen and a half miles in a direct line from Hilo, but about thirty-five by the trail. The Hitchcocks had kindly invited us to make this point our headquarters. What a surprise it was to find, at this distance, such a large comfortable house, built of solid *koa*, all of which had been sawed out by hand! It was surely mountain luxury to lay off in [page 55] comfortable rocking chairs before the large, open, old-fashioned fireplace. The elevation at this point is 6,325 feet.

The rest of the week was spent getting out poles for the **Aahuwela** trigonometrical point. A fire had evidently passed through the woods some time ago, killing all the *ohia*, so that we had to go about a mile below Puakala for suitable poles. These we dragged up the hill with our mules, setting up a large tripod signal which was clearly seen from Hilo later. We lived high and well at Puakala; neither did our six cooks spoil the broth; but a specialty from each one helped to swell the bill of fare each meal. One made such fine biscuit, another such soup, another veal pies, another oyster fritters, and another still hit the climax by making *akala* (wild raspberry) pies.

Monday was set as the day for making the ascent of the mountain. We all rose before daylight, but found some of the horses gone, which were not found until noon. This necessitated our giving up the trip for that day.

Tuesday, after an early breakfast, four of the party made the start of the summit. Two of the party were rather overcome by too high living, and did not feel well enough to make the ascent. There is no regular trail to the top. Numerous cattle trails traverse up the flanks of the mountain. We followed some of these main trails up to two sand cones called **Kaupaloihale** [Kaupakuhale]. To this point the ascent is very gradual, passing mostly through a scattering grove of *mamane* trees, which, with the exception of a few *koa* trees, seems to be the only tree that grows above the regular forest line. Numerous

small gulches cut the sides of the mountain. The soil is very sandy, the sides of the mountain being made up mostly of disintegrated as flows and sand cones, the latter being especially numerous. Leaving Kaupaloihale the cattle trails soon terminate and vegetation grows very scarce, the tree limit ending at the foot of Kaupaloihale]. We now had to pick our way over loose blocks of scoria, which were more or less rounded, and in many places the blocks had been packed in smooth even layers by the action of the snow.

Over such places the animals easily picked their way. On reaching the top plateau, the ascent became much more gradual. About three miles from the top one of our mule gave out; so left him behind, securely tied to a large rock, with a feed of oats near by. We headed for a group of cones, which seemed to be near the center of the plateau. The last part of the climb, up between two of these cones, was very steep and rough. The texture of the scoria is somewhat different [page 56] here, being of a light bluish gray color; rings when struck and splits in regular smooth layers; the feldspars being present in large quantities. Looking toward the space between Mauna Loa and Mauna Kea, a grand sight presented itself to our view; this space was filled in with immense banks of spotless white clouds, which we looked down upon from our elevated point of view.

Passing the cones we pressed on some two miles further west, in hope of finding lake Waiiau. Camp was pitched in a sand hollow while two of the party further looked for the lake, which was found quite a distance above us, among the central cones. Our camp was fully 13,000 feet in elevation, and distant from Puakala about ten miles. The air at this elevation becomes very rare, and any over-exertion is liable to tell on one not used to it, to which two of the party can well testify. The wood for our use was packed up in bags from Puakala. The animals were very uneasy during the night, clawing up large holes in the sand, chewing off and breaking their ropes. One mule persisted in hanging around the tent all night, barking all of our wood and tearing up a horse blanket and enamel cloth.

Shortly after daylight we struck camp and started back, visiting the lake on the way, which we found to be about 200 feet long by 150 wide. It occupies a small crater between two sand cones, about half a mile directly west from the central cone. The shores of the lake are composed of sand and rock, the sand being very compact. The water was muddy and very stagnant. Selecting the cone which looked the highest we made the ascent, packing the four-inch transit and a flag pole up on horseback. The transit level showed this cone to overtop all the others considerably. This cone is fully 800 or 900 feet higher than the main plateau, and composed of sand and cinders, with here and there masses of loose slag cropping out. The view from this elevation of 13,805 feet above the sea level was grand beyond description. Mauna Loa's smooth outline was only broken by the view into its crater, its side towards Mauna Kea, blackened and streaked by the numerous eruptions, was desolate in the extreme; the later flows could be easily traced down the mountain side by their shining surfaces, and through the woods toward Hilo. These flows are very narrow on the steeper slopes of the mountain, where the lava has run with great speed. On reaching the plateau between Mauna Kea and Mauna Loa the flows have turned, some to the right toward Hilo, and others to the left toward South Kohala. The speed of the flows, being retarded [page 57] they have spread out in width, in many places covering immense tracts of country.

The central group of cones consists of four; about three miles further to the north another group of several very prominent cones stands on the northeastern edge of the main plateau; also, at the same distance south towards Kalaieha there are a large number of sand cones. With the exception of a few the cones had small craters at their summits, having the appearance of being cut off on top and being very regular in shape. Their state of regular preservation is owing to the loose character of the cinder and *lapilli* that form them, which slide and roll, quickly filling up any crevices which may be formed in their sides. The top plateau slants gradually in all directions from the central cones; its

greatest width, about eight miles, extends in a north-east to south-west direction. It has a very desolate appearance, and with the exception of a very few clumps of a hardy grass there is nothing growing. The whole formation and texture of the mass of Mauna Kea is very aged, there being no signs of any late volcanic action.

Our descent was slow and tedious. We found our played-out mule gone. Fog set in thicker and thicker as we descended; only a short distance was visible around us. We pressed steadily on down, crossing our Puakala trail several times without recognizing it. Night set in, but the fog did not lift; it became intensely dark, and we almost despaired of finding the house, when all of a sudden our headway was stopped by a fence. Recognizing it as the inclosure of the *Laumaia* pasture, and that we were on the lower side of it, we followed the fence back—about a mile—to the road, and trusted the rest of the guidance to our animals, who carried us safely back to the house, which we reached at eight o'clock P.M.

A trip to the top of the mountain can not be said to be one of very great pleasure. The rarity of the atmosphere takes away one's energies in a most surprising manner, but the after effects of the trip are very exhilarating. As you descend from the summit life seems to come back again, slowly at first, but at about 10,000 feet elevation you feel almost like a new man, and as hungry as a bear.

The intention of the party was to make a rapid topographical survey of the summit plateau with the stadia. This was given up for the present; but it is hoped that such a survey can be made in the near future with the assistance of photography. [E.D. Baldwin, in the Hawaiian Annual, 1892:54-58]

Pendulum Party: Ascent of Mauna Kea (1892)

In June 1892, W.D. Alexander, Surveyor General of the Kingdom; E.D. Preston, astronomer with the U.S. Coast and Geodetic Survey; W.W. Chamberlain, L. Koch, and W.E. Wall, traveled to the Island of Hawai'i to ascend Mauna Kea—the journey undertaken between June to July 1892. At Kalei'eha, the party was met by A. Haneberg, station manager, and also joined by surveyor, E.D. Baldwin, and J.J. Muir. Alexander penned an article documenting the trip, published in the Pacific Commercial Advertiser, titled "*The Ascent of Mauna Kea, Hawaii* (September 14, 1892)

The following excerpts from Alexander's article describe the Waimea-Kalai'eha Wagon Road; the condition of the land and demise of the forests; the relationship of the various ranch stations, such as "Auwaiakeakua Ranch," the Waiki'i "half-way station," the Ke'āmoku Sheep Station, and the Kalai'eha (Humu'ula) Station; all of which were started as enterprises of the Waimea Grazing and Agricultural Company in the 1850s. Alexander's narratives, also provide us with important descriptions of the Kalai'eha Station, and a record of the "accidental introduction" of the "Scotch thistle and gorse," from New Zealand. He then provides readers with a detailed description of the journey to the summit of Mauna Kea, describing an *ahu* placed along the trail by Queen Emma during her visit of 1883; Keanakāko'i; Waiau; Lilinoe (and the presence of burials there, as well as at other locations on the summit and mountain slopes); and other features of importance on the cultural and natural landscape—

Although the ascent of Mauna Kea presents no great difficulty and has often been described, yet a brief account of a late scientific expedition to its summit may be of interest to your readers...

...The party left Honolulu for Kawaihae June 25th, consisting of Mr. E.D. Preston, astronomer, Mr. W.E. Wall, his assistant, Prof. W.D. Alexander, surveyor and quartermaster for the party, and Messrs. W.W. Chamberlain and Louis Koch.

The first station occupied was in the village of **Kawaihae**, near the sea, in a lot belonging to His Ex. S. Parker, to whom as well as to his agent, Mr. Jarrett the party are indebted for many repeated kind and generous acts... ..Our next move was to the grassy and wind-swept plain of **Waimea**, 2600 feet above the sea, where we enjoyed a complete change of climate, and had glorious views of the three great mountains of Hawaii... Here we engaged our guide, hired our horses and part of our pack mules, and had our freight, ("impedimenta," as Caesar appropriately called it,) carted thirty-five miles farther, half-way around the mountain to the **Kalaieha Sheep Station**. We made this our base of operations in attacking the mountain, in order to dispense as much as possible with the use of pack mules, on account of the heavy and costly instruments which we were obliged to carry. A wagon road made by the owners of the Humuula Sheep Ranch leads from Waimea around the western and southern sides of Mauna Kea. On the western side of the mountain it passes through a region which only needs more rainfall to make it a superb grazing country. The ancient forests here, as at Waimea, have been nearly exterminated, but a fine grove of mamane trees still survives at the **Auwaiakeakua** Ranch.

The *manienie* grass is gradually spreading and will in time add immensely to the value of the land. At the half-way station, called **Waikii**, water tanks and a rest house have been provided for teamsters. After turning the corner we skirted the desolate plain studded with volcanic cones that lies between the giant mountains of Hawaii, riding through loose volcanic sand amid clouds of dust. Occasional flocks of quails or pigeons were the only living creatures to be seen.

At length the vegetation began to be more dense, the patches of *piipii* grass and the groves of the beautiful and useful *mamane* or *sophora* tree more frequent, as we approached the Hilo district. Barbed wire fences showed that we were approaching civilization, and at last we came in sight of the **Kalaieha Sheep Station** with its neat buildings, its water tanks and telephone lines, and general air of thrift, all testifying to the energy and foresight of its manager, A. Haneberg, Esq.

Nearly every afternoon this region is enveloped in dense fog which pours in from the east, driven by the trade wind. At night, during our stay, the thermometer generally fell below 40° Fahr., and frost is not uncommon. The elevation, according to the barometer, is about 6700 feet.

Quails abound, and the mountain geese and wild ducks are found in the "Middle Ground." The mongoose has not yet arrived there. Wild cattle and boars are still numerous on the slopes of Mauna Kea, and the former supplied the best beef we have tasted in these islands. The present manager has been at much labor and expense in extirpating two pests, which are said to have been accidentally introduced from New Zealand, viz., the **Scotch thistle** and the **gorse**.

Here Mr. Preston established an astronomical and pendulum station, and made a complete series of observations, as at Kawaihae, while surveys were made to connect it with the primary triangulation. The party was then joined by Mr. E.D. Baldwin, from Hilo, who brought two pack animals and a muleteer, and by Mr. J.J. Muir, from Mana. Mr. Baldwin had visited the summit in 1890, and had afterwards made a valuable map of the central part of Hawaii [Register Map No. 1718].

[From the base camp at Kalaieha Sheep Station – July 20th] ...The fog cleared early, and a finer day for the ascent could not be imagined. Mr. Haneberg now took command of the pack train, and had the caravan loaded and set in motion by 7:45 a.m., the guide riding in front, followed by eleven pack mules and as many men on horse back. One sturdy brute carried the pendulum receiver, weighing about one hundred pounds, on one side, balanced by bags of cement on the other.

After riding nearly two miles due east from the ranch, we turned to the north, gradually ascending through a belt of country thickly covered with groves of *mamane*.

We crossed a shallow crater just east of a conspicuous peak called "*Ka lepe a moa*," or cock's comb, and began to ascend the mountain proper...

[Departing from the summit] ...On Monday, the 25th...the tents were struck, and instruments packed up in readiness for the pack train, which arrived about 11 a.m. Soon afterwards the fog closed in around us, and lasted till nightfall. We bid farewell to the lake about 1:30 p.m., and arrived at the *Kalaieha* Station before 6 p.m., without any mishap, having stopped half an hour at "*Keanakakoi*," the *Axe-makers' cave*... ...On arriving at *Kalaieha* we learned that the pack mules had preceded us, and were already unloaded. None of the costly and delicate instruments employed had received the slightest injury. All the objects of the expedition had been successfully attained. I know of but one other instance on record when gravity measurements of precision have been made at so great a height.

Mr. Preston's final report will be looked for with interest by the scientific world, and will add another laurel to his well-earned reputation as a physicist and astronomer. [Alexander in Pacific Commercial Advertiser, September 14, 1892]

A Visitor's Guide to the "Mountain Country" (1913)

In 1913, H.W. Kinney, prepared a visitor's guide for the island of Hawai'i. His guide included a short section on the "Mountain Country" of the island, and described the various approaches to Mauna Kea, Mauna Loa and Hualālai. Notably, at the time of writing, the Hilo-Pu'u 'Ō'ō route was the primary one used, and the Pu'u 'Ō'ō Ranch served as the base camp for those wishing to travel to the summit of Mauna Kea. Kinney wrote:

The mountains of Mauna Kea, Mauna Loa and Hualalai and the highlands surrounding them are comparatively seldom visited, as the journeys to the summits are attended with difficulties, unless the traveler can depend on the ranch stations for assistance. The map shows the trails and stations. The *Puu Oo* ranch is ordinarily the starting place for the summit of Mauna Kea, though this mountain may be ascended from almost any side. From Hilo or the Volcano House to the ranch is a good day's ride. From Hilo one follows the Kaumana road to the end of the wagon road at the big flume. Here one should take the first trail left of the last house on the road and take the trail across the lava flow. At about 3500 feet elevation is a cave at the left of the trail with drinking water. The last part of the trail is across grass. From *Puu Oo* one must take a guide to the summit, the trip from that point to the top and back being made in a day. Near the summit is a lake, as well as a quarry where the old Hawaiians made stone implements. Snow is generally found near the top... [Kinney, 1913:16]

A CHRONOLOGICAL HISTORY OF LAND TENURE, TRAVEL, RANCHING, AND LEASEHOLD INTERESTS IN HUMU'ULA, KA'OHE, AND NEIGHBORING LANDS (1842-1963)

Land use records from Kingdom and Government collections for the lands of Humu'ula, Pi'ihonua, Ka'ohe, and the neighboring *'āina mauna*, date back to at least the 1840s. Early communications describe the taking of wild cattle, sheep, goats, and pigs from the region. By the 1850s, formal leases of the Crown and Government land holdings were granted to ranchers on the mountain lands—while plantation interests were granted leases on the lowlands.

As described in the historical journals and communications cited in this study, by the 1820s, populations of wild cattle (bullocks), sheep goats, pigs, and dogs, increased to a point where they were causing impacts on the landscape, and at times, even harassing travelers. Between the 1830s to 1850s, the Kingdom, established a program, which it managed through local agents, for taking wild cattle, sheep, and other stock from the mountain lands as needed for hides, tallow, and meat, or in payment for services rendered. Following the *Māhele 'Āina* of 1848, which established a system of fee-simple property rights in Hawai'i, individual *ali'i* and the government began entering into leasehold agreements with parties for vast tracts of land throughout the islands.

While John Palmer Parker's, Parker Ranch, is most generally associated with activities on the mountain lands, his early competition, in the name of Francis Spencer, and subsequently the Waimea Grazing and Agricultural Company, was at one time, the largest lessee of Government and Crown lands around, and on Mauna Kea. As a part of his operations, Spencer's activities included the entire mountain lands of Ka'ohe and Humu'ula, including the summit of Mauna Kea, and lands up to the summit of Mauna Loa. He also held leases on large tracts of the Waimea plain lands, and by the 1860s, leased the entire *'ili* of Waikōloa (more than 90,000 acres), and a short time later, also leased the *ahupua'a* of Pu'u Anahulu and Pu'u Wa'awa'a. During that time, Spencer had a monopoly on all sheep and wild cattle on Mauna Kea and the mountain lands, including uses of the Pōhakuoloa plateau lands, Kalai'eha, Keanakolu, Hanaipoe, and smaller stations in between these areas. It wasn't until 1870, that John Palmer Parker began to work his way into leasehold interests in Ka'ohe, and not until 1914 that A.W. Carter, trustee of the Parker Ranch, secured a lease on the land of Humu'ula, including the sheep station at Kalai'eha.

The following section of the study provides readers with a chronological history of leases and land use activities on the *'āina mauna* between 1842 to 1963. The records include a wide range of documents found in the collections of the Bureau of Conveyances (BoC), the Crown Lands Commission, Interior Department, Survey Division (of the Kingdom and subsequent government bodies), Land Division, and the Parker Ranch-Paniolo Preservation Society documents. The documentation described the lands, permitted uses, restrictions, and later removal of tracts of land from the leases for conservation purposes. The documentation cited in this section of the study is organized chronologically in several primary categories, including:

- Selected Land Tenure, Land Use and Leasehold Records.
- Land Tenure—Humu'ula, Pi'ihonua, Ka'ohe, and Selected Neighboring Lands: The Emergence of Crown, Government, and Fee-simple Land Interests.
- The Humu'ula Sheep Station Company, Journal of August Haneberg.
- Leasehold Interests and Ranching on the Government Lands of Ka'ohe and Pi'ihonua (1890-1905).
- Ranching the Mountain Lands in the early 1900s: Transfer of Humu'ula to Parker Ranch, and Pi'ihonua to W.H. Shipman.
- Nā Ala Hele o ka 'Āina Mauna – Native Trails to Government Roads.
- Historical Surveys of the Lands of Humu'ula, Ka'ohe, and the *'Āina Mauna*.

While a detailed collection of records is cited, readers should note that many more records exist, the review of which may answer questions about particular features, or aspects of history. Also, cross referencing the records below with those from the Kingdom and Territorial Survey records; historical journals; and oral history interviews, cited in various sections of this study, will add further details to historical background.

In his personal notes, A.W. Carter documented facets of the history of land use and conveyances associated with the “Humuula Sheep Station Company.” His notes (viewed in the Parker Ranch & Paniolo Preservation Society Collections) provide us with a fairly detailed summary of that history, and are partially based on his personal experiences and research. Readers will also find additional information—clarifying, and in some instances correcting certain points made by Carter—pertaining to land use and the individuals involved on the mountain lands, in other records cited throughout this section of the study. As a part of the present research, a careful review of many of the conveyances was made in order to identify those who were a part of the history of the mountain lands, and to identify historical resources which were referenced in the archival documentation.

December 12, 1946

Humuula Recollections of A. W. Carter

James W. Gay started the Humuula Station as a sheep station and established his headquarters at **Keanakolu** and built the sheep shearing shed there. This was apparently in 1876. He found that this section was so wet, it was impossible to handle the wool, and his shed and equipment were pulled down and taken by bullock cart into Waimea and from there, to **Kaleieha** via Waikii. Kaleieha has been the headquarters ever since. Keanakolu was between twenty and thirty miles from Kaleieha but the bullock cart could not haul over the shorter distance. That is the reason it was taken in a roundabout way.

Shortly after the beginning of Mr. Gay’s occupancy, the place was, I think, operated as a sheep station. The first few years, I imagine he put in his time shooting wild cattle and selling the hides which was quite a business on both sides of Mauna Kea.

Mr. Gay obtained a lease of Humuula on March 6, 1876. The original lease was signed by John O. Dominis, Commissioner and Land Agent for the Board of Commissioners of Crown lands. The term of the lease was 25 years from April 1, 1876 and the annual rental was \$800. The lease covered:

“All that tract and parcel of the land situated in the Island of Hawaii, one of the Hawaiian Islands, known as the land of Humuula and the boundaries whereof are or will be more particularly described in the Certificate of the Commissioner of Boundaries for the said Island of Hawaii, together with full and free liberty to kill all wild and unbranded cattle which may be found upon the said land.”

Subsequently, on October 30, 1883, a Charter of Incorporation of the Humuula Sheep Station Co. was given to James W. Gay by Chas. T. Gulick, Minister of the Interior. Capital was \$100,000.00. 1000 shares at \$100, the stock being owned by James W. Gay (400 shares) Conrad Henke (400 shares), and Paul Isenberg (200 shares). On October 31, 1883, the lease was assigned to the Humuula Sheep Station Co. by James W. Gay, consent to this assignment having been given on July 30, 1883 by Charles H. Judd, Crown Commissioner and Land Agent. At that time also (July 30, 1883) the Commissioner of Crown Lands extended the term of the lease for a period of 7 years and the rent was increased to \$1,000. per annum and the additional reservation given to Mr. Gay, as follows:

“Adding to the reservations that all indigenous wild birds for the time being on the said lands, with the full right to take, kill or capture the same.”

At the time James W. Gay assigned the lease (October 31, 1883) he reserved to himself “the lower or *makai* portion bounded on the East by the sea, on the south by Kaawalii Gulch in Waipunalei, on the north by the land of Ookala and on the west by a line through the woods to include in the above *makai* reserved portion, an area of 1200 acres more or less.” By this same document, he sold all herds and flocks of sheep and cattle running in and upon the land of Humuula, 150 head of horses, and all agricultural implements and other chattels used in connection with the sheep station.

Sometime about 1887, A. Haneberg apparently went to Humuula as manager as he testified at the hearing for boundaries in 1891 that “he had been there about 4 years.”

On September 26, 1895, J.F. Brown, Commissioner, consented to the assignment of the Humuula lease for the balance of the term, together with the extension by James Gay to Messrs. H. Hackfeld & Co. Hackfeld sent up a couple of young German officers who operated the place. I remember seeing their swords and helmets on the wall of the room at Kaleieha. One of them was murdered and it was never known whether the survivor murdered him or not.

Subsequently a Mr. Glade, as a young man, was sent up by Hackfeld & Co. and managed the place for some time.

Later, the stock of the corporation was sold to Mr. Gramberg. He remained there a number of years. He sold out to Sam Parker Sr. in 1906, who gave it to his sons, principally to Sam Parker Jr. but he prevailed upon them to permit him to mortgage it, for a large sum of money. Sam Parker Jr. decided to sell Humuula, or the stock of the company. He promised Davies & Co. to give them the first chance to purchase it but Davies & Co. considered his price too high. He promised Shingle the second chance but Shingle ridiculed Sam for the amount he was asking. He then came to my man and the Parker Ranch purchased all of the corporation stock for the price he asked. The Parker Ranch has held the lease continuously since that time.

At the time I purchased the lease of Humuula [conveyance of 1915], the piece of land at Waipunalei, which was owned by Sam Parker, was conveyed to me. This has been a valuable addition to Humuula on account of the water in the gulch.

Mr. W. H. Shipman once told me that in the early days, he took cattle (steers, I think) to Pohakuloa for fattening. Whether he dealt through the government or the Humuula Sheep Station Co., I do not know.

I do not remember when the little house which formerly stood near the large eucalyptus tree and close to the end of the pipeline, was built. I do remember that Joe Mehrtens lived in that little house and attended to the water. He lived there alone. I think his reason for staying there was that he had eczema very badly and so long as he lived there in that cool climate, it did not bother him... [Journal of A.W. Carter, December 12, 1946]

Selected Land Tenure, Land Use and Leasehold Records

The following records are among those which document land use practices, the formalization of land tenure, and the development of ranching operations on the *‘āina mauna* of Hawai‘i. Underlining and bold/italics are added to the texts below, to draw reader’s attention to specific references of place names and land use.

Among the earliest government records located are two from 1842, regarding the right to take cattle and the enforcement of a *kapu* on them:

Lahaina

March 26, 1842

Kamehameha III and Kekauluohi; to John Davis Kuakini:

...This is our communication to you. George Bush is going up to Hawaii for the purpose of taking cattle on the mountain, to the amount of three hundred. These three hundred cattle are to settle the difficulty with Bill, formerly spoken of. These are what we have given him for the settlement of that difficulty.

When those three hundred are taken, then the kapu shall again be put on the cattle, according to the former charge... [HSA ID Misc. Box 141]

Lahaina

March 26, 1842

Kamehameha III and Kekauluohi; to William Beckley:

...This is our charge to you. George Bush is going up there to take cattle to the amount of three hundred, and when those hundreds are taken, then they are to be *kapu* again, according to the former charge.

Furthermore, you are to aid George Bush by yourself and horses in all his business and necessities... [HSA ID Misc. Box 141]

**Land Tenure—Humu'ula, Pi'ihonua, Ka'ohē, and Selected Neighboring Lands:
The Emergence of Crown, Government, and Fee-simple Land Interests**

In pre-western contact Hawai'i, all land and natural resources were held in trust by the high chiefs (*ali'i 'ai ahupua'a* or *ali'i 'ai moku*). The use of lands and resources were given to the *hoa'aina* (native tenants), at the prerogative of the *ali'i* and their representatives or land agents (*konohiki*), who were generally lesser chiefs as well. In 1848, the Hawaiian system of land tenure was radically altered by the *Māhele 'Āina*. This change in land tenure was promoted by the missionaries, the growing Western population, and business interests in the island kingdom. Generally these individuals were hesitant to enter business deals on lease-hold lands.

The *Māhele* (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the *konohiki*. As a result of the *Māhele*, all land in the Kingdom of Hawai'i came to be placed in one of three categories: (1) Crown Lands (for the occupant of the throne); (2) Government Lands (to support public works and government programs); and (3) *Konohiki* Lands (for the chiefs associated with the Kamehameha lineage and rise to power).

The "Enabling" or "*Kuleana Act*" (December 21, 1849) laid out the framework by which native tenants could apply for, and be granted fee-simple interest in "*Kuleana*" lands, and confirmed their rights of access to, and collection of resources necessary to their life upon the land in their given *ahupua'a*. The Act reads:

August 6, 1850

An Act confirming certain resolutions of the King and Privy Council passed on the 21st day of December 1849, granting to the common people allodial titles for their own lands and house lots, and certain other privileges.

Be it enacted by the Nobles and Representatives of the People of the Hawaiian Islands in Legislative Council assembled;

That the following sections which were passed by the King in Privy Council on the 21st day of December A.D. 1849 when the Legislature was not in session, be, and are hereby confirmed, and that certain other provisions be inserted, as follows:

Section 1. Resolved. That fee simple titles, free of commutation, be and are hereby granted to all native tenants, who occupy and improve any portion of any Government land, for the land they so occupy and improve, and whose claims to said lands shall be recognized as genuine by the Land Commission; Provided, however, that the Resolution shall not extend to Konohikis or other persons having the care of Government lands or to the house lots and other lands, in which the Government have an interest, in the Districts of Honolulu, Lahaina and Hilo.

Section 2. By and with the consent of the King and Chiefs in Privy Council assembled, it is hereby resolved, that fee simple titles free of commutation, be and are hereby granted to all native tenants who occupy and improve any lands other than those mentioned in the preceding Resolution, held by the King or any chief or Konohiki for the land they so occupy and improve. Provided however, this Resolution shall not extend to house lots or other lands situated in the Districts of Honolulu, Lahaina and Hilo.

Section 3. Resolved that the Board of Commissioners to quiet Land titles be, and is hereby empowered to award fee simple titles in accordance with the foregoing Resolutions; to define and separate the portions belonging to different individuals; and to provide for an equitable exchange of such different portions where it can be done, so that each man's land may be by itself.

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise furnished with sufficient lands at a minimum price of fifty cents per acre.

Section 5. In granting to the People, their House lots in fee simple, such as are separate and distinct from their cultivated lands, the amount of land in each of said House lots shall not exceed one quarter of an acre.

Section 6. In granting to the people their cultivated grounds, or Kalo lands, they shall only be entitled to what they have really cultivated, and which lie in the form of cultivated lands; and not such as the people may have cultivated in different spots, with the seeming intention of enlarging their lots; nor shall they be entitled to the waste lands.

Section 7. When the Landlords have taken allodial titles to their lands the people on each of their lands shall not be deprived of the right to take firewood, aho cord, thatch, or ti leaf from the land on which they live, for their own private use, should they need them, but they shall not have a right to take such articles to sell for profit. They shall also inform the Landlord or his agent, and proceed with his consent. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all should they need them, on all lands granted in fee simple. Provided, that this shall not be applicable to wells and water courses which individuals have made for their own use.

Done and passed at the Council House, Honolulu this 6th day of August 1850. [copied from original hand written "Enabling Act"⁸ – DLNR 2-4]

The lands awarded to the *hoā'āina* (native tenants) became known as "*Kuleana Lands*." All of the claims and awards (the Land Commission Awards or L.C.A.) were numbered, and the L.C.A. numbers remain in use today to identify the original owners of lands in Hawai'i.

⁸ See also *Kanawai Hoopai Karaima no ko Hawaii Pae Aina* (Penal Code) 1850.

The work of the Land Commission was brought to a close on March 31, 1855. The program, directed by principles adopted on August 20, 1846, met with mixed results. In its' statement to the King, the Commissioners to Quiet Land Titles (George M. Robertson, March 31, 1855) summarized events that had transpired during the life of the Commission:

...The first award made by the Commission was that of John Voss on the 31st March 1847.

The time originally granted to the Board for the hearing and settlement of all the land claims in the kingdom was two years, ending the fourteenth day of February, 1848.

Before the expiration of that term it became evident that a longer time would be required to perform a work... Accordingly, the Legislature on the 26th day of August 1847, passed an Act to extend the duration of the Board to the 14th of February, 1849, adding one year to the term first prescribed, not however, for the purpose of admitting fresh claims, but for the purposes of hearing, adjudicating and surveying those claims that should be presented by the 14th February, 1848. It became apparent to the Legislature of 1848 that the labors of the Land Commission had never been fully understood, nor the magnitude of the work assigned to them properly appreciated, and that it was necessary again to extend the duration of the Board. An act was accordingly passed, wisely extending the powers of the Commissioners "for such a period of time from the 14th day of February 1849, as shall be necessary for the full and faithful examination, settlement and award upon all such claims as may have been presented to said Board." ...[T]he Board appointed a number of Sub-Commissioners in various parts of the kingdom, chiefly gentlemen connected with the American Mission, who from their intelligence, knowledge of the Hawaiian language, and well-known desire to forward any work which they believed to be for the good of the people, were better calculated than any other class of men on the islands to be useful auxiliaries to the Board at Honolulu...

...During the ten months that elapsed between the constitution of the Board and the end of the year 1846, only 371 claims were received at the office; during the year 1847 only 2,460, while 8,478 came in after the first day of January 1848. To these are to be added 2,100 claims, bearing supplementary numbers, chiefly consisting of claims which had been forwarded to the Board, but lost or destroyed on the way. In the year 1851, 105 new claims were admitted, for Kuleanas in the Fort Lands of Honolulu, by order of the Legislature. The total number of claims therefore, amounts to 13,514, of which 209 belonged to foreigners and their descendants. The original papers, as they were received at the office, were numbered and copied into the Registers of the Commission, which highly necessary part of the work entailed no small amount of labor...

...The whole number of Awards perfected by the Board up to its dissolution is 9,337, leaving an apparent balance of claims not awarded of say 4,200. Of these, at least 1,500 may be ranked as duplicates, and of the remaining 2,700 perhaps 1,500 have been rejected as bad, while of the balance some have not been prosecuted by the parties interested; many have been relinquished and given up to the Konohikis, even after surveys were procured by the Board, and hundreds of claimants have died, leaving no legal representatives. It is probable

also that on account of the dilatoriness of some claimants in prosecuting their rights before the Commission, there are even now, after the great length of time which has been afforded, some perfectly good claims on the Registers of the Board, the owners of which have never taken the trouble to prove them. If there are any such, they deserve no commiseration, for every pains has been taken by the Commissioners and their agents, by means of oft repeated public notices and renewed visits to the different districts of the Islands, to afford all and every of the claimants an opportunity of securing their rights... [Minister of Interior Report, 1856:10-17]

It is reported that the total amount of land awarded to *hoa'āina* equaled approximately 28,658 acres (cf. Kame'eiehiwa 1992:295).

As described above, in the period leading up to the *Māhele* of 1848, all the land was held by Kamehameha III and the *ali'i* who had supported his father and he, in the formation of the kingdom. During that time the lands were held by one or more chiefs. The *Māhele 'Āina* clarified those interests, and disposition of the primary lands which rest upon the *'āina mauna* of Hawai'i, or bound Humu'ula, Ka'ohē and Pi'ihonua was resolved on the following dates:

Humu'ula

Relinquished by Victoria Kamamalu to Kamehameha III on January 27, 1848 (*Buke Mahele*, 1848:5-6). Part of the Crown Land Inventory; no native claims registered or awarded.

Ka'ohē

Relinquished by Victoria Kamamalu to Kamehameha III on January 27, 1848 (*Buke Mahele*, 1848:5-6).

Given by Kamehameha III to Government Land Inventory on March 8, 1848 (*Buke Mahele*, 1848:191). Two native claims registered, one awarded.

Pi'ihonua

Relinquished by Kalaeokekoi to Kamehameha III on January 28, 1848 (*Buke Mahele*, 1848:35-36). Crown Land Inventory. Twenty native claims registered, fourteen awarded.

Waiākea

Relinquished by Kaunuohua to Kamehameha III on February 4, 1848 (*Buke Mahele*, 1848:90-91). Crown Land Inventory; thirty-four native claims registered, twenty-five awarded.

Kapāpala

Relinquished by Kamakee Piikoi to Kamehameha III on January 28, 1848 (*Buke Mahele*, 1848:19-20).

Retained by Kamehameha III as a part of the Crown Land Inventory (*Buke Mahele*, 1848:182). No native claims registered or awarded.

'Ili of Keauhou, in Kapāpala, Ka'ū

Retained by Victoria Kamamalu, granted by Kamehameha III on January 27, 1848 (*Buke Mahele*, 1848:5-6). No native claims registered or awarded.

The 'ili of Waikōloa, Waimea

Retained by G.D. Hueu, granted by Kamehameha III on February 12, 1848 (*Buke Mahele*, 1848:165). No native claims registered or awarded.

In this way, the lands of Humu'ula, Ka'ohē, Pi'ihonua, and neighboring *'āina mauna* became available to leasehold and fee-simple interests, and the development of ranching operations.

Honolulu, Oahu

June 10, 1850

Public Notice—Charles Gordon Hopkins, Land Agent of the King:

...Know all me by these presents, that we, the undersigned Agents of the King and the Government, hereby appoint G.D. Hueu, as Keeper of the Cattle at **Waimea & Mauna Kea and surrounding districts**, or wherever the cattle may roam, the cattle in the woods and the Government; those are the ones he is to keep and run in places where the food is good; to brand and perform other duties as are usually performed by a cattle herder, always looking after the interest of both parties; until such time as the King and Government may send for them, and to deliver the cattle only upon receipt of an order. In case any trouble should happen to the cattle, whether stolen or feloniously branded, the said G.D. Hueu is empowered to bring law suits in the courts, in the names of the persons who own the cattle. He to speak the word, and the management and other powers usually given to a cattle herder. [HSA ID Ltr. Book 2. Pt. 2]

Honolulu, Oahu

June 15, 1850

Keoni Ana [to Wm. Beckley]:

...With regretful feeling am I writing this letter to you.

I have to inform you that you are no longer to continue in the employ of the Government as manager of the cattle ranch.

You are therefore required to file a statement showing properties belonging to the Government and the King in your keeping.

Lapaula (Jarrett) is the new manager, to whom you will turn over everything. [HSA ID Ltr. Book 2. Pt. 2]

Kailua, Hawaii

May 15, 1851

Isaac Y. Davis; to Keoni Ana:

...I again ask you, and you let me know right away, so that I may be able to put more strength to the peace of the Government at Maunakea mountain, because, of the great number of people going up the mountain to chase wild pigs, and I have many times warned them about this matter. But, they have paid no attention, therefore, I have thought of asking you first, and then tighten up, I might go ahead, and they fall down. That's that, so please let me know soon what the right course is for me to do.

But, what I am sure about is this, that the wild pigs belong to the Government, and that the people have no right there, and because of having been told that this right was given to Mōluhi by Z. Kaauwai, that is why I was doubtful about enforcing my rights on **Maunakea** on behalf of the Government, and if I should receive a letter from you or from some of you, then, those that chase wild pigs will be stung by me. I am really put out because they pretend that they too have a right in the mountain, (foolish)... [HSA ID Masc. Box 144]

Hilo December 4, 1852

**T. Metcalf, Superintendent of Public Works;
to A.G. Thurston, Interior Department Clerk**

**Reports on inspection of Government livestock in the region
from Waimea to Laumaia (Laumaea), Kalaieha (Lae eha), and Keamoku (Aamoku);
recommending development of pens on the mountain lands.):**

...I have taken an account of stock at Waimea and it results as follows viz:

One Bull; 10 old cows; 87 young cows; 89 Heifers; 25 heifer calves; 84 oxen steers; 25 Bull calves; 43 sheep in all; 3 goats; 6 horses in all; and 32 *Bipi Kanawai*. The last being Bullocks received for fines. I did not count, not knowing the fact until after the Act. was taken, but take Davis' act. for the number.

I should advise the sale of these Bullocks at once. They have been so neglected of late that they have become nearly wild, not herding them sometimes for months. Besides I don't think bullocks will ever be worth more in Waimea than at the present. I have heard no one say he would give more than 50 cts. per head for them as they run. All Bullocks (except the Governments) are increasing at a frightful rate about Waimea. August 5th 1850 there were 267 bullocks; in June 7, 1852 there were 288. And at November 29th ult. the day I took the a/c, there were, as you will see by looking up, 391. Aside from the Bipi Kanawai. Then look at the number of cows & account the increase with natural laws if you can.

I have been up about the mountain a little and made inquiries of all the foreigners and natives that I have seen who have been among the wild bullocks of late. And the result is this:

That the bullocks are very poor at present especially those on the windward side of the mountain. They are decreasing rapidly. The causes are – first, Stealing; second, Dogs; third, by far the most destructive, the great majority of Bulls over that of the cows. The cows being the weaker have more easily fallen a prey to the wild Dogs. The Bulls in their greater numbers now completely worry the cows out of all power to breed.

I propose the following, that His Majesty & the Govt. divide the Bullocks as they now are on the mountains, one party taking all from Nauhi around windward to Laumaia inclusive; the other party taking the balance – see sketch [Figure 4] – as near as I can ascertain those boundaries will divide the bullocks in about equal shares. Those at windward being more condensed but farther from market and in a more tedious climate. The others are more sparse but in a milder climate, nearer market, and my informants say much fatter than those at the windward of the mountain.

After the decision is made, I should advise the building of pens where necessary & castrate all the males & mark the whole, and so continue to do yearly, until finally disposed of. Or otherwise sell the whole at once. One or the other plan must be accepted immediately or the wild bullocks will be of no account. I propose to go back to Waimea again and take a route through the woods from Makahanaloa to Maunakea in order to ascertain the practibility of making a road through the woods around the north side of the mountain to Waimea. But I am apprehensive the rains will defeat my project as it now pours down in torrents and bids fair to continue to do so for a long time.

I have been examining the work upon the roads wherever I have been, but as this road subject belongs to my Annual Report, I will close... [HSA – Interior Department Misc. Box 145]

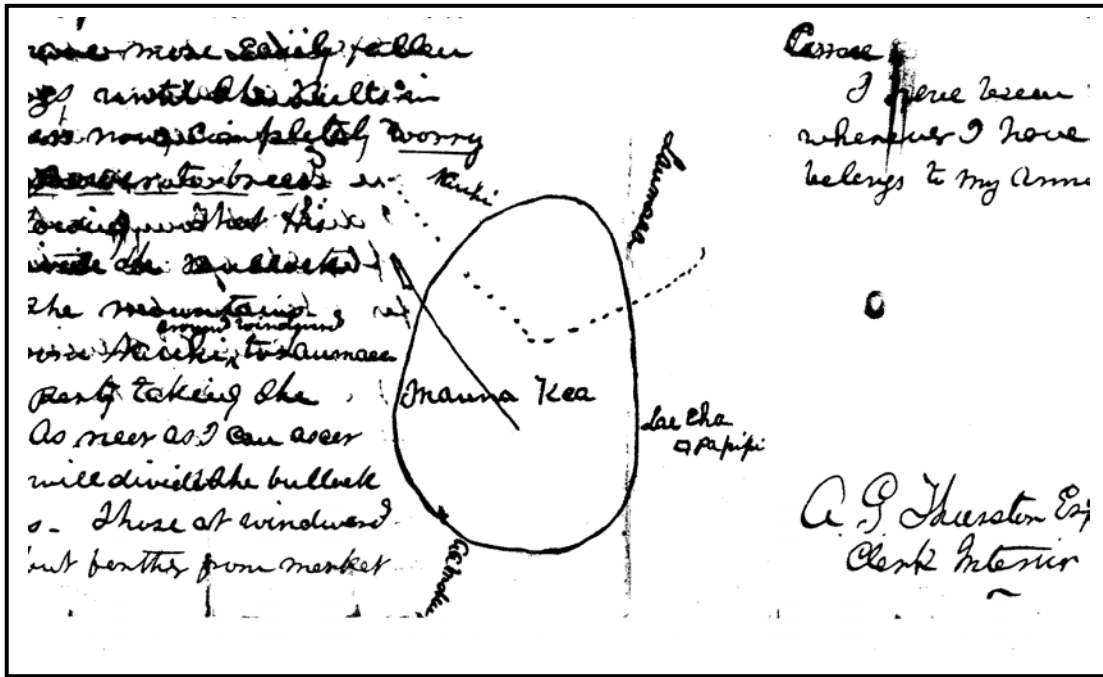


Figure 4. T. Metcalf's Sketch of Proposed Division of Mountain Lands – Aamoku (Keamoku), Lae Eha (Kalaieha), Laumaea (Laumaia) and Nauhi.

Waimea Hawaii

November 1, 1856

Isaac Y. Davis, to Keoni Ana, Minister of the Interior

(Describes depredation of forest and grazing lands around Mauna Kea, as a result of the herds of wild sheep.):

...I now have a good time to write to you with Aloha, and tell you my thoughts about those things pertaining to the Nation of our King. Aloha is the foremost, and I dwell here with Aloha for all of you.

First, let me tell you about the Sheep of the attorney, Mr. Montgomery, dwelling at **Puupueo**, on the Mountain. Five or perhaps six miles above the place of J.P. Parker, Esq. E. Sparke Esq., is the one who tends to said Sheep, the Land, and the houses, and many acres of land purchased by Mr. Montgomery. I do not know the number of acres of Land, but I have heard that it is Five hundred (500) Acres, that is all. But the Sheep roam all about, from one area here, to another area over there. The Sheep roam from Puupueo⁹ to Puuhuluhulu [on the Waimea plain], and to the Gulch of Kemole. That is half of Mauna Kea, and many thousands of Acres that the Sheep roam across. The land is cut down, there is no place that anything will grow. The grasses are gone, and there is only dirt on the Land, just like Waimea, and because of this, the cattle are also no more on this section of the Mountain, having been routed from one place to another.

As a result, I inquire of you, has this thing been agreed to by you, that the Sheep could simply roam about this place? Because I do not know, and am unaware of it, I inquire of you.

If the Sheep are allowed to stay for long, as they presently do, all the grass and forest of the place shall be consumed. It will be an evil thing, for these Sheep have exceedingly poisonous teeth.

⁹ Pu'upueo is situated in Pā'auhau, above the Makahālau section of the ranch.

Here is what I know, the sheep were not numerous before, and there were many animals of other varieties in those 20 or more years past. There has been no evil seen upon the land as at the present time.

Give my *Aloha* to C.T.B. Rooke, Kamaikui, and *Aloha* all of your household as well.

I am with thanks... [HSA – Interior Department, Misc. Box 146; Maly, translator]

January 16, 1857

**Francis Spencer; to John Young, Minister of Interior
(Regarding lease of Kalaieha and Kaohe for Development of Sheep
Ranching interests):**

...The undersigned carrying on Sheep Farming &c. at Lihue, Waimea, Island of Hawaii, and being anxious to increase his Flock to an extent that would enable him to raise sufficient wool to make it a profitable business to export the same. And having ordered some pure blood Marino Sheep from Germany and New South Wales.

Beg respectfully to offer to lease for a term of Twenty or more Years — Kalaieha part of the Government Land called Kaohe, district of Hamakua between Maunakea and Maunaloa. A small portion of which was let at five cents per Acre in mistake for his Majesty King Kamehameha IV. Land your petitioner is now informed the land belongs to the Government and Respectfully offers to lease say Ten Thousand Acres at Three Hundred Dollars per Annum allowing your petitioner at any time to annul the same. By forfeiting one years rent and all improvements. Your petitioner would further say there are no inhabitants within Thirty or Forty miles of the place and through the scarcity of water is not likely to be that, together with wild Dogs induces your petitioner to ask the privilege of annulling the lease with the above proviso. Trusting that your Excellency will be graciously pleased to grant my petition...

Resolved that the Minister of the Interior be authorized to lease 10,000 acres of land in **Kaohe**, Hamakua, Hawaii to F. Spencer at the rate of 6 cents per acre a year for such time as the Minister may see fit, provided however that the thousand acres applied for and now occupied by Mr. J. Low shall not be included in the 10,000 acres. [HSA-Interior Department Lands]

Honolulu, Oahu

April 21, 1857

E.P. Adams; to Minister of the Interior:

...Proposal for the purchase of Wild Cattle belonging to His Majesty Kamehameha IV and the Hawaiian Government which are now running on or near Mauna Kea & Mauna Loa in Hawaii and being the same which are now advertised for sale in the “Polynesian.”

The undersigned offers for all the Cattle specified above, the sum of One dollar and seventy five cents per head, calves running with their mothers not to be counted – to be paid for monthly as received; and will make an advance of One thousand dollars within ten days after signing of contract. It being understood that sufficient time shall be allowed for the fulfillment of the contract. [HSA ID Misc. Box 147]

April 28, 1857

E.P. Adams; to Keoni Ana:

...This Instrument made this twenty-eighth day of April, A.D. one thousand eight hundred and fifty seven, between His Excellency John Young His Hawaiian Majesty’s Minister of the Interior on behalf of His Majesty Kamehameha IV and of the Hawaiian Government, of the first part, and Edward P. Adams of Honolulu, Oahu, Hawaiian Islands of the second part, Witnesseth, that the said party of the first part, for and in consideration of the agreements & covenants, hereinafter contained, to be by the said party of the second

part, his representatives & assigns kept & performed, hath sold, and by these presents doth sell & convey to the said party of the second part his representatives and assigns, all and singular the wild cattle, to wit; bulls, oxen, cows and calves, unmarked and unbranded now running on the Island of Hawaii, in the Districts of Hilo, Hamakua and South Kohala, and on or near the Mountains of Mauna Kea and Mauna Loa; excepting and reserving so many of the said animals as have heretofore been sold to third parties by the King or Government and yet of the said animals as have heretofore been sold to third parties by the King or Government and yet remain undelivered.

To have and to hold, all and singular, the said wild cattle, subject to the above reservation, with the proceeds and profits thereof, and all the right, title and interest of His Majesty the King, and of the Hawaiian Government therein or thereto, unto the said party of the second part, his representatives & assigns for ever, subject to the provisions of this contract, together with the privilege of pursuing, taking, driving, and slaughtering the same wherever they may be found upon lands belonging either to the King or the Government without charge for pasturage and with free right of entry upon the said lands, the King's land of Puukapu excepted for and during the term of three years, from and after the first of July next.

And this Instrument further witnesseth that the said party of the second part, for and in consideration of the premises, doth for himself, his representatives and assigns covenant and agree to and with the said party of the first part and his successors in office that he will well and truly pay unto the said party of the first part, or his successors in office, monthly the sum of one dollar and seventy five cents, for each and every of the above named animals, calves running with their mothers excepted taken and reduced to possession by him; and that he will furthermore, within ten days after the execution of this instrument pay in advance to the said party of the first part or his successors in office the sum of one thousand dollars; it being understood that such payment is not in the nature of a bonus but is an advance for and in lieu of the said monthly dues until the amount of the same shall be equal thereto.

And the said party of the second part for himself, his representatives and assigns, doth further covenant and agree, to and with the said party of the first part and his successors in office, that at the expiration of each and every month of the three years aforesaid, he will render to the office of the party of the first part in Honolulu, a certified return of the number of the said animals, calves, excepted as aforesaid, taken and reduced to possession by him, his representatives or assigns during such months—unless the said party of the first part shall appoint an agent or agents to take account of the same, in which case the said party of the second part, his representatives or assigns will give notice to such agent or agents of the time and place, when & where they are about to drive in or slaughter the said animals; provided, however, that such agent or agents be them in the District of Waimea, Hawaii.

And the said party of the second part for himself, his representatives and assigns, doth further covenant and agree, to and with the said party of the first part and his successors in office, that at the expiration of each and every month of the three years he will, and his representations and assigns shall, quit and surrender up, to the party of the first part his successors and his or their assigns all and singular of the above names in cattle up to that date not taken or reduced to possession by him, his representations and assigns—and that the same shall then and there revert and become the property of the said party of the first part, his successors or assigns, without farther or other conveyance and all right and title of the party of the second part, or of any one holding under him, therein or thereto, utterly cease and determine.

And the said parties of the first & second parts, for themselves their representatives, and assigns, do further mutually covenant and agree to and with each other that, anything herein contained to the contrary notwithstanding this contract shall be avoided and shall cease and determine it default shall be made by the said party of the second part, his representatives or assigns in any of the monthly payments aforesaid for more than thirty days after the monthly return corresponding thereto shall have been made to the office of the party of the first part, in Honolulu; and that it shall also be avoided and cease and determine, if the said party of the second part or his representatives or assigns, shall fail to drive in kill or receive five hundred head of cattle hereby conveyed in any consecutive six months during the three years aforesaid.

And the said parties of the first and second part for themselves, their representatives, and assigns, do further mutually covenant and agree to and with each other that any disputes or differences arising under this Instrument shall be settled by reference to arbitration each party to choose one arbitrator, & the two so chosen, in case of difference between them to choose or third—and their decisions, or that of a majority of them to be final and binding on all parties.

And the said party of the first part, for himself and his successors in office, doth covenant and agree to and with the said party of the second part his representatives and assigns that he is duly and fully authorized and has good right to sell & convey the above named cattle, and all the right title and interest either of his Majesty the King, or of the Hawaiian Government therein or thereto as aforesaid: and he doth further affirm, covenant and guarantee that there now are in the Districts above named, Two thousand head of cattle aforesaid.

In testimony whereof the said parties of the first and second parts have hereto set their hands and seals the day and year first herein above written. [HSA ID Misc. Box 147]

Waimea, Hawaii
July 25, 1857

Isaac Y. Davis; to Prince Kamehameha;

...Your letter of the 14th of July inst., was received by the hands of Mr. E.P. Adams, directing me to let Mr. Adams know the number of cattle which had been lassoed by those who have cattle in the mountain, and the number of cattle remaining.

I have done so, and gave Mr. Adams the report showing the number of cattle sold, and the cattle which had been lassoed, the remainder running in the mountain.

And I am sending the report of the same to you, and there you will find out.

The number of fever cases are on the increase in Kawaihae kai, and is commencing up here, – fever, cough and dysentery.

My health at the present time is not very good. [HSA ID Misc. Box 147]

Waimea, Hawaii
July 25, 1857

Isaac Y. Davis; Report

Sold, Wild Cattle In The Mountain:

| | | | |
|----------------------------|-----|-----|----|
| To G.S. Kenway | | 500 | |
| To G.S. Kenway lassoed | 268 | | |
| Sold to Spencer & Louzada, | 50 | | |
| Sold to Mr. E. Brith, | 100 | | |
| Sold to Mr. C. Carr, | 40 | 458 | 42 |

| | | | |
|--|------|-----|------|
| Sold to Mr. D. Vida, | | 500 | |
| Sold to Mr. D. Vida, Lassoed, | 98 | 98 | 402 |
| Sold to Von Houghten, | 588 | 588 | 1032 |
| Waimea, Hawaii, 25 July, 1857. Spencer & Louzada lassoed and slaughtered 21 wild cattle: | | | 1032 |
| Grand total of all cattle sold, | 1588 | | |
| Grand total of all cattle lassoed and sold to others: | 556 | | 1032 |
| [HSA ID Misc. Box 147] | | | |

Hamakua, Hawaii

April 11, 1859

J.P. Parker; to L. Kamehameha

(Regarding disposition of wild cattle in the forest and mountain lands of the Government):

...I beg leave to address Your Royal Highness on the subject of the unbranded cattle running in the *ohia* forest and among the fern on the Hamakua side of this Island on lands adjoining the leasehold lands held by myself and other private individuals all chiefly interested in the grazing business.

The cattle running in the district I speak of are, and have always been considered as totally distinct from the so called Mountain Cattle, inasmuch as they are all the breeding of private heads, and generally speaking a totally different breed. No cattle of any kind were ever seen or heard of in this Hamakua forest until the late Mr. French commenced purchasing and creating a herd and station on this very ground, in which business he was shortly followed by myself and afterwards by Harry Purdy, and on a smaller scale by a few other private individuals, and in the course of time this part of the island became the extensive and valuable private cattle land, the chief and by far the largest proportion of the herds being owned by the late Mr. French, myself and H. Purdy, whilst the Government owned no cattle whatever in this district. From the natives of the country to the Windward of our private lands (a dense forest and almost impenetrable undergrowth covering nearly the whole of it) as the herds increased, it became a impossibility to prevent cattle from time to time getting beyond the reach of our control, and gradually they have filled this land with their offspring, which, tho frequently driven partly out, and collected as occasions and the opportunity served, on their play grounds in the forest, have not been generally branded, tho their private origin and ownership is notorious and cannot be disputed, but at the present moment, a difficulty of an unpleasant nature seems likely to occur, resulting directly from the contract lately made between the Government and Mr. Adams and since, transferred to another party, for the unbranded cattle running in certain districts specified as belonging to the Government.

A diversity of opinion exists as to the present ownership of the unbranded cattle in this bush and altho I, as perhaps the most interested party in the matter, have never for a moment opposed the Government, would consider it has any claim, yet I would desire now that a question has arisen on the subject, to have the matter settled beyond dispute and with that view, I would respectfully request that your Royal Highness will consider the question and apprise the parties interested of your decision. I may be allowed to report in conclusion that if these unbranded cattle shall be placed at the disposal of any party who may scour the forest with guns, spears and dogs, such a course will apparently result in the injury, and with a high destruction of the tame herds which are now one of the mainstays of this Island... [HSA – ID, Lands]

November 11, 1859

Kamehameha IV to Harris & Swain

(Five Year Lease of Humuula to Upper Forest Region, Withholding Right to take Wild Cattle; Lowlands used in Development of Plantation Interests):

This Indenture made this 11th day of November AD 1859, between His Majesty Kamehameha IV, King of the Hawaiian Islands of the one part and Abel Harris & F.B. Swain of Honolulu and Laupahoehoe of the other part. Witnesseth that for and in consideration of the Rent & Covenants on the lessees part herein after recorded & contained, he the said Kamehameha IV hath demised and leased & by these presents doth demise & lease unto the said Abel Harris and F.B. Swain, their heirs, executors, assigns, all that part of the land of **Humuula** in the District of Hilo, Island of Hawaii – Lying between the Sea & the mauka edge of the dense forest — excepting only from the Lease Kuleanas awarded by the Land Commissioners & reserving the right of catching & converting the wild Mountain Cattle that may be running in the forests, with all the rights, members, easements, appurtenances thereunto belonging for & during the term of Five Years to commence from the 11th day of November, AD one thousand eight hundred & fifty nine yielding & paying therefore unto the said Kamehameha IV his heirs, co assigns the yearly rent of Two Hundred Dollars to be paid in half yearly installments, one hundred dollars each at the end of each half year of the said term, over & above all taxes, charges & assessments to be levied as imposed thereon... ..& that the said Abel Harris & F.B. Swain shall not commit or knowingly permit or suffer any waste to be done up the said demised premises, or cut down or permit to be cut down any forest trees on said land... [BoC Liber 12:351-352]

No Date (ca. 1860)

Manuia, et al. to L. Kamehameha:

...Be generous; We, your obedient people, residing on the land of **Piihonua**, Hilo, Island of Hawaii, humbly pray:

We have seen the notice of prohibition of the oo, the mamo, and other birds on said land, therefore, we pray unto you the King of the Hawaiian Islands, to release the restriction of the birds.

This is our desire of you, the King, that a division be made of the birds, some to you and some to us, if it is agreeable to you, Gracious King of the Hawaiian Islands, of our prayer, let us know immediately, do not delay.

THEREFORE, we are the ones whose names are below:

Manuia.

Mahoe.

Mahoahoa.

Hooikaika.

Haa. [HSA, ID Lands, Doc. No. 89]

June 13, 1860

F.B. Swain to Abel Harris

Trust Deed

(Property and goods, land of Humuula):

Disposing of property of co-partnership which expired by limitation on May 1st 1860; and paying off debts. [BoC Liber 13:162]

August 30, 1860

Abel Harris to A. Bates

In consideration of \$1,200.00, interest in lands, including lease of Humuula as recorded in Liber 12:351. [BoC Liber 13:171]

August 30, 1860
Ashur Bates to Abel Harris
Deed

In consideration of \$1,300.00, Interest in lands, including lease of Humu'ula as recorded in Liber 12:351. [BoC Liber 13:171]

As noted in the original lease to Abel Harris and Francis Swain, the area in Humu'ula included only that extending to the *mauka* edge of the dense forest. It appears that it was not until August 1st, 1861, that the mountain lands of Humu'ula and Ka'ohe, including the summit region of Mauna Kea, were leased out. The following lease documents the lands, terms, and right to take "wild unbranded cattle."

August 1, 1861
Indenture of Francis Spencer & Robert C. Janion;
to Waimea Grazing Company
(Regarding formation of the Waimea Grazing & Agricultural Company
and transfer of interest in lands on the slopes of Mauna Kea; the lands of
Ka'ohe and Humu'ula; and other properties and rights):

This Indenture made the first day of August A.D., One Thousand Eight Hundred & Sixty one, between Francis Spencer & Robert C. Janion, lately copartners in the Grazing business at Puuloa, Waimea, on the Island of Hawaii, under the name & Style of F. Spencer & Company, of the first part, & the Waimea Grazing & Agricultural Company of the other part. Whereas by articles of agreement & co partnership made & entered into & concluded by & between the said F. Spencer & R.C. Janion of the one part and Francis Spencer, James Louzada and Henry Cornell copartners in another Grazing Establishment at Lihue in the District of Kohala in the said Island of Hawaii, of the other part, reciting that the said several parties & firms respectively had agreed & did thereby agree to consolidate & unite their several partnership propositions that the same should be therefore held, managed & conducted as a Joint Stock Establishment in the name style & title of "The Waimea Grazing & Agricultural Company..."

Now this Indenture witnesseth that in perusal of the premises & the said recited agreement...conveying and making over to the said Waimea Grazing & Agricultural Company all the said several properties owned by them as copartners in the said Lihue establishment & in further consideration of Ten Dollars in hand paid by the said Waimea Grazing & Agricultural Company... They...have granted...all the right, title, & interest in & to all that tract of land in Hamakua on the Island of Hawaii aforesaid granted to George S. Kenway by Royal Patent No. 632, & by said G.S. Kenway afterwards duly conveyed to R.C. Janion & John Montgomery.

And Also in & to all that tract of land situate at Puuloa, Waimea...to the late William French by Royal Patent No. 68, and afterwards conveyed by G.S. Kenway & Nancy Anne his wife to D.R. de Janion by deed 17th day of July 1856... And also all that lot of land enclosed by a fence & forming part of the dwelling house lot previously occupied by George S. Kenway...as granted to William Beadle by Land Commission Certificate on Claim No. 4038... And also all that piece of land situate at Pohonui, Kawaihae, Hawaii, granted to the late William French by Royal Patent No. 69... And Also one undivided interest of all that tract of land known as the *Ahupuaa* of Puukapu...as demised to the said R.C. Janion, James Louzada & F. Spencer by His Majesty Kamehameha IV by Indenture of Lease bearing date of the first day of September AD 1857 & recorded in the Register Office in Liber 10 on pages 405, 406 & 407.

And Also all that piece of Land & Houses there all in Waimea... And Also all that tract of Land called & known as Waikoekoe in the District of Hamakua...the personal property of W.C. Lunalilo by Indenture of Lease bearing the date of the 25th day of January 1860... And Also all that piece of Land situated in Waimea, Hawaii & Known by the name of Kailiohia, being a *Kuleana* from His Late Majesty Kamehameha III, as demised to the

said Francis Spencer by Anthony D. Allen by lease bearing date of the 5th day of January AD 1861...

And also all that piece of Land containing 1641 acres in Kapulena, Hamakua...Lease bearing date of the 20th day of January 1859... And also in & to all the piece of Land situate at Puukapu... by Deed bearing date the 19th day of April AD 1861... And Also all that piece of land situate at **Hanaipo**i in the District of Hamakua...conveyed to George K. Lindsey by His Majesty Kamehameha IV by deed bearing date of the 2nd day of September AD 1859... And Also all that piece of land situate at Puukapu...granted to Kaluahinenui by the Board of Land title Commissioners by Award in claim No. 4138... And Also all that piece of land situate at Puukapu aforesaid awarded to Mokuhea by the Board of Commissioners of Land Title on claim No. 4210... And Also all that piece of land situate at Puukapu aforesaid awarded to Mahoe by the Board of Commissioners of Land Title on claim No. 3685... And Also all that piece of land situate at Puukapu aforesaid awarded by the Board of Commissioners of Land Title to Kulunui on claim No. 4227...

And Also all the joint interest of the said Francis Spencer & Robert Janion parties here to in a certain Indenture of Lease bearing date of the 16th day of November AD 1859 made between His Royal Highness, Prince L. Kamehameha, His Majesty's Minister of the Interior on behalf of His Majesty King Kamehameha IV & the Hawaiian Government of the first part & the said Robert C. Janion party hereto of the second part where by the said party of the first part demised to the said Robert C. Janion his executors, administrators & assigns, all that part of those lands belonging to His Majesty & the Government on the Mountain of **Mauna Kea** [the lands of Ka'ohe and Humu'ula], lying above the forest on the Hilo side of the Mountain & on the Waimea side of the Mountain above the lands of Paauhau & Waikoloa (except certain lands therein specified) with the privilege of catching & killing the wild unbranded cattle on any of the lands belong to His Majesty or the Hawaiian Government on the Districts of Hilo, Hamakua & South Kohala (excepting His Majesty's land at Puukapu), for and during the term of five years from & after the first day of August 1859... [Bureau of Conveyances Liber 15:24-28]

Piopia, Hilo, Hawaii

August 7, 1865

Isaac Y. Davies. To John O. Dominis:

...In accordance with your instructions, I have made and wrote out the notice of the King's lands being prohibited, that is concerning the Oo birds. But, I have also included the Mamo birds.

I am forwarding a copy of the notice aforesaid, and you send it and have it printed in the newspapers.

The health of the Honorable R. Keelikolani and A. Keohokalole is good.

I am still feeling a little better. Hilo weather is calm, the same as when we were here together. [HSA, ID Lands]

Hamakua, Hawaii

September 5, 1865

S.C. Wiltse. to F.W. Hutchison:

...In compliance with your request of the 23rd inst., I have made out, and now forward to you, the names & description of the un-sold Government Lands in the Districts of "Hamakua," Kohala," & Kona." As far as I am acquainted with them. Likewise those sold but not Patented. There may be some small lands or fractions, that I have not mentioned.

Your Excel. will no doubt be some-what surprised to learn that there are so few land in these Districts remaining to Govt. but such is the fact, nearly all of the best lands have

been sold, or rather given away, on an wage at about 50 cts. pr. Acre.

The forest lands as a general thing have been well preserved—and should be as a regulator of the climate.

A law was passed by the Legislature of 1862 requiring that the Boundaries to all the Private Lands not Patented, should be established by Survey or other wise—worth in five years from that time. Three years have passed, and hardly a commencement has been made on this Island. It is highly important that this law should be enforced, as the old kamaainas are fast dying off, and in a very short time the establishing of Boundaries will be a near matter of Jury work.

When the Boundaries of the Private lands are established, then will be known what belongs to Government—and not until then.

I would very well to know what disposition are to be made of the lands sold by Sheldon, whether the Parties who have payed him money and got no receipts, are to lease it, and whether any of said lands sold by him, are to be Patented at his valuation. [HSA, ID Lands]

**(Attachment) Hamakua
Government lands in this District not Sold.**

“...Kaohe”

Sold below the forest. This is the largest land in this District, and includes nearly the whole of “Maunakea.” About 2000 Ac. of an open forest and 2000 Ac. of 2nd rate grazing land above the forest is all of this land that is available... [HSA, ID Lands]

Hamakua, February 10, 1866

S.C. Wiltse, to Jno. O. Dominis, Acting Commissioner for the Crown Lands.

I have added the survey of the *makai* part of the Crown land “Humuula” to the plan of the *mauka* part as you requested and will forward the same to you by the first opportunity. The field notes are also appended to the notes of the *mauka* part.

That part now added contains 7215 acres, 924 acres of which is good grazing land below the forest. The forest part is a rich alluvial soil and covered with the largest growth of *ohias* and *koa* that is to be found on this Island.

The reason for this survey was not reported to the late Mr. Webster at the time it was made because I had lost confidence in the men that pointed out the boundaries. They pretended to be *Kamaainas* of the old land and a survey was made accordingly. I afterwards ascertained that they knew little or nothing about the boundaries of the *mauka* part and so I had all of that work to do over again. But since then I have found out by inquiries and examinations that those men were *Kamaainas* of the lower part of this land, in fact the only men living that did know said boundaries through the forest. I am therefore able now to report that survey as correct according to the best of my knowledge... [HSA – Crown Lands Commission]

**Hilo, Hawaii
April 21, 1866**

R.A. Lyman. to J.O. Dominis:

...Meheula desires me to write you in reference to ***Piihonua uka, Puueo uka, and Humuula***, whether they are leased or not. He has directed the bird catchers to divide the feathers with His Majesty, but Kui still claims the woods of Piihonua. Can I sell timber from the Crown lands? The natives wish to get *Kolea* bark for tanning leather.

It is a tree that is not worth anything for timber. They have been selling the Koa trees getting bark. Please send me a list of Crown lands in Hilo & Puna, and of their leases &c... ..Please give me full instructions what you wish me to do with these lands... [HSA, ID Lands]

May 1, 1866

J.W. Austin; to D.H. Hitchcock, E.G. Hitchcock and C.A. Castle

(Conveying the upper portion of the Ahupuaa of Papaikou – the Puakala section to Hitchcock and partners):

...All that tract & Ahupuaa of land known by the name of Papaikou situated in the District of Hilo...according to its ancient boundaries... [BoC Liber 21:220-221]

September 5, 1868

The Waimea Company to F. Spencer

Deed:

This Indenture...between The Waimea Grazing and Agricultural Company of the one part, and Francis Spencer of Waimea in the Island of Hawaii of the other part. Whereas by Instrument dated 1 November 1859 and supplemental agreement dated 19 March 1860 His Royal Highness Prince L. Kamehameha Minister of the Interior on behalf of His Majesty Kamehameha IV and of His Majesty's Government did lease for a term of five years from the first day of August 1859 certain tract of land in Hilo and Hamakua, Hawaii unto R. C. Janion his heirs and assigns with the privilege of catching the Wild Cattle thereon, and whereas the said Prince L. Kamehameha on the 7th day of July AD 1862 again on behalf of His Majesty and the Government did extend the term of the said lease on the same like conditions for a further term of five years from the first day of August AD 1864 unto the said Waimea Grazing and Agricultural Company who had become entitled to the said lease, and whereas the individual interest of His Majesty in the said lands so as aforesaid demised or comprised in that part of the land of **Humuula** as described in the said Instrument of 11 November 1859 now in recital by survey thereof with the exception of so much of the same as may lay within the dense forest of Hilo which was not included in the lease from the said Prince L. Kamehameha, and it was by said instrument of the 11th day of November 1859 witnessed that His said Majesty Kamehameha IV for the consideration therein mentioned did agree on the part of himself and heirs and assigns, and did thereby grant unto the said Company...the privilege to renew the said lease of that said land of Humuula above and therein described with the Cattle catching rights therein, and without the exception therein and herein before mentioned for a further term of Ten Years from the first day of August AD 1869 at the yearly rent of Eight Hundred Dollars payable half yearly. And whereas the said Company has agreed to demise and lease to the said Francis Spencer all their estate and interest in a portion of the said land of Humuula herein after more particularly described excepting as is herein expressed for the consideration herein after more particularly mentioned...

...The said Company do hereby demise and lease to the said Francis Spencer his heirs & assigns all their estate right title and interest under and by virtue of the several documents herein before recited in and to all that part or portion of the said land of **Humuula** from **Nauhi Gulch** to the Northern boundary and from **Puuoo** Hill and on a line therefrom to the **Kolie** to the Southern boundary all above the Woods. To have and to hold the same unto the said Francis Spencer...for all the term and time thereof granted to the said Company...subject to the yearly rent of Two Hundred Dollars to be paid to the said Company...annually. And also subject to the reservations as to pasturing their Horses and Cattle over the said portion of land hereby demised...

The Waimea Grazing and Agricultural Company by
W.L. Green, President
Theo H. Davies, Secretary

Francis Spencer... [Bureau of Conveyances Liber 26:220-223]

Additional information regarding the above lands covered by Mortgage Deed in the amount of \$16,000.00 paid by the Waimea Grazing and Agricultural Company on the part of Francis Spencer, and dated September 5, 1868, is recorded in Liber 26:221-225.

On April 14, 1870, W.L. Green, on behalf of the Waimea Grazing and Agricultural Company (WGAC), wrote to F.W. Hutchinson, Minister of the Interior, regarding the lease on Ka'ohē and Humu'ula, and the right to take wild cattle from the mountain lands around Mauna Kea. The application also itemized the number of head of cattle that might be taken from the neighboring lands per annum. Apparently, at this time, the application for a renewal of the lease on Ka'ohē was not granted; instead, John P. Parker II secured the lease on June 5th, 1871, thus enlarging the range adjoining his Pā'auhau lands. Regarding the application of the WGAC, Green wrote:

Honolulu

April 14, 1870

W.L. Green; to Hutchison, Minister of Interior:

...I have the honor to address your Excellency in regard to our conversation of the 12th inst. respecting the proposed lease to the Waimea Grazing Company of the Mountain Lands of **Mauna Kea** belonging to His Majesty's Government and of their interest in the wild mountain cattle.

As I endeavored to explain to your Excellency the Grazing Company could not expect to make anything if they paid the same sum for the Government lands and cattle as they do for **Humuula** & the Crown interest in the cattle on Humuula viz \$800. per annum — which would make \$1600 per annum in all. I presume it will not be questioned that the land of Humuula is of considerably more value than the Government mountain lands in question; and I may state that my idea of the value of what the Government now proposes to lease is about \$500 per an. — say \$1300 per annum in all.

I understand that the Crown Commissioners would feel inclined to lower the rent of Humuula & the cattle of the Grazing Company would accept of a shorted term, and as possibly your Excellency may hold the same views with regard to the Government mountain lands & cattle on Mauna Kea, I beg to make the following alternative offers for/in the name of the Grazing Co., for the consideration of your Excellency and the Crown Commissioners; say for the Lease of Humuula & the Crown interest in the mountain cattle, and the lease of the Government mountain lands on Mauna Kea and their interest in the mountain cattle.

| | |
|---|-------------------|
| Seven years Lease (instead of ten) | \$1300 per annum. |
| Five years “ | \$1200. |
| One year's Lease with yearly privilege up to five years | \$1300. |
| Year by year with one year's notice from either party | \$1000. |

In these cases however, the Grazing Co. would wish to stipulate for a sheep grazing privilege on a certain portion of Humuula for Mr. Francis Spencer & assigns for whatever term may remain, short of ten years from August 1st 1869.

In all the above offers I have considered that half the rent, say for Humuula counts from August 1st 1869, and the other half (for the Government interests) is to be reckoned from April 1st 1870. The lease to expire however, on the same day.

I beg to enclose a copy of the memorandum I showed your Excellency with some further remarks for your information...

Literal copy from W.L. Green's private Mem. Book of hides that might be reasonably counted on per an. made at Waimea:

| | | | |
|--|------------------|-----|---------------|
| Gr. Co's. Land | Lalakea Bush | 400 | hides per an. |
| Parker & Gr. Co. Land | Parker's Bush | 400 | " |
| Gr. Co. Land | Kohala Bush | 100 | " |
| Gr. Co. Land | Apipii Waikoloa | 500 | " |
| Government Land | Waikii | 300 | " |
| Gr. Co. Land | Amoku [Ke-amoku] | 100 | " |
| Government Land | Charley Hall | 100 | " |
| Humuula Kalaieha – | Louzada | 500 | " |
| Humuula Hopuwai to Hanaipoe | | 300 | " |
| Humuula Hilo Bush Kalaieha to Nauhi | | 300 | " |

Deducting 900 Bush cattle of own, leaves 2100 mountain hides – which is about the average number which have actually been obtained when the business has been prosecuted with energy.

It should be observed by the above list that a small population of mountain cattle may be expected from Government lands and how large a population of mountain cattle are obtained from the Grazing Company's seven lands for which they pay high rents.

Estimate of Mountain Hides:

| | | |
|--|---------|------|
| 2000 hides at 9½ \$ per Hd. | \$5700 | |
| Cost of catching, killing & flaying | \$2250 | |
| Salt & cartage to Waimea | \$750 | |
| Drying – cartage to Beach frt. to Honolulu | \$1000 | |
| Commission on sales cartage etc. | \$285 | 4285 |
| Leaving for rent, profit, etc. | \$1415. | |

N.B. 9½ \$ is an extreme price.
[HSA – Interior Department Lands]

January 2, 1871

**R.C. Janion and W.L. Green (Waimea Grazing Company);
to R.M. Kibbin, M.D.**

**(Dissolution of the Waimea Grazing and Agricultural Company,
and transfer of Humu'ula, other lands, life stock and resources):**

Memorandum of Agreement made and entered into this second day of January A.D. 1871 between Robert Janion of Liverpool and W.L. Green of Honolulu, sole owners of the Stock and Property of the Waimea Grazing and Agricultural Company incorporated of the one part, and Robert M. Kibbin M.D. of Honolulu of the other part. Witnesseth that for and in consideration of the sum of Nineteen Thousand Dollars paid by the said Robert M. Kibbin to the said parties of the first part, the receipt of which is hereby acknowledged, they the said parties of the first part do hereby agree for themselves as such sole proprietors in said Company to and convey by proper and sufficient Deeds to the said Robert M. Kibbin his heirs or assigns at their cost and expense, all the Lands, tenement and premises, cattle, horses and other live stock, and all personal property there on and elsewhere in the Island of Hawaii, and which lands are more particularly described in the Schedule hereto annexed; as well as those held under fee simple as those held under terminable Leases, and which are this day sold subject to the Rents and reservations on the tenants part therein respectively contained and which are hereafter to be paid and performed by the party of the second part, his heirs, representatives and assigns.

This Conveyance and Agreement of the foregoing properties to be carried into effect by proper Deeds as soon as the said Charter shall have been annulled and the Company dissolved in accordance with the Statutes for the said purposed provided and which the parties of the first part undertake to do without delay...

Schedule of Lands Referenced to in the written Deed.

Land of Nahuina, Royal Patent 632; 2 Lots at Kawaihae; Stone House Premises at Lihue; Sundry Kuleanas on Puu Kapu; Tract on Ouli; Billy Bells lot; Paddock at Puuloa, 6 acres; Lease of Puu Kapu from the Crown; Lease of Waikoekoe from Guardians of Lunalilo; Lease of Lalakea from Keau Hao; Lease of Humuula from the Crown; Leases of Cattle running and pasturing from Spencer on Waikoloa; Beadle Hill; Pitman Lease; Holuokawai; Kalopa and Puuanahulu; Agreements with Simmons and Kipi and with laukea about Pasturing Cattle.

Recorded & Compared this 6th day of February A.D. 1871... [BoC Liber 31:374-375]

On January 6th, 1871, the Commissioners of Crown Lands authorized an extension of ten years on the lease of Humu'ula to the "Waimea Grazing Company," also known as the Waimea Grazing and Agricultural Company; in which Francis Spencer was still a lead player at the time. The lease included the notes of survey, referencing key points along the boundary of Humu'ula and Ka'ohe, from the upper forest to the summit of Mauna Loa at Pōhaku o Hanalei, and along the Hilo lands cut off by Humu'ula. It is of importance to note that the forest was to be protected, and all improvements such as walls, trails, roads, and structures were considered property of the Crown Lands Commission upon termination of the lease.

January 6, 1871

***Indenture Between the Commissioners of Crown Lands,
and the Association known as the Waimea Grazing Company:***

All that tract or parcel of land situated on the Island of Hawaii known and described as follows to wit:

Humuula— "Commencing at a pile of rocks erected on ***Papaalepo Hill***, the bottom rock marked KIV on the Boundary of Komoko [see Register Map 668; Wiltse, 1862]. The boundary runs...to a pile of rocks, bottom rock marked KIV, on the top of a small hill called ***Ahuamo***; thence...to the top of a low flat hill called ***Ahuapoopua*** at the *mauka* corner of the land of Komoko; thence in a South Westerly direction bounded by the lands of ***Kaoh*** and ***Kalala*** to a rock on the slope of Mauna loa called ***Pohakuohanalei***; thence in a North Easterly direction bounded by the land of ***Kapapala***; thence in a North Westerly direction bounded by ***Waiakea***; thence in a Northerly direction bounded by ***Mauna Kea, Piihonua, Makahanaloa, Hakalau, Piha, Maulua, Kapehu*** and ***Laupahoehoe*** to a pile of rocks on a rocky ridge running East & West; thence in a Northerly direction bounded by the other part of Humuula to Commencement..."

...During the term of Ten Years to commence the First day of January A.D. 1870... Paying therefore unto the said Land Commissioners or their successors in office, the yearly rent of Eight Hundred Dollars...and that they will not commit or knowingly permit or suffer and waste to be done on the said demised premises, or cut down or permit to be cut down any trees on said land, of Humuula.

And will at the end or expiration of the term hereby granted yield up unto the said Commissioners...the premises hereby demised, with all erections and buildings now on or hereafter to be put upon the same in as good order and condition in all respects (reasonable wear and tear and damage by fire and other inevitable causalities excepted) as the same are at present or may hereafter be put by the said Party of the Second Part or those entitled to the Lessee's interest...

Jno. O. Dominis, Commissioner and Land Agent
The Waimea Grazing & Agricultural Co.
W.L. Green, President
Theo. H. Davies, Secretary

And it is further intended by the parties of the First Part to convey to the said parties of the Second Part the right to Kill all Wild and Unbranded Cattle within the District herein above referred to.

(Signed) Jno. O. Dominis. [HSA Lease Book, Series 369 Vol. 5]

January 6, 1871

John O. Dominis to Waimea Grazing Company

(Lease of the Crown Land of Humuula, and right to take wild cattle):

This Indenture, made this Sixth day of January A.D. 1871 between the Commission of Crown Lands, of the First Part, and the Association known as the Waimea Grazing Company, doing business on the Island of Hawaii of the Second Part. Witnesseth; That for and in consideration of the Rent and Covenants by the Party of the Second Part to be paid, kept, and informed, they the said Land Commissioners, by virtue of the authority in them vested by the Act entitled "An Act to relieve the Royal Domain from encumbrances, and to render the same inalienable," approved January 3rd, 1865 have demised and leased, and by these presents do demise and lease unto the said Party of the Second Part, and to Their Heirs Executors, Administrators and Assigns all that tract or parcel of land, situated in the Island of Hawaii known and described as follows, to wit: Humuula – "Commencing at a pile of rocks erected on Papaalepo Hill, the bottom rock marked K.IV. on the Boundary of Komoko – The Boundary runs S. 37 W. (Variation 9° 43' East) 141 20/100 Chains to a pile of rocks, bottom rock marked K.IV. on the top of a small hill called Ahuamoa – thence S. 42° 20' W. 172 Chains to the top of a low flat hill called Ahuapoopuaa at the *Mauka* Corner of the land of Komoko – thence in a South westerly direction bounded by the land of Kaohe and Kalala to a rock on the slope of Mauna Loa called **Poha Kuo hanalei** [Pohakuohanalei], thence in a North Easterly direction bounded by the Land of Kapapala, thence in a North Westerly direction bounded by Waiakea, thence in a Northerly direction bounded by **Waiakea, Piihonua, Makahanaloe, Hakalau, Piha, Maulua, Kapehu and Laupahoehoe**, to a pile of rocks on a rocky ridge running East and West, a rock in the bottom of the pile marked K.IV. from thence in a Northerly direction bounded by the other part of Humuula to commencement." With all the rights, easements and appurtenances thereunto belonging: To have and to hold, unto the said Party of the Second Part. Their Heirs and Assigns for and during the term of Ten years to commence from the First day of January A.D. 1870. The said Party of the Second Part, yielding and paying therefore unto the said Land Commissioners or their successors in Office the yearly rent of Eight Hundred Dollars payable semi annually over and above all taxes, charges and assessments to be levied as imposed thereon by Legislative authority...

...And that they will not commit or knowingly permit or suffer any waste to be done upon the said demised premises or cut down or permit to be cut down any trees on said land of Humuula and will at the end or expiration of the term hereby granted yield up into the said Commissioners or their successors all and singular the premises hereby demised, with all erections and buildings now on, or hereafter to be put upon the same in as good order and condition in all respects (reasonable wear and tear, and damage by fire and other inevitable casualties excepted) as the same are at present, or may hereafter be put by the said Party of the Second Part or those entitled to the Lessee's interest in the premises... [BoC Liber 32:27-29]

Waimea
May 22nd, 1871

Chas. T. Gulick; to F. Spencer:

...I am directed by His Excellency the Minister of the Interior to acknowledge the receipt of yours of the 17th inst. in reference to the land of Kaohe, and he desires me to say that he has not had time to consult with Gov. Dominis, who has just returned from Hawaii, on the subject, but will investigate the matter and inform you further by next mail. His Excellency desires me to ask you if you will be kind enough to send him four (2 pairs) mountain geese (brandt) by the first opportunity – they are to exchange with the Acclimatization society of New Zealand which has already very kindly sent quite a number of their birds – The Minister is willing to pay a reasonable or even a handsome price for them, and is desirous of sending them, by the next trip of the Nevada which sails on the 4th or 5th of June. ...

P.S. If you can induce the natives to catch any of the Native Hawaiian birds – not honey birds – His Excellency is desirous of obtaining them for the same purpose, and will pay what you may consider a reasonable price for them. [HSA ID Letter Book 10:464]

June 5, 1871

F. Hutchinson, Minister of the Interior; to J.P. Parker

Government Lease no. 156

(Demising a Five Year lease on the Land of Kaohe, and Right to take Unbranded Wild Cattle from the Land.):

This Indenture of Lease made this fifth day of June A.D. One Thousand Eight hundred and Seventy-one by and between His Excellency Ferd. Hutchinson, His Hawaiian Majesty's Minister of the Interior on behalf of the Hawaiian Government party of the first part and John Parker of Waimea, Hawaii, party of the second part, Witnesseth that the said party of the first part for and in consideration of the covenants and agreements hereinafter set forth has leased and doth hereby lease unto the said party of the second part all that tract of lands known as Kaohe situated in the district of Hamakua, Island of Hawaii. Which land the said party of the second part, his heirs, executors, administrators and assigns, are to possess together with all its present improvements and advantages, also the right to kill the wild unbranded cattle thereon, for the term of five years from the date of this indenture, without unlawful molestation, provided that he or his said representatives will yearly pay or cause to be paid unto the said party of the first part the sum of Four Hundred Dollars in four quarterly payments at the Interior Office in Honolulu, that is to say One Hundred Dollars on the fifth day of June, September, December and March of each and every year during the term of this Lease, and in addition thereto pay any taxes now or to be hereafter imposed by law on landed property which are applicable to leasehold estates...

...And the said party of the second part doth further covenant and agree to and with the said Minister of the Interior and his Successors in Office, that he will not under let the same premises nor any part thereof, and that he will not suffer, strip nor waste thereof, and that in case he shall under let the same or any part thereof or suffer, strip or waste thereof the said Minister of Interior at his option, if in his judgment the interests of the Government shall so require, may at any time thereafter determine this lease, and enter upon the premises and expel the lessee... [HSA – DLNR 2 Vol. 15]

Hilo
March 5th, 1873

R.A. Lyman; to J.O. Dominis:

...The following are the unleased Crown lands...

...**Piihonua** runs from just above Mr. Hitchcock's in the upper edge of the forest. Have received about \$60. a year for it. The natives living on the land offer \$100. a year to lease

it for 5 years. I will lease it to them for \$150. a year with the privilege of taking the unbranded hides.

If you will include the birds in the lease, I will pay more for it. I do not wish the birds killed, but the privilege of catching them... [HSA, ID Lands]

April 14th 1873

**J.O. Dominis, Board of Commissioners of Crown Lands;
to Maa & Paahao**

(Lease of Piihonua Ahupuaa, and Right to take Wild Cattle):

This indenture made this 14th day of April A.D. 1873 between the Commissioners of Crown Lands of the first part and Maa & Paahao of Hilo, Hawaii, of the second part. Witnesseth: That for and in consideration of the rent and covenants by the party of the second part to be paid, kept and performed, they the said Land Commissioners by virtue of the authority in them vested by the Act entitled "An Act to relieve the Royal Domain from encumbrances, and to render the same inalienable," approved January 3rd, 1865; have demised and leased and by these presents do demise and lease unto the said party of the second part and to their heirs, executors, administrators and assigns all that tract or parcel of land situated in Piihonua, Hilo, Island of Hawaii. Known and described as follows, to wit: All the Ahupuaa known as Piihonua outside of the town of Hilo, commencing at the mauka boundary of the lot of land formerly leased to Mr. Hitchcock and running mauka to the extreme mauka boundary of the land of Piihonua, joining Humuula; With all the rights, easements and appurtenances thereunto belonging; To have and to hold unto the said party of the second part, their heirs and assigns for and during the term of five years, to commence from the 15th day of April A.D. 1873, together with the right of Killing wild cattle with the privilege of subletting this right. The said party of the second part yielding and paying therefore unto the said Land Commissioners or their successors in office the yearly rent of Two hundred (\$200) dollars per annum...

...And that they will not commit or knowingly permit or suffer any waste to be done upon the said demised premises or cut down, or permit to be cut down any trees on said land, excepting for use on the lands, and will at the end or expiration of the term hereby granted yield up unto the said Commissioners or their successors, all and singular the premises hereby demised, with all erections and buildings now on, or hereafter to be put upon the same in as good order and condition in all respects (reasonable wear and tear and damage by fire, and other inevitable casualties excepted)... [BoC Liber 38:32-33]

April 14, 1873

**Maa and Paahao; to Ahulau and F.S. Lyman
(Agreement to take Wild Cattle from Piihonua):**

Maa and Paahao convey to Ahulau and F.S. Lyman all of the wild cattle in the forest, in the Ahupuaa of Piihonua, by terms of five years, beginning April 15th, 1873, at a price of \$100.00 per annum... [BoC Liber 37:106-107]

Hilo, June 9, 1873

**R.A. Lyman, to J.O. Dominis, Agent of Crown Lands
(Regarding Boundaries of Humu'ula and Neighboring,
and Disposition of Pi'ihonua):**

...Enclosed, please find a list of lands as near as I can make it out at present. I have written to Mr. Wiltse and Hoapili asking them to send you correct lists of lands in their districts and to forward me copies as soon as possible. Please to send me surveys of as many of the lands as you can. If the surveys made by my brothers have been lost, I think that any brother could make out new copies of most of them. The survey of Humuula made by Wiltse cuts way into Waiakea as surveyed by Webster and cuts off several miles of Kapapala and Keauhou.

Kahue, Wiltse's *Kamaaina* swears that they did not go to a single point on the boundary of Humu'ula along in the woods and did not put any flags there but that he pointed out some above the woods where he guessed the points were and they sighted to them.

The *Piihonua* people are very much put out about the survey of *Humu'ula* as they supposed they had leased Piihonua by the ancient boundaries and the survey of Humu'ula cuts off a strip several miles wide clear across the head of the land and leaves no wild cattle to speak of for Piihonua. They say they cannot afford to pay \$100 a year for the woods of Piihonua now. [HSA, Crown Lands File]

On June 17th, 1873, Charles A. Castle conveyed to David H. Hitchcock and Edward G. Hitchcock, all of his interest in the forest lands of Pāpa'ikou (the Pua 'ākala section) (BoC Liber 40:72-73). In this way, the Hitchcock operations on the mountain lands, were further developed.

April 30, 1875

A.S. Spencer; to F. Spencer

Mortgage Deed

(Documenting the operation of the Sheep Station at Kalaieha):

This Indenture made this 30th day of April 1875 between Ashford Sydney Spencer of Waimea, District of South Kohala, Island of Hawaii, Hawaiian Islands, of the one part, and Francis Spencer of the same place of the other part, Witnesseth: That the said Ashford Sydney Spencer, for and in consideration of the sum of Two Thousand Five Hundred Dollars, to him paid by the said Francis Spencer... hath granted, bargained & sold... the undivided half interest which the said Ashford Sydney Spencer holds jointly with the said Francis Spencer in and to a flock of about five thousand sheep running at the *sheep station of Kalaieha* on the district of Hilo, Island of Hawaii aforesaid and marked with an ear mark thus _____ [blank]: together with the increase of all the lambs from said flock of sheep and the produce of the wool and hides of said flock of sheep, together with all their increase; also all the horses, mares and colts of the said Ashford Sydney Spencer, branded thus _____ [brand depicted] consisting of about one hundred head and being and running upon the Island of Hawaii aforesaid... [BoC Liber 44:131-133]

As recorded above, Parker's securing the lease on the Ka'ohē mountain lands by conveyance in 1871, facilitated changes in the Waimea Grazing and Agricultural Company's (WGAC) range of operation on the *'āina mauna*—removing the entire *ahupua'a* of Ka'ohē (most of Mauna Kea) from the interests of the WGAC. A further reduction of the WGAC's role on the *'āina mauna* transpired on March 6, 1876, when the Commissioners of Crown Lands entered into a new lease for the land of Humu'ula, between itself and James W. Gay. The conveyance of March 6th, 1876, granted all the land of Humu'ula by terms of 25 years, including the right to kill wild and unbranded cattle from the land; though reserved the trees on the land. Also of importance, all improvements ranging from buildings, walls, trails and roads were to become the property of the Crown upon termination of the lease Crown Lands Lease No. 75). The instrument reads:

March 6, 1876 (Lease No. 75)

Crown Lands Estate, to James W. Gay

(Disposition and terms of the 25 year Lease of Humu'ula):

...This Indenture made this Sixth day of March A.D. 1876 between the Commissioners of Crown Lands of the first part, and James W. Gay of Honolulu, in the Island of Oahu of the second part.

Witnesseth: That for and in consideration of the rents, covenants and agreements hereinafter reserved and contained on the part and behalf of the said party of the second part, his executors, administrators and assigns, to be paid kept and performed, they the said parties of the first part, by virtue of the authority in them vested by the act entitled "An Act to relieve the Royal Domain from encumbrances and to render the same

inalienable" approved January 3rd, 1865 lease demised and leased, and by these presents do demise and lease unto the said party of the second part, his executors administrators and assigns, all that tract and parcel of land situated in Island of Hawaii one of the Hawaiian Islands known as the land of **Humuula** the boundaries whereof are or will be more particularly described in the Certificate of the Commissioner of Boundaries for the said Island of Hawaii. Together with full and free liberty to kill all wild and unbranded cattle which may be found upon the said land. Except the timber trees, and all young trees fit and proper to be raised and preserved for timber trees, now growing or being, or which shall hereinafter grow, or be in and upon the above demised premises, or any part thereof together with free liberty of ingress, egress and regress, to and for the said parties of the first part and their successors in office. To Have and to Hold, all and singular, the said premises above mentioned described with the appurtenances (except as before) excepted unto the said party of the second part, his executors administrators and assigns, for and during the term of twenty five years to commence from the first day of April A.D. 1876 the said party of the second part, his executors administrators and assigns, yielding and paying therefore, from and immediately after the commencement of the said term, and during the term thereof unto the said parties of the first part and their successors in office the yearly sum of Eight-hundred Dollars by semi-annual payments, dues and above all taxes, charges and advancements to be levied or composed thereon by Legislative authority the first payment of the said rent to be made on the first day of October next ensuing the date last aforesaid...

...And also that he the said party of the second part, his executors, administrators and assigns shall not nor will at any time during the term hereby granted, do or commit, or permit or suffer to be done, any willful or voluntary wastes, spoil or destruction, in and upon the above demised premises or any part thereof, or cut-down, or permit to be cut down any trees now growing or being, or which shall hereinafter grow or be in and upon the above demised premises, or any part thereof, except for use on the said land: and will at the end or other sooner determination of the said term hereby granted, peaceably and quietly leave and up unto the Said parties of the first part, or their successors in office, all and singular the premises hereby demised, with all erections, buildings and improvements of whatever name or nature, now on or which may be hereafter put, set up, erected and placed upon the same, in as good order and condition in all respects (reasonable use wear and tear excepted) as the same are at present or may hereafter be put by the said party of the second part, his executors administrators and assigns. And also that he the said party of the second part, his executors or administrators, or any of them, shall, not nor will at any time during the continuance of the said term, let, set or assign over the said premises, or any part thereof, to any person or persons whomsoever, for any term or time whatsoever, without the license and consent of the said parties of the first part, or their successors in office, in writing, under their hands first had and obtained for such purpose... [BoC Liber 45:258-261]

October 10, 1877

Kauluwale and Paahao; to D.H. Hitchcock and E.D. Hitchcock

(Leasing Piihonua iuka to the Hitchcock brothers):

This indenture of lease made this 10th day of October A.D. 1877 by and between J. Kauluwale & Paahao of Hilo, Hawaii, parties of the first part, and D.H. Hitchcock and E.G. Hitchcock of the Hitchcock Bros. firm all of Hilo, Hawaii, parties of the second part, Witnesseth that the said parties of the first part for and in consideration of the covenants hereinafter mentioned do hereby give, grant and lease unto the said parties of the second part...all that tract of land known as **Piihonua iuka**, the same being that part of Piihonua commencing from its *mauka* line & running down into the bush for three miles, together with the wild unbranded cattle running on the whole land in the woods *makai* of said 3 miles, to have and to hold the same for the term of 13 years from the 1st day of January A.D. 1878; the said parties of the second part yielding and paying therefore the

yearly sum or rental of One hundred dollars (\$100.00)... [BoC Liber 52:334-335]

In 1882, James W. Gay mortgaged the livestock and resources he held on Humu'ula, to Paul Isenberg, of Hackfeld Company. The description of the conveyance describes the land use activities from sugar plantation on the lowlands, to some 10,000 sheep on the sheep station lands.

August 5, 1882

J.W. Gay to P. Isenberg

Indenture of Livestock and Resources of the Humuula Sheep Station:

...This Indenture made the 5th day of Aug. A.D. 1882 between Jas. W. Gay of Waimea on the Island of Hawaii, Sheep farmer of the first part and Paul Isenberg of Honolulu on the Island of Oahu, Merchant of the second part. Whereas the said James W. Gay is the owner of certain flock of sheep numbering in the whole Ten thousand or thereabouts and branded _____ [diagram] now depasturing upon the land called and known as **Humuula** in the District of Hilo on the said Island of Hawaii and is also entitled under a certain Agreement dated the 17th day of June, 1881, made between him the said James W. Gay on behalf of himself and his then partner Llewellyn Smith of the first part, and the Ookala Sugar Plantation Company of the second part to one tenth part or share or one sixteenth part or share respectively of the sugar grown, produced or manufactured by the said Company from and planted upon certain parts of the said land of **Humuula**. And whereas the said Paul Isenberg hath agreed to lend and advance to the said James W. Gay the sum of Fifteen thousand Dollars upon the security of the said sheep and share in the said Sugar Now this Indenture Witnesseth that in pursuance of the said Agreement and in consideration of the sum of Fifteen thousand Dollars lent by the said Paul Isenberg to the said James W. Gay, the receipt whereof is hereby acknowledged. He the said James W. Gay doth hereby grant, bargain, sell, assign, transfer and make over unto the said Paul Isenberg, his executors, administrators and assigns All those flocks of sheep numbering together Ten thousand or thereabouts and branded and now depasturing, running or being upon the said land of Humuula part or parts thereof. Together with all the natural increase of the said flocks and also all the wool now upon the said sheep or which during the continuance of this security may be produced and shown from the said sheep and their said increase. And also all that the past share or proportion of him the said James W. Gay of in and to the said Sugar to be grown, produced or manufactured from cane grown upon the said land pursuant to the said Agreement... [BoC Liber 76:322-324]

July 6th, 1883

C.H. Judd, for the Crown Commissioners; to Jas. W. Gay

(Seven year extension of the Lease of Humuula, to April 1, 1908):

Memorandum of Agreement entered into this sixth day of July 1883, Between the Commissioners of Crown Lands and the within named James W. Gay whereby it is agreed that the within Lease shall be and is extended for the term of Seven Years from the first day of April last... ..rental of \$1000.00 per annum... [BoC Liber 45:259]

September 10, 1884

Hitchcock & Co. (parties of the first part);

to D.H. & E.G. Hitchcock (parties of the second part)

(Lease of the forest section of Papaikou–Puakala):

...All the upper part of **Papaikou** land with all the buildings thereon, the wild cattle shooting privileges &c., also the cutting and use of such timber as may be necessary to the said parties of the second part for building and such like purposes, said upper land stretching from the boundary of **Humuula** (4) Four miles into the bush. To have and to hold the said above mentioned and described premises wit. the appurtenances thereto unto the said parties of the second part...from the 10th day of Sept. A.D. 1884 for and during and until the full end and term of Twenty-five (25) years thence next ensuing and fully to be complete and ended...

It is also here covenanted between the parties of the first part and the said parties of the second part that the said parties of the second part shall build two (2) cisterns for the purpose of holding water on said land; said cisterns to be composed of stone and cement and each cistern to have a capacity of One hundred (100) barrels. The parties of the first part are to have the right of pasturing (10) ten animals upon said land provided that if at any time the said parties of the second part shall go to the labor and expense of fencing off a pasture for animals, the parties of the first part shall contribute a just and fair sum towards such...

...The said parties of the second part shall guarantee to leave such building as were on said land on the 10th day of September 1884, in as good order and condition on the day of yielding up said premises. And that all improvements on said land such as houses, fences and likewise shall be appraised at a fair value and that the value of such appraisement shall be paid to the parties of the second part... [BoC Liber 94:158-160]

Through the proceeding conveyances, we find the laying out of the foundational ranch stations across Humu'ula, Pi'ihonua, Ka'ohe, and lands adjoining them in the forest zone.

On July 30th, 1883, following James W. Gays' securing an extension on his original lease of Humu'ula, he organized a Joint Stock Company. The agreement was witnessed by H.F. Glade (Hackfeld & Company), and Edward Preston (BoC Liber 93:152-153). On October 30, 1883, a Charter of Incorporation of the *Humuula Sheep Station Company* (H.S.S. Co.) was given to James W. Gay by Chas. T. Gulick, Minister of the Interior. Company capital was \$100,000.00, in one thousand shares sold at \$100.00 each. The stock was owned by James W. Gay (400 shares) Conrad Henke (400 shares), and Paul Isenberg of Hackfeld & Company (200 shares). On October 31, 1883, Gay then assigned his lease of Humu'ula to the Humu'ula Sheep Station, Company, represented by H. Hackfeld and Company (BoC Liber 86:79-80).

On June 1st, 1885, the H.S.S. Co. and H. Hackfeld and Company, entered into a mortgage agreement in the amount of \$30,000.00 covering all livestock, property, buildings, tools, wagons and other resources of the company (BoC Liber 97:151-153). The mortgage was paid in full on July 1st, 1886, and all interest in the operation returned to the Humuula Sheep Station Company (ibid.), with Hackfeld still representing the sheep station.

As the H.S.S. Co. was developing, and its management program settling in, ranching interests in the *ahupua'a* of Pi'ihonua were also being further developed. In 1887, John Timoteo Baker, husband of Chiefess Ululani, Governess of Hawai'i Island (later also the Governor of Hawai'i), secured a lease from the Commissioners of Crown Lands for the *ahupua'a* of Pi'ihonua, including Pu'u 'Ö'ō and the forest lands. While Baker had interests in ranching, he apparently did not actively pursue the activity on the Pi'ihonua mountain lands until the 1890s. Baker secured Lease No. 103, from the Commissioners of Crown Lands on March 21st, 1887, said lease recording:

March 21st, 1887
Curtis P. Laukea, Paul P. Kanoa,
Commissioners of Crown Lands; to John T. Baker
(Twenty year Lease of the Ahupuaa of Pi'ihonua):

Lease Number 103

This indenture made this 21st day of March A.D. 1887. Between the Commissioners of Crown Lands of the first part, and John T. Baker of the Second part. Witnesseth, that for and in consideration of the rents, covenants and agreements hereinafter reserved and contained, on the part and behalf of the said party of the second part, his executors, administrators and assigns, to be paid, kept and performed, they, the said parties of the first part, by virtue of the authority in them vested, by the Act entitled "An Act to Relieve the Royal Domain from Encumbrances, and to render the same Inalienable," approved

January 3d, 1865, have demised and leased, and by these presents do demise and lease, unto the said party of the second part, his executors, administrators and assigns, ALL that tract and parcel of lands, situated in Hilo, Island of Hawaii, one of the Hawaiian Islands, known and described as follows, to wit:

The Ahupuaa of Pi'ihonua, as by Survey described in Crown Land Book of Surveys, page 10. Area 57,220 Acres, more or less. Excepting such portions of said ahupuaa that are now under lease and excepting also all mineral or metallic mines and the timber trees, and all young trees fit and proper to be raised and preserved for timber trees, now growing or being, or which shall here after grow, or be in and upon the above demised premises, or any part thereof; together with free liberty of ingress, egress and regress, to and for the said parties of the first part, and their successors in office. To have and to hold, all and singular, the said premises above mentioned and described, with the appurtenances, (except as before excepted) unto the said party of the second part, his executors, administrators and assigns, for and during the term of Twenty Years, to commence from the Twenty-first day of March A.D. 1887 the said party of the second part his executors, administrators and assigns, yielding and paying therefore, from and immediately after the commencement of the said term, and during the continuance thereof, unto the said parties of the first part, and their successors in office, the annual rent of One Hundred and Fifty \$150. Dollars, over and above all taxes, charges and assessments to be levied or imposed thereon...

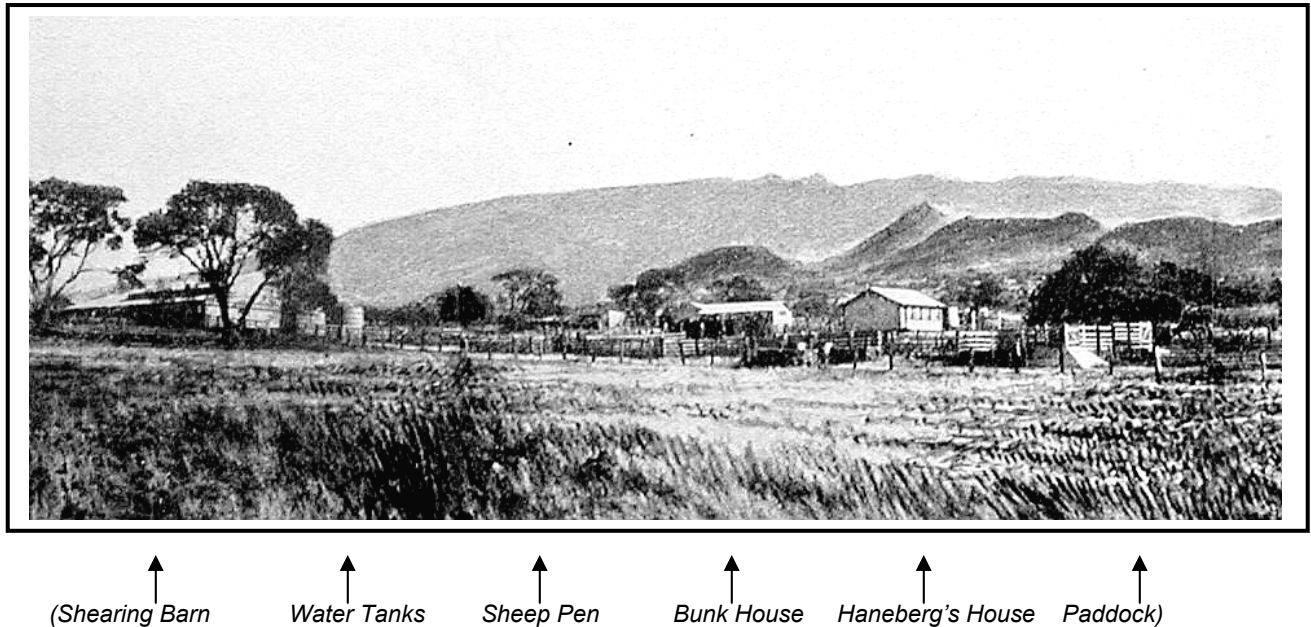
And also, that he the said party of the second part, his executors, administrators and assigns shall and will bear, pay and discharge, at his or their own expense, all costs and charges for fencing the whole or any part or parcel of the above demised premises, if such fencing should be so required by any law now in force, or that may be hereafter enacted by Legislative authority...

And also, that he the said party of the second part, his executors, administrators and assigns shall not, nor will at any time during the term hereby granted, do or commit, or permit or suffer to be done, any willful or voluntary waste, spoil or destruction, in and upon the above demised premises or any part thereof, or cut down, or permit to be cut down any trees now growing or being, or which shall hereafter grow or be in and upon the above demised premises, or any part thereof; and will, at the end or other sooner determination of the said term hereby granted, peaceably and quietly leave and yield up unto the said parties of the first part, or their successors in office, all and singular the premises hereby demised, with all erections, building and improvements of whatever name or nature, now on or which may be hereafter put, set up, erected and placed upon the same, in as good order and condition in all respects (reasonable use, wear and tear excepted) as the same are at present or may hereafter be put by the said party of the second part... [Lease No. 103 – State Land Division; and BoC Liber 106:126-129]

Interestingly, records of the H.S.S. Co., provide us with detailed notes describing it's development and management of facilities at Pu'u 'Ō'ō, as an out-station of the company's interests. Apparently the Haneberg/Hackfeld partners believed that the Humu'ula boundary took in the Pu'u 'Ō'ō facility, thus Baker was denied use of the upper reaches of Pi'ihonua. By May 1891, Haneberg and company and John T. Baker entered into a lawsuit, with Baker claiming his right to the interests in the Pu'u 'Ō'ō section of Pi'ihonua. Proceedings of the Boundary Commission followed and cleared up the matter by its decision of October 3, 1891 (see Boundary Commission records in this study); and the case was settled in court in 1896 (see documents below).

The Humuula Sheep Station Journal of August Haneberg

In 1887, James Gay removed himself from the business enterprise at Humu'ula, and August and Armin Haneberg assumed management responsibilities of the Humuula Sheep Station Company¹⁰. On November 5, 1889, an annual meeting of the Humuula Sheep Station, Company took place, and officers were elected, they were: August Haneberg, President; Armin Haneberg, Vice President; J.F. Hackfeld, Secretary and Treasurer (A.W. Carter, Humuula File; Parker Ranch Collection). With this action, the Haneberg brothers took over operation of the station, with its primary headquarters having been established in past years at Kalai'eha. *Figure 5*, depicts the Kalai'eha Station buildings in 1892, reproduced from a series of photos taken by E.D. Preston, who participated in the Mauna Kea Pendulum Survey cited earlier in this study.



**Figure 5. Kalaieha Sheep Station and Environs with Mauna Kea in Background
Portion of Photo Image by E.D. Preston (1892). (Copy Photo KPA-N076;
in collection of NOAA Central Library Silver Spring, Maryland)**

From the surviving Journal of August Haneberg (1890-1892), we learn much about the history and development of the sheep station, and use of lands in and adjoining the *ahupua'a* of Humu'ula. The following notes provide readers with an overview of the documentation recorded in the journal of August Haneberg, President and manager of the Humu'ula Sheep Station, Company (ca. 1887-1898). The entries include references to activities at the Humu'ula Sheep Station, Kalai'eha headquarters and out-stations at Pu'u 'O'o, Hopuwai, Laumai'a, Keanakolu, and Waiki'i (generally written Waiki).

Additionally, various paddocks are named, including the — Horse Paddock I, II, III; Wether Paddock, Paddock I, II, III; Sheep Paddock I (around the 'Oma'okoili Hills); Sheep Paddock II (Around Pu'u 'O'o); Sheep Paddock III (around Laumai'a); Sheering Paddock (adjoining the Kalai'eha Woolshed); Ram Paddock; Laumaia Paddock; Bullock Pen (Laumai'a Section); and the Aina Hou (usually written Aina Ho) horse range (see *Figure 3* for general layout of paddocks and trails). Several references are also made to Pua'akala (the Hitchcock's place at Pāpa'ikou) and Hanaipoe at Ka'ohe, (then under the charge of Samuel Parker).

Among the citations in the journal, are those documenting:

¹⁰ The date is based upon August Haneberg's testimony before the Commissioner of Boundaries in 1891 (see testimony in this study).

- Hunting wild cattle on the Pōhakuloa flats, Pu'u Kumu, Kalepeamoā, Laumaia, Hopuwai, as well as hunting wild dogs and pigs.
- Construction and maintenance of buildings and support facilities at Humu'ula, Pu'u 'Ō'ō, Hopuwai, Laumaia, Keanakolu, and Waiki'i-Auwaiakeakua. All of these facilities were worked as a part of the Humu'ula Sheep Company's operation.
- Work on stone walls and fences at various locations along the boundary of Humu'ula, and in interior paddocks.
- Maintenance and development of trails and roadways from Humu'ula to Keanakolu and down to 'Ō'ōkala; and from Humu'ula to Waiki'i and on to Waimea. The journal also records that access across Humu'ula was at times denied to neighboring business interests.
- Survey disputes and proceedings of the Boundary Commission.
- Development of "Japanese Camps" in the field for laborers, when work was being done on various wall, fencing, road and telephone line projects.
- Development of the telephone pole and line system—the first phone call between Hopuwai and Kalai'eha was made on June 9, 1892.
- In September 1890, efforts were underway to kill the introduced thistle; by January 1891, Haneberg documented that efforts were underway to control the "Australian weed" (gorse); and by October 1891 crews were also periodically pulling out *Joi* weed. (See also the 1892 article by W.D. Alexander, regarding these efforts.)
- Transportation of sheep to Kawaihae.
- Collection and curing of cow hides.
- Regular work on garden plantings at the Humu'ula station.
- Planting of potatoes at Keanakolu and Hopuwai.
- Planting of cypress and pine trees at Humu'ula and Pu'u 'Ō'ō.
- Hunting "geese" on the 'Āina Hou range.
- Daily notes on the weather conditions (though rainfall amounts and temperatures were not given).

Names of Individuals Associated with the Humu'ula Sheep Station Operation

Readers will note that Haneberg's spellings were at times inconsistent, and it appears that German language influenced his approach to phonetically spelling names of the Japanese, Chinese and Hawaiian employees. His spellings of Hawaiian place names were also inconsistent. Another problem in deciphering the journals is that Haneberg's penmanship was at times difficult to read. He was not wordy, and often abbreviated words, as well; most notably in the original texts, Japanese was often written "Jap."¹¹

Japanese Employees. Primary tasks included – construction of stone walls, fences, and carpentry; sheering and herding sheep; baling wool; trail and road work; garden work; setting of phone poles and lines; weeding thistle and gorse; and general facility maintenance:

Moto, Kawamoto, Yamakiki, Taniguchi, Kosina (Kosima), Nakajiro, Kuramoto, Hadano, Sato, Moriwaki, Shirimoto, Tamaru, Matsu, Iwahei, Kumahei, Hatsubare, Punikio, Masaki, Sakamoto, Takahana, Haruka, Kumezu, Tokuhara, Matsutaki, Yamauchi, Matsushigi, Hazu (Hatsu), Nakatani, and Matsudaki.

Chinese Employees. Primary tasks were as above, but also included weekly runs between Humu'ula, the out-stations, and Waimea with mail; the Kawaihae run with sheep, and for supplies; cooking; and hunting wild cattle:

¹¹ The term "Japanese" has been used throughout the following citations.

Ah Fu, Ah Sing (Ah Tsing), Ah Nui, Ah Sir, Ah Fu, Ah Kong, Ah Ano, Pakenia, Ah Waa, Ah Sur, Ah Hoi, Ah Si.

Other Employees and Personnel from Neighboring Ranches. Primary tasks included construction and maintenance of station facilities; tool work; supervision of labor crews; breaking horses; hunting wild cattle and pigs; herding sheep to Kawaihae; managing out-stations; overseeing the killing of thistles and gorse; and hunting and poisoning wild dogs:

Waltjen, Ellerbrock, Kramer (Crämer), J. Spohler, A. Brechthaupt, Portuguese Anton Fernandez, Burges, Plümer, D. McLane, Oelshlügen, J.M & Joe Horner; Maikai, Johnny Lindsey, Ernest Campbell, Bohrmann (Bormann), J. Muir, Frank Wilson, Kaiser, Jim Stevens, Deverill, Fitzsimmons, John Crowley, Palmer, John Donahoe, Johann Wülber, Wilhelm Munzel, Eben Low, Sam Parker, Kauwe, Schlemmer.

***Selected Entries from Haneberg's Journal—
Describing Land Use, Development of Station Features, and Daily Operations:***

Tuesday, July 1st 1890.

Spohler returned from Waimea, mule “John Bull” had bladders on all four legs; Ellerbrock puts out poison and shoots pigs; Moto weeds garden paths; 8 Japanese work on fence Sheep Padd III.

Heard dogs bark up *mauka* of Sheep Padd III. Caterpillars are doing immensely damage to pastures.

Weather dry and warm all day; Trade wind. [page 1]

Friday, July 11th 1890.

Returned to ***Kalaieha*** [from Hopuwai]. Rain kept up at ***Hopuwai*** all night and morning; all gulches along towards Kalaieha full of water roaring down; Japanese on fence Sheep Padd III stopped work all day; Water passed through openings in walls through gulches without injuring the same.

Trade wind; cold and shivering, fog, rain stopped towards evening. [page 3]

Monday, July 21st 1890.

Spohler and Burges pack wire to Japanese Camp fence Laumaia Sheep Padd III; 7 Japanese work on fence there; Kuramoto and 7 Japanese shear sheep; Moto bundles fleeces; Crämer cuts top pieces for Wool bags; Waltjen and Ellerbrock with sheep at Waimea.

Weather: Frost previous night, clear and warm from early morning till 5 o'clock; fog and mist; Trade wind. [page 6]

Wednesday, July 23rd 1890.

Spohler packs provisions for Japanese House Laumaia; Burges fixes Harnesses; Crämer takes fleeces up, and bundles them; 5 Japanese shear, 1 sick; discharged Cook Ah Nui, hire Ah Sir for \$20.00 a month; Ellerbrock and Waltjen returned from Waimea, having delivered 93 sheep to steamer at Kawaihae; Plümer with them; 7 Japanese fence Laumaia.

Weather: clear from early morning, afternoon some fog and mist; Trade. [page 6-7]

Tuesday, July 29th 1890.

Spohler and Burges leave with Backboard for Waimea; Ellerbrock to shoot cattle in Sheep Padd III, found fence broken in two places; cattle apparently chased in from above; succeeded in getting all cattle out; Waltjen paints wagon and fixes up tent; Crämer presses wool; Moto takes fleeces up; 6 Japanese shear; 7 fence Sheep P. III.

Weather: fog and mist almost all day; Trade. [page 8]

Sunday, August 10th 1890.

Ellerbrock returned with beef from **Laumaia**, heard shooting on **Ahuwela**; Kuramoto and Nakajiro out to fix fence Sheep Padd III.

Weather dry and hot all day, some fog towards evening; Trade wind. [page 11]

Wednesday, August 13th 1890.

Burges and Ellerbrock with 9 mules pack wire and staples to Fence Laumaia Sheep Padd III; Plümer from **Keanakolu** in, left with one mule and 3 horses for **Laumaia** to take charge of the place, \$15.00 wages, 10 cts. Pig, \$2.00 dog; Waltjen woolshed; Kramer wool press; Kuramoto, Ah Fu, Nakajiro and 4 Japanese shear sheep; Moto takes fleeces up.

Weather: clear and bright all day, very warm; Trade wind. [page 12]

Friday, September 5th 1890.

Reverend Baker left for **Waiki** [had arrived August 30th]; Waltjen fence sheep Padd I, afternoon sows grass seed; Kramer garden work and grass seed; Kuramoto, Taniguchi and Kosina and Shirimoto refix wall horse Padd III; Masaki and Yamakiki sick.

Weather: fog, rain and mist all day, clear at nightfall; Trade wind.

Ellerbrock for pigs, none killed. [page 19]

Saturday, September 6th 1890.

Ellerbrock left with mail for **Waimea**; Kramer garden work; Waltjen to kill pigs, did not see any; Kuramoto sick; other Japanese sent out to work did not find place and returned; Bohrmann and Ah Nui arrived; A. Brechthaupt and Portug. Anton left their camp and **Ahuwela**; caught Japanese Kosina and Yamakiki stealing chickens, discharged [subsequently reinstated]. Inspected fence Sheep Padd III from Bush to stone wall, found wire slack and broken; in one gulch the wall partly down and a dead Bull not being skinned outside the fence. Teams returned all right.

Weather clear and fine in the forenoon but fog and mist afternoon; Trade wind. [page 19-20]

Monday, September 8th 1890.

Spohler and McLane left with team for Kawaihae; Hadano left; Ellerbrock and Kramer drive sheep; Waltjen sows grass seed; 4 Japanese stone wall horse Padd III.

Weather bright and fine all day; Trade. [page 20]

Thursday, September 11th 1890.

Masaki helps to lay out horse Pen in Aina Ho; afterwards with Kuramoto, Taniguchi, Kosina and Shirimoto Wall Horse Padd III; Waltjen garden work; Teams Spohler and McLane returned all right; Yamakiki left for Maui.

Weather, fog morning early, clear afterwards and almost all day; fog night but dry; Trade.
[page 21]

Friday, September 12th 1890.

Waltjen fixed fence **Puu Oo**; Spohler and McLane leave with wool for *Kawaihae*; Horses "Banjo" and "Billy" sick, stiff in legs; 5 Japanese wall Horse Padd III.

Weather clear till 3 o'clock afternoon, fog and mist; very cold previous night; Trade wind.
[page 21]

Monday, September 15th 1890.

Kramer, Waltjen and Ellerbrock down to "**Halealoha**" to look after sheep, returned through *Ohia* bush and **Kipukahina**, did not find any sheep; brought in a flock on flat **Puu Oo house**; 2/3rd run away, found 36 wethers outside the fence near **Huikau**, did not get them in; 11 wethers in corner above Sheep Padd I & II, got them in, both flocks more those that run away on the 9th and 10th inst.; Moto washes; 5 Japanese stone wall Horse Padd III.

Weather fine and bright early morning till 3 o'clock, then fog and rain; Trade wind. [page 22]

Thursday, September 18th 1890.

Sent Ellerbrock below "**Halealoha**" to look after sheep, did not see any but a few goats; Waltjen returned with mail from Waimea; Kramer takes fleeces up and bundles them; Kuramoto, Taniguchi and Masaki shear sheep; Kosina garden work; Moto washes.

Weather fine all day and night; Trade. [page 23]

Monday, September 22nd 1890.

Kramer and Ellerbrock drive sheep, some sheep (12) on **Kalaieha Puu** run away; some sheep on slope at shepherd's hut put in horse Padd there; about 100 sheep down on flat **Puu Oo** scattered; Waltjen woolshed; 4 Japanese shear; Kosina garden work; Moto washes pack saddle blankets.

Weather fine all day, very warm; Trade wind. Rain on **Mauna Kea** above **Pohakuloa**; Trade, calm. [page 24]

Thursday, September 25th 1890.

Waltjen and Kramer kill thistles in Horse Padd II and Ram Padd; Ellerbrock fence Sheep Padd I; Japanese wall horse Padd III.

Weather bright and hot all day, frost previous night; Trade wind. [page 25]

Tuesday, September 30th 1890.

Left with Kramer and Ellerbrock to bring 105 sheep to **Waiki**, no trouble arrived there at ½ past 1; very much dust and heat; Waltjen finishes garden; 5 Japanese finish stone wall Horse Padd III.

Weather slight rain all night till noon, then dry, very cool. Trade wind. [page 26]

Wednesday, October 1st 1890.

Left with Waltjen for **Keanakolu** to take charge of the place; stopped over at **Hopuwai** and brought the balance of horses from Padd II into Padd I. Japanese start on Horse Pen in **Aina Ho**. Weather fair all day. [page 26]

Friday, October 3rd 1890.

Left for **Ookala** with Muir and returned the same day, conversed with Walker about **Humuula road on Ookala land**, Kaala, Kaiwicki [Kaiwiki] and other items, no definite arrangements could be made. Road through bush extremely bad as it had rained all night and all day. J.M. Horner called at **Keanakolu**. Bormann returned to **Hopuwai**.

Weather incessantly rain all day. [page 27]

Monday, October 6th 1890.

Japanese Shirimoto left for Olowalu, Maui; Ellerbrock shoots a heifer at Laumaia; 4 Japanese, stone pens **Aina Ho**; Kramer sorts out 107 sheep for Honolulu and changes wethers to upper part of Padd I.

Weather, fog and mist early morning, then dry, some rain afternoon, very calm by South wind evening, warm and soft. [page 28]

Saturday, October 18th 1890.

Masaki, Kosina and Taniguchi pens in **Aina Ho**; Kuramoto sick.

Weather slight fog and mist almost all day; Trade. [page 31]

Monday October 27th 1890.

Spohler fence Sheep Padd II, saw 5 dogs outside the fence at **Puu Kumu**; Kramer paints and bales wool; Japanese shear weathers for Honolulu; Moto washes;

Went to **Waiakeakua** [Auwaiakeakua], saw Ah Ano; Ernest Campbell not there.

Weather, Wind changed over night to southerly direction, kept dry all day; very calm evening, warm. [page 33]

Tuesday, October 28th 1890.

Spohler leaves out poison where saw dogs the previous day; Kramer paint Tank; 4 Japanese pens **Aina Ho**.

Weather, wind changing from South to Trade, and back frequently, a few drops of rain, very mild. [page 33]

Wednesday October 29th 1890.

Kramer finishes tank and then kills thistles; Spohler leaves with mail for Waimea; 4 Japanese, pens **Aina Ho**.

Left for **Keanakolu**, arrived there at 3 o'clock.

Weather fine and warm all day. [page 33]

Friday, October 31st 1890.

Kramer weeds thistles; Spohler looks for dead sheep in Padd I; 3 Japanese Pens **Aina Ho**; Masaki sick.

Weather fair by southerly wind, Thunder and lightening evening and afternoon. [page 34]

Tuesday, November 4th 1890.

All Japanese **Aina Ho** horse Pen, set gate posts.

Weather fine all day, no dew or fog previous night; Trade wind. [page 35]

Thursday, November 6th 1890.

Waltjen returned to **Keanakolu** then to take charge of **Laumaia** Spohler helps to do some blacksmith work,; Kramer garden work; 4 Japanese Horse Pen **Aina Ho**.

Weather fog almost all day; Trade wind, cool. [page 35]

Tuesday, November 11th 1890.

Spohler thence Sheep Padd II; Kramer garden work; 4 Japanese Horse Pen **Aina Ho**.

Weather; sharp frost previous night, clear during day till 3 o'clock; fog and mist; clear at 6 o'clock again; cold; Trade wind. [page 36]

Friday, November 21st 1890.

Spohler and Kramer left with 105 sheep, lost several (3 or 4) in bushes beyond **Pohakuloa**; 4 Japanese still Horse pens **Aina Ho**.

Weather; frost previous night, very hot during all day, south wind. [page 38]

Saturday, November 29th 1890.

Spohler leaves for Waimea with mail; Kramer sick; 4 Japanese start on Road to **Aina Ho**; fire on Mauna Loa.

Weather by changing wind bright and warm; very dry. [page 40]

Monday, December 1st 1890.

Spohler shoots a bull in upper part of Sheep Padd I, still one more there; Kramer takes old post up on fence Ram Padd I; Japanese half day on road into **Aina Ho**, then home to get ready for Waimea Road; Moto sundries.

Weather clear and bright all day, very warm; trade. [page 40]

Tuesday, December 2nd 1890.

Kramer packs provisions over to **Keanakolu**; Spohler brings on team; Japanese to halfway **Waiki** to cut bush down, where they camp and started work.

Weather clear and bright by Trade wind, very warm all day, dry. [page 41]

Thursday, December 4th 1890.

Kramer fixes fence upper part Sheep Pad I which was greatly damaged by wild cattle; 4 Japanese Road to **Waimea**, cutting down bushes.

Weather fog early morning and during night, clear and bright all day afterwards; Trade wind. [page 41]

Saturday, December 6th 1860.

Returned Japanese from their camp halfway Waiki, having finished fixing Road to Waimea; Kramer fixes fences around the house Paddocks.

Weather very cold early morning, bright and clear all day; very dry; strong Trade wind. [page 42]

Tuesday, December 9th 1890.

Japanese finished sheep then go to **Aina Ho** to work on road there; Kramer fixes fences and takes posts down.

Went **Waiki** to arrange with Ernest Campbell to bring sheep down.

Weather fog early, afternoon Thunderstorm with heavy rain for a short time, fog and mist evening again; Trade wind. [page 42]

Wednesday, December 10th 1890.

Kramer leaves with mail for **Waimea**; 4 Japanese start to make wall Sheep Padd III higher; met Waltjen there.

Weather fog and mist and slight rain almost all day, clearing up towards nightfall, calm and warm; Trade wind. [page 43]

Thursday, December 11th, 1890.

Kramer returns with mail from **Waimea**; Japanese moved over to **Puu Oo** house and work on stone wall Sheep Padd III.

Weather very hard frost previous night, then rain and fog all day; Trade wind. [page 43]

Monday, December 15th 1890.

Japanese make wall in Sheep Padd III higher; Moto ½ day weeds garden paths.

Weather fine all day, wind South during part of afternoon; Trade towards evening, fog. [page 44]

Wednesday, December 17th, 1890.

Went with Buckboard to **Waiki**, met Kramer and Ernest Campbell there returning from **Kawaihae**; delivered all sheep (107) to steamer; returned to **Kalaieha** ½ past 6 with Corrug. iron from old Grass house at **Waiki**; Japanese wall sheep Padd III.

Weather fog and mist all day, cold; Trade. [page 44]

Friday, December 19th 1890.

Returned from **Keanakolu**; met Kramer and Waltjen on **Ahuwela** with Mules to shoot cattle; Waltjen was bucked off the Mule "Kawaihae," left wrist swollen also eye and cheek; Japanese all stopped home, bad weather; Kuramoto sick and left **Puu Oo** house for **Kalaieha**.

Weather rain all day and previous night by constantly changing wind. [page 45]

Saturday, December 27th 1890.

Kramer fixes fence on **Puu Huluhulu**, then takes old posts out on Ram Paddock; 4 Japanese work on wall sheep Padd III; several outside, one sheep standing on top of wall trying to eat **Mamani** leaves; put several hundred sheep through small gate at Shepard's horse Padd from Padd III into Padd II; Horses Lakaloo, Billy and Freten went out of Horse Padd III into Sheep Padd I lower part; fence not damaged.

Weather cold, fog early morning, dry afterwards, evening fog again; Trade wind. [page 47]

Monday, December 30th 1890.

Sent Kramer with two Mules to **Laumaia** for beef, did not return; 4 Japanese finished wall Sheep Padd III and returned to Station.

Weather warm and bright all day; Trade wind. [page 47]

Wednesday, December 31st 1890.

Left for Waimea; Kramer with salt to **Laumaia** to pack hides back; Kosina and Taniguchi & Masaki finished sheep then make wall **Sheep Padd I at Omao Koili Hills** higher; Kuramoto sick. [page 48]

Monday, January 5th, 1891.

Taniguchi and Kosina enlarge wall at Omao Koili hills Sheep Padd I; Kramer to **Puu Oo** to kill out **Australian weed [gorse]**.

Left with 2 mules to bring poison to **Keanakolu** and a mule for Muir to ride over to **Kalaieha**. Arrived at **Keanakolu** at ½ past 2. Tasbure is getting very poor, Puakea mare of Aina Ho, Blossom, foal of white wild mare probably dead; ordered all horses to be put in Bullock pen; notified Muir to be over at **Kalaieha** to take teams down on Wednesday next week; Wilbur and Muir received bill of J. Sandh [?].

Met Mr. McKinley at **Hopuwai**, who proceeded to **Laumaia**. Left Mule Tow Tow at Keanakolu to pack over coal oil.

Met Waltjen on trail close to stone pen.

Weather dry, some fog about noon, soon disappeared, then dry again. [page 49]

Thursday, January 15th 1891.

Muir left with team for **Kawaihae** late; Kramer returned with beef and hides from **Laumaia**; Kosina and Taniguchi **Wall Sheep Padd I Omao Koili hills**; Horses "Springer" and "Coldwater" not to be found.

On a hill way into the **Paahoehoe** below **Omao Koili hills**, have been plenty of sheep as an abundance of manure and a dead sheep prove, also a lot of dog manure all along the **Paahoehoe**.

Weather bright but dry and clear till 5 o'clock, a few heavy showers and slight thunderstorm; Trade. [page 52]

Saturday, January 17th 1891.

Kosina and Taniguchi fix gulches between Ram and Horse Padd II; Kramer helps to bring Sheep from Padd III into Padd II, about 2-3000; Saw 7 wild Dogs above **Huikau** in the Clinkers.

Weather slight fog at about 9 o'clock, but beautiful all day afterwards; very calm and pleasant evening. Trade wind. [page 52-53]

Friday, January 23rd 1891.

Kramer and Waltjen helped to drive sheep from Laumaia Paddock into Puu Oo Paddock; about 2000 in; Bormann arrived from **Keanakolu**. Horse "Lakaloa" died. Japanese Tamura and *wahine* left.

Weather frost previous night, very warm during all day; calm; Trade wind. [page 54]

Monday, January 26th 1891.

Kosina and Taniguchi wall on **Sheep Padd I Omao Koili hills**.

Weather hot all day, some rain during afternoon and sunset; Trade. [page 55]

Friday, February 6th 1891.

Bormann helps to drive in Wethers and then picks out together with 105 for Honolulu, afterwards lays out poison; Kramer garden work; 2 Japanese stretch wire at fence Sheep Padd III **Laumaia**.

Weather fog and mist early morning, soon clear and kept dry all day; cool; Trade wind.

Vredenburg arrived from Waimea late. [page 57-58]

Sunday, February 8th 1891.

Hired Frank Wilson for \$15.00 and board as Shepard on **Puu Oo**. Vredenburg left for **Waimea**; made contract for 1 year with Bormann.

Weather clear during morning night and forenoon, some rain afternoon, dry towards nightfall and calm and warm. Trade. [page 58]

Friday, February 13th 1891.

Kramer and 2 Japanese garden work; Bormann packed provisions to hut, Puu Oo; Wilson takes charge of **Sheep Padd II (Puu Oo)**; afternoon Bormann fixes pack saddle and lays out poison.

Weather strong Kona, cool, clear and bright all day, calm towards evening. [page 59-60]

Friday, February 20th 1891.

Kramer returned from Keanakolu; Bormann to Laumaia for beef, did not return; 2 Japanese $\frac{3}{4}$ day garden work, afternoon unrooted **Australian weeds** [gorse] in Sheep Padd II and Horse Padd II.

Weather dry all day but cool; strong Kona.

Inspected **Aina Ho**, feed plenty lower part, abundance of water; saw but few horses, perhaps 50 in all. [page 61]

Saturday, February 21st 1891.

Kramer left with mail for **Waimea**; Kosina and Taniguchi started to fix gulches Sheep Padd II; discharge Frank Wilson on Puu Oo; stops overnight at Station to leave early in morning; Bormann returned with beef from **Laumaia** and 5 hides.

Dogs killed several sheep during previous night on fence not far off **Huikau**, many lambs of about 2 weeks age died on cold.

Weather still Kona, frost previous night, at nightfall wind subsiding; cool, fine weather. [page 62]

Monday, April 6th 1891.

Bormann helps on Stone house, then brings in horses; Taniguchi and Kosina Cook house; Ah Ano shepherd; Muir arrived from **Keanakolu** on Mule Bischoff.

Weather forenoon dry and bright, afternoon rain; Trade wind.

Saturday, April 18th 1891.

Bormann finished Laborer house II and then started on Veranda Roof Old Dwelling house; 3 Japanese sew grass seeds; 2 Japanese sick.

Weather, frost by South wind during previous night, but clear and bright during day by Trade wind. [page 73-74]

Monday, April 20th 1891.

Left with Buckboard for **Waimea**; Bormann carts; 3 Japanese started to work for raising and locking tanks; 2 Japanese sick; Matsu washes. [page 74]

Friday, May 1st 1891.

Ah Ano shepherd; Bormann helps to restock goods, then paints and afterwards sundr. jobs to get in horses and mules and water the mares; Japanese garden work; Matsu cleans Kitchen.

Weather fine and bright all day. Trade.

From Baldwin at **Puakala**, the half-caste "Kelsoni" in to get provisions. [page 77]

Sunday, May 3^d 1891.

D.H. Hitchcock and Chinaman arrived from **Halealoha** (Hilo), arranged with him about suit against J.T. Baker or Maa in Hilo.

Weather frost previous night, but very warm and fine during all day; _____ Trade sometimes south wind. [page 77]

Sunday, May 10th 1891.

Government Surveyors Baldwin and Thrum in from **Puakala**; Meyer returns with team all right from Kawaihae.

Weather frost previous night; bright till 3 o'clock, then fog, no mist; Trade. [page 79]

Monday, May 18th 1891.

Bormann paints old Dwelling house; Pakenia, Ernest and Ah Ano sort horses; afternoon brake in horse "Eran;" Ah Ano afternoon, shepherd, saw 3 wild dogs at **Kipuka ahina**; all Japanese garden work; Matsu wool bags.

Weather very warm and hot all day; some fog towards evening; Trade wind, very dry. [page 81-82]

Wednesday, May 20th 1891.

Sent Pakenia and Ah Ano in the bush below **Keanakolu** to look for Filly of Blossom, did not find it; went to **Umikoa**, met Albert Horner there, returned at 12 o'clock; Bormann sundr. jobs. Returned to **Hopuwai** and stopped there over night; Waltjen at **Keanakolu** to take his dog back, but without success.

Weather rain from 3 o'clock, clearing up during night by rising moon, very cold then. [page 82]

Friday, May 22nd 1891.

Ah Ano moves over to **Puu Oo hut**; Ernest and Pakenia ride colts; Bormann forenoon helps Blacksmith work, afternoon paints Kitchen and waters horses; Japanese garden work; Matsu Wool bags.

Weather previous night sharp frost, very hot and dry during day; fog and mist evening; trade. [page 82-83]

Tuesday, June 2nd 1891.

Ernest Campbell and Pakenia returned from Kawaihae, delivered 99 sheep to steamer; Japanese finished garden works and kill out *thistles* in Wether Padd; Matsu wool bags; Bormann paints wagons.

Weather: calm early morning; soon Kona again, very much dust; evening calm, hot and dry. [page 85]

Wednesday, June 3rd 1891.

Pakenia and Ernest to **Hopuwai**, to pack provisions and drive horses; Bormann to **Laumaia** to pack hides; 5 Japanese on Waimea Cart Road; Matsu wool bags; met surveyors Baldwin and Thrum near Laumaia Horse Pen with two natives; 2 Messrs. Castle and 2 natives at **Puakala**.

Weather fog and rain at Hopuwai; now at Kalaieha, very hot and dry there. [page 85-86]

Thursday, June 4th 1891.

Muir returned with Team from Kawaihae; Pakenia and Ernest Campbell shoot a cow for beef; Matsu wool bags; all Japanese start on Telephone line.

Weather fine and bright all day; towards evening fog and slight rain; wind changed to Trade. [page 86]

Friday, June 5th 1891.

Muir left for **Keanakolu**; Bormann, Ernest, Pakenia, Ah Ano and Waltjen drive sheep from Padd III into Padd II; Japanese continue on Telephone line; Matsu wool bags.

Weather: clear and warm forenoon, afternoon and during night rain; Trade wind.

Surveyors Baldwin and Thrum put up flags on several Hills around **Kalaieha**. [page 86]

Sunday, June 7th 1891.

Pakenia returned with mail from Waimea.

Thrum in returning from **Kalepe a Moa**.

Weather very dry all day; Waltjen in reporting 500 sheep left in Laumaia Padd. [page 87]

Monday, June 8th 1891.

McLane makes his wagon ready and bundles hides; Bormann paints Buckboard and helps McLane; Pakenia and Ernest Campbell bring all horses (breed stock) from Wether Padd into Sheep Padd II; 5 Japanese finished garden work and then start on Telephone line again; Matsu ½ day house work ½ day Wool bags; then kill cow caught the previous day; Two Messrs Castle from Honolulu past with a native for Waimea; Baldwin and staff moved from **Puu Oo** to beyond **Omao Koili hill**.

Weather hot and bright forenoon, afternoon fine shower of rain; fog evening; Trade wind. [page 87]

Tuesday, June 9th 1891.

McLane left with Team for Kawaihae; Bormann finishes Buckboard, then files gate hooks for **Aina Ho** pens; then started on other wagon to paint; Pakenia and Ernest ride colts; Matsu house work; 5 Japanese sew grass seeds in Shearing pen. The half white Kelsoni in from Surveyor Camp **Omao Koili** to get water and provisions.

Weather fine, during afternoon very threatening for rain, but only a little mist; Trade. [pages 87-88]

Thursday, June 11th 1891.

Pakenia and Ernest pack gates into **Aina Ho**, afternoon ride colts; and mules; Bormann paints wagon box; Japanese sow grass seeds; Matsu house work; Kamaka passed for **Puakala**.

Weather bright and warm all day; very dry; Trade wind. [page 88]

Monday, June 15th 1891.

Bormann fixes fences around the house shear pen, Team padd and Ram Padd; McLane and John Donahoe cart firewood; Ernest and Pakenia shoot a heifer and then drive sheep; Matsu sews clothes; 5 Japanese kill out **thistles** in different places. Baldwin and Thrum surveyed house lots etc. Ah Ano reported that one black mare (probably Mabel No. 58) fell into a Gulch below **Huikau** and died.

Weather very hot and dry all day; water in the tanks is getting low. [page 89]

Tuesday, June 16th 1891.

Waltjen in from Laumaia, returned, reported 2 bulls in Padd III, plenty cattle close outside the fence, no more cartridges; Baldwin and men moved from **Omao Koili to Hale Aloha**; commenced shearing sheep; Pakenia, Taniguchi, Hatsubare, Kosina and Iwahei shear sheep, Kumahei takes up fleece and bundles them; Bormann presses wool; Ernest Campbell fixes fences, shears a dead sheep Wether padd upper part; waters horses; McLane and John Donahoe cart for wood then load wagons with wool for Kawaihae. Matsu house work.

Weather hot and dry all day, towards nightfall dark and slight mist; Trade. [page 89-90]

Sunday, July 19th 1891.

Arranged with Muir and McKinley to catch cattle on **Humuula** for \$3.00 a head; they to retain hides and all, the use of the butcher shop.

Muir permitted to build a fence above **Keanakolu** close to stone house; to turn in his stock all revocable at any time; met Surveyor Baldwin at Kaelewai where he pointed out boundary points of **Humuula** to **Piihonua** and **Waiakea**; Ernest returned with mail; sold Muir two Donkeys in horse padd for \$7½ a piece and 8 more when in; McKinley leaves for Waimea; Muir stops over night.

Weather bright all day, no rain or fog; Trade. [page 100-101]

Wednesday, August 12th 1891.

Left with Bormann, Ernest and Pakenia for **Keanakolu**; met below **Hukapea** [?] R. Hitchcock with 3 Natives chasing for lost Mules; gave Hitchcock notice that he was not allowed to go on **Humuula** land anymore, offered him to take his lease of part of **Papaikou** and house and release him from building fence on boundary line; arrived at **Hopuwai** and met J.M. Horner with Native Maikai from **Umikoa**, left Pakenia at Hopuwai and proceeded with Horner and other men to Keanakolu; settled with Horner about new piece of land between Spncr's. lot and **Humuula** above **Kaala**, per written Memorandum. Gave the run of the slaughter house to Muir.

Japanese all work on the Telephone line; Matsu house work.

Weather bright and fine all day and night. [page 108]

Sunday, August 16th 1891.

Native from **Puakala** in with letters from laukea in Hilo to fetch provisions to **Hale Aloha** for the surveyor Thrum.

Weather clear and bright early morning, but very foggy afternoon, mist; Trade wind. [page 109]

Monday, August 17th 1891.

Sent Ernest Campbell to Puakala with Mule for Hitchcock and letter; Pakenia rides colts; Bormann fixes fences sheep Padd I; Kumahei sick; Matsu did not work; other Japanese finished telephone line except setting 3 posts to **Puu Oo**, then started on making wall in Sheep Padd III higher.

Weather fog forenoon and afternoon late; Trade. [page 110]

Thursday, August 21st 1891.

Met Rev. Baker at breakfast; met Colonel laukea and after arrival of Steamer "Kinau" Surveyors Baldwin and Brown; an appointment was made to 1 o'clock afternoon. Met at the Survey office where the boundary commissioner Lyman was present, went over to Courthouse where evidence was taken by Lyman from Hoakiamoa, Amina and Armin Haneberg; closed at 4 o'clock; settled with Tax assessor Austin. [page 110-111 (see Boundary Commission Testimonies in this study).]

Wednesday, August 26th 1891.

Bormann, Pakenia, & Ernest bring in all wethers and Rams; Japanese sort wethers and rams, weed garden paths, then get ready to move over to camp below **Kole**; Vredenburg in again.

Weather frost previous night but very fine all day; Trade. [page 112]

Monday, August 31st 1891.

Ernest and Pakenia tried to get in two strange horses that jumped into Padd I upper part; succeeded to get in one, with Parker brand, the other, a dark brown jumped out over the fence; afternoon boys ride colt; Bormann fixes fences and kills pigs; Japanese all on stone wall sheep Padd II; Matsu house and garden work.

Weather sometimes southerly wind, very threatening for rain during forenoon, rain afternoon, very warm. [page 113]

Friday, September 4th 1891.

Pakenia, Ernest and Bormann take one half of the sheep in Padd III and put them into Padd II; afternoon ride colts; Bormann fixes fence, and tent; Japanese fix stone wall sheep Padd III which was damaged by last nights rain on 3 places.

Weather fine early morning, then fog and mist, evening southerly wind and very fine. [page 114]

Saturday, September 12th 1891.

Pakenia and Ernest ride colts; Bormann digs small pen under Tree for planting Cypressess; Matsu washed; Japanese Stone wall; Waltjen in and stopped over night; Ah Ano brings a hide.

Weather fog and mist all day; Trade, cool. [page 116]

Wednesday, September 16th 1891.

Pakenia and Ernest leave early and catch a heifer on **Puu Kumu**; afterwards ride colts; Matsu garden work; all Japanese on wall sheep Padd III; fell in on two places after the rain.

Weather fog and mist almost all day, slight thunder storms; Wind Trade. [page 117]

Thursday, September 17th 1891.

Ernest and Pakenia help to put in gates in **Aina Hou** Horse Pens; afternoon Pakenia works on Lasso; Ernest stops home; Bormann fixes harnesses; Matsu house work, stopped home afternoon; Japanese Wall sheep Padd III.

Weather mist early morning, noon rain keeping up all day, thunder storm; Trade wind.

Saw Horse "Fred" in **Aina Ho**. [page 118]

Wednesday, September 23rd 1891.

Bormann mends meat bags, cuts flag poles, same works in garden; Ernest and Pakenia catch a cow on **Kaohe** for meat, then ride colts; all Japanese on wall sheep Padd III; Matsu sick.

Weather mist all day, ____; Trade. [page 119]

Saturday, September 26th 1891.

Bormann weeds garden and helps Waltjen to plant trees; Waltjen in from **Laumaia** to plant Cypress trees; Ernest and Pakenia ride colts; Matsu sick; 6 Japanese on wall sheep Padd III.

Weather slight fog and mist all day; Trade. [page 120]

Sunday, September 27th 1891.

Kramer in from Hopuwai, stopped over night; Waltjen left for **Laumaia**; Kumahei reported wall above shepherd's hut on **Oo** fell down.

Weather dry all day; clouds; rain towards evening; Trade wind. [page 120]

Friday, October 2nd 1891.

Pakenia breaks in horses; Bormann revises fences and fixes halter; Ernest returns with mail from Waimea; teamster Andrew Carlson arrived with him; hired the latter for teamster, wages to be settled after satisfactory work; 6 Japanese finished wall sheep Padd III; then started on gulches and crossings; Matsu cleans garden of weed.

Weather rain and wind all day though fine a few hours early morning; Trade. [page 121-122]

Monday, October 5th 1891.

Pakenia and Ernest pack provisions to Japanese and change their camp close to Puu Huluhulu; Bormann revises fences; 6 Japanese work on crossings and wall close to Puu Huluhulu; Matsu garden and house work. Andrew Carlson leaves with Team.

Weather very fine all day; Trade. [page 122]

Wednesday, October 7th 1891.

Bormann paints new Dwelling house; Ernest and Pakenia break in horses; Matsu cleans garden paths; 6 Japanese on fence sheep Padd III fixing crossings and walls.

Weather fine till 2 o'clock, when fog and slightly mist; frost previous night; Trade. [page 123]

Monday, October 12th 1891.

Ah Ano back to **Puu Oo**; Bormann paints and cleans the yards; Spohler fixes fences; Pakenia breaks horses in; Matsu washes; 6 Japanese crossings Sheep Padd III; one wall damaged in the gulch by yesterday's rain.

Weather fine till 11 o'clock then mist and clouds, cool; Trade wind. [page 124]

Thursday, October 15th 1891.

Proceeded with Pakenia to **Laupahoehoe** where at ½ past 11 arrived; met laukea there and arranged with him to make appeal from Decision of boundary Commissioner at Hilo concerning boundary between **Kaohe** and **Humuula** on its northern end; each party (Crown and H.S.S. Co.) to bear one half of the expenses, to be paid by the Company and to be deducted from the next rent; stopped over with McKinley.

Weather raining heavy all day without almost any interruption. [page 125]

Friday, October 16th 1891.

Returned from **Laupahoehoe** with Pakenia to Hopuwai, inspected horses, all there (49) and in good order. When arriving at 11 o'clock at **Keanakolu** met Harry Johnson with Pack animals and Native inquiring to go to **Maulua**. Refused them to pass over **Humuula** land but allowed them to proceed after they having acknowledged not to have any right to pass over **Humuula** land.

Weather fine till 2 o'clock when rain and fog again. [page 125-126]

Monday, October 26th 1891.

Bormann paints new Dwelling house and cuts posts to tie horses to; Pakenia breaks in colts; Matsu house work; 6 Japanese fence sheep Padd III; again part of wall above **Puu Oo** house fell in.

Weather fine till 3 o'clock when a light thunder and heavy rain lasting till 5 o'clock; warm; Trade wind. [page 128]

Wednesday, October 28th 1891.

Spohler leaves with team for **Kawaihae**; Bormann and Pakenia went to **Pohakuloa** to catch cattle for beef, but failed, then went above **Puu Kumu** and caught a heifer there; Matsu house and garden work; 6 Japanese crossings Sheep Padd III.

Weather fine till 11 o'clock, then slight mist and fog; Trade wind; warm. [page 129]

Monday, November 2nd 1891.

Bormann and Pakenia with 9 Mules change Japanese to camp on Road to **Hopuwai** above **Puakala** and as there was much delay returned at 7 o'clock, two mules left outside; 6 Japanese started to make road towards Laumaia; Matsu some house and garden work; Spohler leaves with team for Kawaihae with hides and to bring up merchandise.

Weather Sharp frost previous night, southerly wind, very warm all day, fog in the evening, soon clear again by Trade. [page 130]

Friday, November 13th 1891.

Bormann paints house; Pakenia rides colts; went with laukea to the boundary line between **Piihonua** and **Humuula**, also to the **Waiakea** points to settle about a new line to be established. Afternoon Bormann with laukea to shoot pigs; 6 Japanese on trail to **Hopuwai**; Matsu garden work.

Weather fine all day, South wind. [page 133]

Monday, November 16th 1891.

Bormann piles corrug. iron and paints on New Dwelling house; Spohler leaves with team for Kawaihae; Pakenia not returned yet; 6 Japanese finished trail to **Laumaia** gate and started on **Nukupahu** gulch towards **Hopuwai**; Matsu house and garden work.

Weather bright all day; sharp frost previous night; Trade wind. [page 134]

Monday, November 30th 1891.

Spohler oils and cleans harnesses; Bormann finishes tanks on wool shed and then helps to oil harnesses; Ah Ano shepherd; Sakamoto sick; 5 Japanese started to set posts for Telephone line between **Laumaia** and **Hopuwai**.

Weather very warm and windy till 2 o'clock, then mist and light rain and very cold; Trade wind. [page 137]

Tuesday, December 8th 1891.

Munzel makes Bain Wagon; Matsu washes; Ah Ano shepherd; 5 Japanese on Telephone line finished **Nukupahu** gulch to **Laumaia**; did not work.

Weather heavy rain previous night. [page 139]

Wednesday, December 9th 1891.

Munzel makes a rake for grind stone and fixes the mule cart; Matsu ironing; 6 Japanese finished Telephone line as far as **Laumaia**, started then on camp (**Nukupahu gulch**) in the direction towards **Hopuwai**; Ah Ano shepherd.

Weather rain almost all day, Trade; not very cold. [page 140]

Thursday, December 17th 1891.

Ah Ano shepherd; Munzel helps to fix Bain wagon; Matsu house and garden work; 6 Japanese on Telephone line to **Hopuwai**; finished as far as **Waiahehu** Gulch.

Weather sharp frost previous night, very fine and warm during day; Trade wind. [page 142]

Friday, December 18th 1891.

Ah Ano shepherd; Munzel digs garden; Matsu house and garden work; 6 Japanese start on road from **Nukupahu** gulch to **Laumaia** gate again, which was not fixed well enough before.

Weather commenced to rain heavily at noon and kept up with fog and mist all afternoon; cold and disagreeable towards evening; Trade.

Met Kramer at **Waiahehu Gulch**, reported that he found Lubras Filly "Moto" dead. [page 142]

Friday, December 25th 1891.

Ah Ano leaves for **Laumaia**; Bormann arrives from there at **Kalaieha**; Munzel thrashes peas; Matsu finishes wash and works on Mule blankets again; 3 Japanese work ½ day on holes in Wall sheep Padd III yet; afterwards all 5 on trail to **Hopuwai**; ordered Sakamoto home to herd sheep afterwards.

Weather fine till sunset when fog again; Trade. [page 144]

Monday, December 28th 1891.

Waltjen takes charge of Laumaia again; Ah Ano returns to station; Sakamoto herds Wethers, got them in pen without trouble; Munzel thrashes peas; Matsu finishes wash; 5 Japanese finish trail to **Laumaia** gate and commenced on **Nukupahu gulch** to overhaul a short piece there.

Weather fog early morning, but most of the day dry and bright; fog evening again; Trade wind. [page 145]

Thursday, January 21st 1892.

Spohler returned with team alright; asked Paul Jarrett, Manager of Sam Parker, if he had any objection against rebuilding a shanty at **Hanaipoi** and fencing a lot like **Waikii**, to which he consented; Sakamoto herds wethers; Ah Ano shepherd Padd II; Bormann fixes fences Padd I; Munzel and Matsu garden work; 5 Japanese on trail to **Hopuwai**; Iwahei sick, left at noon; previous day Kosina sick, other men worked half a day on account of bad weather; met Kramer; met Waltjen.

Weather beautiful all day, grass apparently grown considerably within a few days; Trade; calm and warm evening. [page 152]

Saturday, January 23rd 1892.

Ah Ano leaves with mail for Waimea; Bormann sick; Munzel finished garden, then filed bolts for Wool shed addition; 5 Japanese work on trail to Hopuwai; Matsu house and garden work; Deputy Policeman Kauwe and Native Kawae arrived from Waimea to look after 7 prisoners who escaped from the Volcano Road.

Weather warm and bright all day; Trade wind. [page 153]

Thursday, January 28th 1892.

John Crowley covers in Veranda of Wool shed; Fitzsimmons makes some Implements; Matsu works in garden; 5 Japanese on trail to Hopuwai.

Weather fine all day, sometimes fog but no mist; Trade. [page 154]

Monday, February 1st 1892.

Fitzsimmons fixes bedstead and shovels then on Woolshed; Crowley woolshed; Iwahei and Taniguchi make posts to addition of Wool shed; Hatsubare, Kumahei and Kosina clean weeds and *Joi* out; Kosina afternoon stops home; Sakamoto herds wethers; Ah Ano fixes fences in the small pens around the house; Spohler leaves with team for **Kawaihae**; Bormann sick; Matsu washes half a day.

Weather heavy rain almost all day without interruption; Trade. [page 155]

Wednesday, February 3, 1892.

Ah Ano leaves with mail for Waimea; Bormann presses wool and fixes harnesses; Fitzsimmons makes book shelve; Jack, chairs and table; Kumahei helps to press wool, afternoon takes fleeces up and bundles them; Taniguchi and Iwahei make posts to

addition of wool shed and gate posts; afternoon shear sheep; Hatsubare cleans out weeds then shears sheep; Sakamoto forenoon stops home afternoon shears sheep; Kosina sick; Matsu house work.

Weather without change, heavy rain day and night almost without interruption; Trade wind. [page 156]

Friday, February 5th 1892.

Sakamoto herds wethers; Ah Ano packs provisions over to **Hopuwai**; Hatsubare sick; Kosina and Kumahei make holes for posts to Woolshed addition; Taniguchi and Iwahei cut posts for enlarging fence on Woolshed; Bormann Saddle bag; Spohler leaves with team for Kawaihae; Matsu house work and makes pillows; Fitzsimmons fire box; Jack, tables.

Weather fine till 10 o'clock when rain again, thunder storm and heavy rains afterwards; Trade wind. [page 157]

Tuesday, February 9th 1892.

Fitzsimmons finishes wash trough, then started on Wool shed addition; Crowly finished long table, then helped on Wash trough and started on Wool shed addition too; Sakamoto herds wethers; Taniguchi and Iwahei make three gate posts then together with the other Japanese carried firewood; Spohler returns with team and new Japanese Kumezu with him; Palmer arrived from **Waiki**; Kumahei sick; Matsu washes.

Weather fog early morning, soon clear and fair all day; Trade wind.

Bormann helps to make shoes for lamp poles and drills holes for Telephone connection. [page 158]

Friday, February 12th 1892.

Bormann helps to cut pipes for water tank to New house; then finishes tank painted previous day; Fitzsimmons and John Crowly addition to wool shed; Sakamoto herds wethers; Iwahei sick; other Japanese set posts to wool shed addition; Ah Ano shepherd.

Weather fine all day; Trade wind. [page 159]

Saturday, February 13th 1892.

Bormann paints box for fire wood; wash trough, finishes Tank and helps to put water pipes on new dwelling house; then cuts pipes to over flow on Tank; Spohler returned with Team, animals are looking down; Fitzsimmons and Crowly erect frame work for Wool shed addition; Japanese finish setting posts; Taniguchi, Hatsubare and Kumezu make paving around the woolshed; Kumahei fills up holes on the big water tanks; Kosina and Iwahei start on enlarging pen behind the wool shed; Sakamoto herds wethers; Ah Ano leaves with mail for Waimea; Matsu garden work.

Weather heavy frost during night, but prevailing South wind very warm and pleasant all day. [page 159-160]

Monday, February 15th 1892.

Spohler oils harnesses; Bormann cuts pipes to overflows, paints brackets for wash trough; Hatsubare and Taniguchi pave around the wool shed addition; Kumahei finishes hallow on big tanks, then helps Iwahei, Kosina and Kumezu to set posts for new Pen around wool shed; Sakamoto herds wethers; Matsu cleans garden lawns; Fitzsimmons and John Crowly finish putting up frame work of wool shed addition; Ah Ano shepherd.

Weather Southerly wind very dry but not cold. At 7 o'clock Eben P. Low arrived with Robert Stevens from Mana. [page 160-161]

Tuesday, February 16th 1892.

Eben Low and Native boy left for Waimea; arranged with Low about catching cattle, he expected to be over on Land between **Hopuwai** and **Laumaia** after having given notice to catch wild cattle; furnish everything himself; put the cattle into the Laumaia paddock herding them there for about a week and then take them over to his place; to pay \$3.00 a head except old bulls, he will kill and deliver hides; Spohler oils pack saddles; then makes wagon ready; Bormann fixes harnesses and helps Spohler; Ah Ano shepherd; Sakamoto, Taniguchi and Hatsubare finished paving around the wool shed; other Japanese set post to additional paddock; Matsu work in garden; Fitzsimmons and John Crowley on wool sheep addition; Muir and McKinley arrived late.

Weather by changing wind, calm but very agreeable. [page 161]

Monday, February 22nd 1892.

All Japanese over to **Puu Oo** house, set posts to tank there, fix gate into horse Padd; and fix part of trail; Bormann paints New Dwelling house; Spohler revises fences; Matsu house and garden work; Fitzsimmons and Crowley hang doors in Wool shed Addition. Waltjen met at **Puu Oo**, part of wall caved in, had 6 wild dogs in Paddock, which killed quite a number of sheep.

Weather fine and warm all day; wind shifting frequently from Trade to South. [page 163-164]

Tuesday, February 23 1892.

Bormann paints New Dwelling house; Matsu garden work; Spohler helps to make door locks and to shoe horse "Dick;" then makes wagon ready for lumber; Fitzsimmons and John Crowley put battens on Woolshed; all Japanese bring manure on the garden land.

Weather fine all day; very warm, no fog, slight Trade.

Ah Ano brings paper to **Laumaia** and lays out poison. [page 164]

Thursday, February 25th 1892.

Ah Ano returned with mail from Waimea; China man Ah Hoi arrived; all Japanese work in garden; Fitzsimmons and John Crowley put up gutters on Wool shed addition; Waltjen and Bormann left for **Laumaia**, the latter to stay there for several days to help Waltjen on account of the wild dogs.

Weather very dry and warm all day. Trade wind. [page 165]

Friday, February 26th 1892.

Ah Ano shepherd; Fitzsimmons and John Crowley finished Wool shed Addition; Fitz then repairs _____, John sets gate in Alley way; all Japanese prepare garden for planting Pine trees; Matsu stops home; hired Ah Hoi to make Lassoos, one Lasso for one hide.

Weather fog and mist all day, towards evening clear for ½ an hour, then fog again; Trade wind. [page 165]

Tuesday, March 1st 1892.

Sakamoto leaves on foot; all other Japanese and *Wahine* work in garden yet; Bormann returned from Laumaia reporting that no more trouble of wild dogs; Wülbers Johann arrived to inquire whether to shoot trespassers of **Humuula**; Fitzsimmons and John

Crowly makes cover for pipe on New Dwelling house and then start to make bedsteads; Ah Ano shepherd.

Weather fog and mist by heavy trade all day. [page 166]

Wednesday, March 2nd 1892.

Wülbers returned, hired him to take charge of Keanakolu for \$10.00 a month and board and the privilege of planting potatoes in the garden; Bormann paints on floor in New house; Fitzsimmons and John Crowley make bedsteads; Iwahei sore wrist, stops home; Matsu home bad weather; Ah Ano shepherd; All Japanese plant trees in garden.

Weather rain previous night and almost all day; evening calm and clear; Trade. [page 166-167]

Saturday, March 5th 1892.

Bormann finished Office floor; Ah Ano leaves with mail for Waimea; all Japanese fix trail to **Puu Oo**; Matsu washes; Fitzsimmons and John Crowley make bedsteads; Palmer and companion arrived with 3 horses from Waimea.

Weather bright and warm all day; Trade wind. [page 167-168]

Monday, March 28th 1892.

Fitzsimmons and John Crowley and Bormann over to **Puu Oo** house putting up tank there and fixing house; finished; Spohler leaves with team to fetch up lumber; Ah Ano looks after horses; 5 Japanese on trail to Hopuwai; Matsu washes.

Weather dry during previous night and all day though dull but very mild and calm; Trade. [page 174]

Tuesday, March 29th 1892.

Fitzsimmons and John Crowley make short ends to spout for Laumaia, New Spout on laborer House I, fix roof on Laborer house II and work on buckles and body; Bormann paints Sitting Room New Dwelling house; 5 Japanese come over from **Hopuwai** to **Laumaia** and set posts there for Tank, then go over to **Kalaieha**. Ah Ano shepherd; Matsu sick.

Weather dry till 3 o'clock when fog and mist; Trade wind. [page 174-175]

Thursday, March 31st 1892.

Ah Ano shepherd; Bormann helps on forge to make clamps for buckboard; then bundles hides, packs lumber gets in mules and helps to make wagon ready; Spohler returned with lumber from Kawaihae, horse "Willy" in Waiki sick; 4 Japanese finished setting posts for Cook house; then leave for **Laumaia** to fix the old stone pen there; Fitzsimmons and Jack put up brackets for lumber in Wool shed addition then make frame for a light to cook house and smoke box for chimney.

Weather fog, rain and mist all day; Trade wind. [page 175-176]

Saturday, April 2nd 1892.

Ah Ano herds wethers; Bormann returns from Keanakolu; Fitzsimmons and John Crowley Cook house; 4 Japanese on stone pen and new gate at **Laumaia**. Matsu and Kumahei, house. Weather fine all day; Trade wind. [page 176]

Monday, April 4th 1892.

Ah Ano herds wethers; Bormann packs lumber for Tank to **Laumaia**; Fitz and Jack finish cook house and put up two platforms in Wool shed; 4 Japanese on Road to **Hopuwai**.

Weather bright and warm all day; Trade wind. [page 176]

Tuesday, April 5th 1892.

Ah Ano herds wethers; Bormann paints and whitewashes Cook house; Spohler returned with team alright; Fitzsimmons and John Crowley leave for Laumaia to put up Tank and spouts and overhaul house; 4 Japanese from Hopuwai to Laumaia to put up gate.

Weather fine and warm all day; Trade wind. [page 176]

Thursday, April 7th 1892.

Ah Ano returns with mail from Waimea, mule looked bad; Bormann herds wethers; Spohler fixes fences; Fitzsimmons and John Crowley finished at Laumaia and left for Hopuwai to fix roof of house and sundry small other jobs; 4 Japanese work on Road to Hopuwai.

Weather extremely fine all day; Trade. [page 177]

Monday, April 11th 1892.

Fitzsimmons and John Crowley make a back house for Waimea; Spohler fixes fences and looks after horses, saw those wethers that ran away on Saturday above the **Puu Oo** fence at **Huikau**; Kumahei cleans garden paths; 4 Japanese on road to Hopuwai; 2 Policemen left for **Keanakolu**, met 1 Policeman not far off **Hopuwai** towards **Laumaia**, returned to **Keanakolu**.

Weather fog and rain over at Laumaia; none at Kalaieha where South wind. [page 178]

Tuesday, April 12th 1892.

Eben P. Low and his men arrived at Pohakuloa to catch cattle; Joe brought over several horses for water and pasturage; Spohler looks after sheep and brings in colt "Drummond" which used to run before with flock at **Laumaia** and is probably kicked off; Kumahei cleans garden and helps on sundry jobs; Fitz and Jack finish back house and commence to make several wagon pieces; 4 Japanese finish road to Hopuwai and start on Telephone line through the Paddocks I and II.

Weather bright and hot all day; fog evening and very slight mist; Trade.

Late in the evening several of Low's men with 30 horses and Tame cattle arrived from Pohakuloa. [page 178-179]

Wednesday, April 13th 1892.

Bormann and Ah Ano return from **Kawaihae**, delivered 141 sheep to steamer, 13 lost; 2 of them put into the Paddocks again at **Kalaieha**; Spohler helps to bring sheep from upper Paddock into the lower one; then fixes fences; Kumahei cleans garden paths; 4 Japanese on Telephone line; Fitzsimmons and Jack made several wagon pieces ready.

Eben P. Low and John Low arrived from Pohakuloa with team and wild cattle caught there, all stopped over at Kalaieha, in the evening go mauka to catch cattle at Puu Kumu; delivered to Low 3 horses bought sometime ago.

Weather is extremely hot and dry by South wind; evening calm and very pleasant.

Low and men went in the evening late again but had no success. [page 179-180]

Thursday, April 14th 1892.

Low and men left in the early morning for **Laumaia**, went *mauka* above **Kalepe o Moa** but saw only a few heads of cattle, lost one on the road at **Huikau**; arranged with Low that of all cattle he will lose during his stay at Laumaia he is to deliver the hide at the vat there, but shall not pay for the cattle as stated the stipulated price of \$3.00; Fitzsimmons and John Crowley sundry small jobs and finished their work; Ah Ano shepherd; Spohler over to **Waiki** to burn off the dry grass in that paddock there; Bormann paints back house for Waimea and windows in new cook house; 4 Japanese on Telephone line, finished 8 posts; Kumahei cleans garden paths.

Weather extremely warm all day; thunder afternoon but no rain; Trade in the evening. Brought in 5 horses from Puu Oo and "Box" with Lightfoot. [page 180]

Sunday, April 17th 1892.

During night Kramer arrived from Hopuwai reporting that Muller in **Keanakolu** was arrested and taken to **Laupahoehoe**; that Eben P. Low got his left hand hurt by a lasso and was taken down to the **Hopuwai house**; Ah Ano returned with mail from Waimea; Waltjen in from Laumaia; Kramer left; Bormann left with horse "Kaluamakani" for **Keanakolu**; proceeded to **Keanakolu**; met at **Hopuwai** Low and Japanese Physician; arrived at **Keanakolu** at ½ past 6. [page 181]

Tuesday, April 19th 1892.

Returned from **Laupahoehoe** to **Kalaieha**; Wülbers put in at **Keanakolu** again; Bormann returned to Kalaieha; 4 Japanese on Telephone line at **Hopuwai**; saw thick smoke at **Puu Oo**, met Spohler who told me that he made fire there, sent him out to extinguish it, reported to have done; arranged with Ah Ano to get in Johnny Morgan flock, but as a foal just born had to leave him behind; Ah Ano herds wethers afternoon; Kumahei in garden yet.

Weather extremely dry, day and night, no fog, mist or drip; Trade wind. [page 182]

Friday, April 22nd 1892.

Ah Ano herds wethers; Kumahei garden yet; left with Bormann and 5 mules for **Hopuwai** to bring Japanese from there to camp between **Laumaia** and **Puu Oo**; Japanese finished Telephone posts through Paddock I and II. Weather very dry all day; Trade. [page 183]

Thursday, May 5th 1892.

Proceeded to **Ookala**, settled with wages ____ of having the road changed through Ookala land, and proceeded to **Keanakolu** and **Hopuwai**; **John T. Baker with Rickard and 5 Natives had passed through to Piihonua**; John Low arrived the previous night and stopped over; went on to **Laumaia** the next day; arrived at **Kalaieha** at 5 o'clock.

Heavy south wind and extremely dry. [page 186]

Wednesday, May 25th 1892.

Bormann and Ah Ano returned from **Waimea**; delivered 152 sheep to steamer; 2 sheep played out at Waimea and were sold to Akona for \$6.00; worked on pit for back house, fence and waterhole; Matsu makes wool bags; Kumahei carries Telephone Instruments over to **Puu Oo** house; garden work; 4 Japanese on Telephone line.

Weather slight fog previous night; very dry and cool during day, heavy wind, evening some fog and mist; calm then; Trade wind. [page 191]

Monday, May 30th 1892.

Matsu washes; Kumahei carries Telephone instruments to Laumaia; 4 Japanese finished overhauling first part of line and commenced to stretch wire; Ah Ano shepherd sent to **Kipuka ahina** to look after two Natives said to have arrived from **Ookala**; not there, camp probably lower down near **Hale Aloha**. Bormann left for **Hopuwai**.

Weather very dry all day; no fog in day. Trade. [page 192]

Monday, June 6th 1892.

Ah Ano packs Telephone wire and blankets over to **Hopuwai** and provisions to Keanakolu where he stops over night; Bormann in Hopuwai; Kramer returned from his vacation; Kumezu carries Telephone Instruments over to Hopuwai, other Japanese proceed stretching wire and go over to Hopuwai where they stop over night; Matsu makes wool bags.

Weather dry during day, but slight rain during night; Trade. [page 194]

Thursday, June 9th 1892.

Returned to Kalaieha; Ah Ano returned with mail from Waimea, then helps with Bormann to pick out 150 wethers for Honolulu; all Japanese kill thistles out; Matsu makes wool bags.

The first conversation on Telephone from Hopuwai to Kalaieha at 12 o'clock.

Weather afternoon at 5 o'clock rain, light; Trade wind. [page 195]

Monday, June 20th 1892.

Ah Ano shoots a cow for beef; Charles [Hall] helps to put 2 young team horses on a rope; Bormann herds wethers; 5 Japanese on road to Waimea; 3 Japanese work with Schlemmer kill out thistles; Matsu house and garden work; Japanese garden work.

Weather extremely dry all day; Trade. [page 198]

Monday, June 27th 1892.

Schlemmer with 9 men weeded out thistles; Bormann and Kumezu pack over tent and poles from **Laumaia camp**; Iwahei, Kumahei and Hatsubare help to lay out boundary between Humuula and Piihonua; Charles breaks in horses; Matsu prepares grass for mattresses; Ah Ano fixes fences and shepherds; Ah Si left for Waimea.

Weather fog and mist all day; Trade. [page 200]

Wednesday, June 29th 1892.

Schlemmer with 10 Japanese weeds thistles; Yamauchi and Matsushigi home; Iwahei and Taniguchi help to lay out line between Kaohe and Humuula; Ah Ano leaves with mail for Waimea and horse sold to Pakenia for Koki; Charles leaves with team for Kawaihae; Bormann takes mule January with hides back from Laumaia; Matsu grass for mattresses.

Weather fog, rain and mist almost all day, for only a few hours clear; Trade wind. [page 201]

Thursday, June 30th 1892.

Schlemmer with 8 Japanese weeds thistles yet; Taniguchi and Iwahei help to lay out boundary between Piihonua and Humuula; Punikio, Nagami, Nakatani and Matsushigi stop home; Ah Ano returns with mail from Waimea; Bormann fixes fence and stone wall; Matsu mattresses.

Weather rain during previous night, fog and mist almost all day; Trade wind. [page 201]

Monday, July 4th 1892.

Ah Ano herds wethers; Charles breaks horses for team; Bormann packs hides from Laumaia and Hopuwai; Matsu and Hazu wash and weed garden; Taniguchi, Iwahei, Hatsubare, Kumahei, Toraguchi, Eizuchi and Tasaka start on stone wall between **Piihonua** and **Humuula**; Masaki, Kosina, Komezu, Punikio, Nagami, Nakatani, Kanikubo, Matsutaki and Matsushigi start on fence between **Humuula** and **Piihonua** at **Kaelewai**; Schlemmer Luna.

Weather very fine all day; Trade wind. [page 202-203]

Wednesday, July 6th 1892.

Bormann with 7 mules over to bring tent and provisions to 2 Japanese camps and **Kaelewai** and half way up to **Puu Oo**, afterwards bundles hides; Charles breaks horses for team; Ah Ano herds wethers; Nakatani and Yamauchi sick; Matsu and Hazu house and garden work; 15 Japanese on fence **Piihonua**; Schlemmer Luna.

Weather fine all day; Trade wind. [page 203]

Thursday, July 7th 1892.

Bormann herds wethers; Ah Ano shoots a cow for beef, saw 6 wild dogs above Puu Horse pen outside the wall in the clinkers; Matsu and Hatsu wash and mend clothes; Nakatani, Yamauchi and Matsushigi stop home, all other Japanese work on **Piihonua** fence and wall; Charles leaves with team for Waimea; 2 Japanese arrive on foot from Waimea.

Weather hot and dry all day; fog and slight mist in the evening; Trade wind. [page 204]

Saturday, July 9th 1892.

Ah Ano leaves with mail for Waimea; Bormann herds wethers; Matsu home; Schlemmer Luna; 7 Japanese (station men) work on Horse wall all day; other gang stops work at noon being too wet.

Hopuwai and **Laumaia** report that 4 Japanese, 4 Natives, 2 Natives and 2 Japanese women past for **Halealoha**, stop over night in cave below Laumaia horse pen.

Weather fog, rain and mist all day; Trade. [page 204]

Sunday, July 10th 1892.

Bormann herds wethers; Ah Ano returns with mail from Waimea; Charles returns with load for professor Alexander; Johann Wülbers over from **Keanakolu** to take provisions back, sent Schlemmer to **Puu Oo** lower gate to watch men coming from **Laumaia** going to **Halealoha**, did not see them; hired Japanese Tokohara for \$15.00 to work on fence.

Weather slight fog and mist all day; Trade. [page 205]

Monday, July 11th 1892.

Ah Ano herds wethers; Bormann packs water to Japanese Camp; Charles leaves with team for Waimea; Nakatani sundry jobs and helps to sort wethers for Honolulu; 7 Japanese work on stone wall at **Kaelewai**; 9 on **Piihonua** fence proper. Matsu and Hatsu house and garden work; Schlemmer Luna.

Weather fog, mist and rain all day; Trade wind. [page 205]

Tuesday, July 12th 1892.

Bormann, Ah Ano and Nakatani left with 154 sheep for Honolulu, no trouble as far as Waiki; 7 Japanese working on stone wall, stop home having sore hands; 9 men work on Piihonua fence; Matsu and Hazu house and garden work; Schlemmer Luna; met Preston and Wall at Waiki coming from Waimea and proceeding to Kalaieha.

Weather fair all day. [page 205]

Wednesday, July 13th 1892.

Masaki and Yamauchi stop home; all other hands, 7 on fence & on wall, work; Charles returns with team from Waimea alright; Professor Alexander with Chamberlain and cook came up; Matsu and Hatsu some house and garden work.

Weather fair all day, fog and mist at dark; Trade wind. [page 206]

Friday, July 15th 1892.

5 Japanese on fence Piihonua boundary stop home; 5 work on same; 7 men on stone wall; Matsu and Hatsu plant peas, corn and beans; then weed the garden; Muir in from Keanakolu; Charles breaks colts; late surveyor Baldwin with 1 Native boy and pack train arrived from Hilo.

Weather fine all day; Trade wind; clear all night. [page 206]

Saturday, July 16th 1892.

Discharged Charles Hall who left; Bormann, Ah Ano and Nakatani returned from Kawaihae, delivered 150 sheep to steamer; Charles Wells and Kauwe with pack mules for Surveyor Alexander arrived from Laumaia; Matsu stops home, Hazu house and garden work; 6 Japanese work on Stone wall others on road along fence through bush at Piihonua; all stop work at noon on account of bad weather.

Weather fog and rain till 2 o'clock, when clearing off; Trade wind. [page 207]

Sunday, July 17th 1892.

Parties into Aina Hou hunting geese and pigs; Kauwe found Waihu and put a flag up there.

Weather fair all day; Trade.

Ah Ano out for beef, but none got. [page 207]

Tuesday, July 19th 1892.

Ah Ano out for beef again, returned with 2 calves from Pohakuloa; Bormann helps to fix wagon, then makes harness ready, feeds the team horses and sundry other jobs; Hatsu and Matsu house and garden work; Matsushigi and Tokuhara stop home, all other hands work on fence and stone wall at Piihonua boundary; Surveyor's party started out for Mauna Kea, but returned as one mule ran away and could not be found in the fog, found in the afternoon.

Weather fog till 10 o'clock, then clear but fog again afternoon, clear and bright during night; Trade wind.

J. Wülbers in from Keanakolu with letters; returned to Hopuwai. [page 208]

Wednesday, July 20th 1892.

Ah Ano leaves with mail for Waimea; Charles Wells leaves with team for Kawaihae; Bormann fixes fences sheep Padd II; Professor Alexander, Preston, Wall and

Chamberlain with Baldwin and cook, guide and Pitt leave for the summit of **Mauna Kea**, 11 pack mules; 10540 [feet] above alright; Matsushigi and Nakatani home, all other men set posts, make road and build stone wall; Hazu and Matsu garden work.

Weather fine all day, 5 o'clock fog; Trade.

Natives returned at 8 o'clock with mules and horses. [page 208]

Friday, July 22nd 1892.

Ah Ano shepherd; Bormann and Pitt take paint over to **Puu Oo house** and start to paint it; Matsu and Hatsu garden and house work; 8 Japanese on stone wall; 10 on fence; at about 3 o'clock Baldwin and Chamberlain returned from the top of **Mauna Kea**, being sick; Kauwe and Lancaster with 3 mules up to **Mauna Kea** to pack fire wood, Lancaster and 2 mules returned, Kauwe stops over; Nakamura in from **Halealoha** to buy provisions.

Weather fair all day; Trade. [page 209]

Saturday, July 23rd 1892.

Ah Ano shepherd; Bormann and Pitt paint house on **Puu Oo**; 8 Japanese on stone wall, 10 on fence on **Piihonua** boundary; Charles Wells returned with team alright from Kawaihae, complaining very much about the road from **Auwaiakeakua** to **Waimea**; Kauwe returned from **Mauna Kea**; Hatsu and Matsu house and garden work.

Weather some slight rain and fog early morning, afternoon clear and bright; Trade wind. [page 209-210]

Tuesday, July 26th 1892.

Bormann packs provisions over to **Laumaia** and takes potatoes from **Hopuwai**; Pitt paints the small house at **Puu Oo**; Matsu and Matsushigi sick; Yamauchi home; Hatsu house work; Ah Ano shepherd and packs water to Japanese Camp; 7 Japanese on fence and 8 Japanese on stone wall **Piihonua** boundary; Rickard, McKinley and natives stop over at **Puakala**; Survey party Alexander and Preston returned alright from top of **Mauna Kea**; one man Mr. Moore, who left on foot at ½ past 8 not yet in.

Weather warm and dry all day; Trade wind.

Moore arrived on foot at 9 o'clock. [page 210-211]

Thursday, July 18th 1892.

Returned to **Hopuwai** where stopped over night; **Kalaieha** Mr. Preston, Baldwin and Wall leave for Hilo; Moore via Keanakolu for Mana; Native Kauwe with horses and mules for **Waimea**; Ah Ano shoots cattle for beef; 9 Japanese on Piihonua fence and 8 Japanese on stone wall progressing very slowly as on **Paahoehoe**. Hatsu washes. [page 211]

Monday, August 1st 1892.

Ah Ano packs water to Japanese camp on **Piihonua** and **Waiakea** Boundary; afternoon shepherd; Charles Wells leaves with team for Waimea to take surveyors outfit down; Alexander, Chamberlain and Louis Koch leave for **Waimea**; Fitzsimmons leaves for Hopuwai; Waltjen in from Laumaia to settle up; Bormann and Isaac Pitt over to Laumaia, the latter to take charge of that place; 8 Japanese on Stone wall on **Waiakea** boundary, 8 Japanese on fence on **Piihonua** boundary; Matsu pillows, finished; Hatsu house and garden.

Weather dry and cold all day; towards evening fog; Trade wind. [page 212-213]

The Humu'ula Sheep Station Company operations, including the Kalaieha headquarters and out-stations, continued much as described above, until around 1898.

Leasehold Interests and Ranching on the Government Lands of Ka'ohē and Pi'ihonua (1890-1907)

On September 9, 1891, the H.S.S. Co. secured a formal lease (Lease No. 451) on the tract known as Ka'ohē IV, and covering Pōhakuloa, the summit of Mauna Kea, and the Ka'ohē lands extending to the summit of Mauna Loa. The notes of survey for the new lease described the Ka'ohē tract, and also included authorization for the company to transfer the lease to Hackfeld & Company, dated September 30, 1895:

GOVERNMENT LEASE NO. 451

Dated September 9, 1891

C.N. Spencer, Minister of the Interior;

to Humuula Sheep Station Co., Aug. Haneberg, President;

E. Luhr, Secretary & Treasurer.

...All that piece or parcel of land known as Tract No. 4, Kaohe, Hamakua, Hawaii and more particularly described as follows:

Beginning at the Trig. Station on the hill known as "Kole-A" on the side of ***Maunakea***, above ***Puu Oo*** and running as follows:

N 80° 3' W true 13798 feet along ***Humuula*** to ***Lepe a Moa Hill***.

S 40° 0' W true 19876 feet along Humuula to ***Omaokoili Hill***.

S 15° 14' W true 78286 feet along Humuula to North ***Pohaku Hanalei*** on ***Maunaloa***.

S 44° 50' W true 21075 feet along Kapapala to the point in ***Mokuaweoweo Crater***, which is 20° 23' W true 5316 feet from the summit Trig. Station W Maunaloa.

N 30° 26' W true 86135 feet along Keauhou 2nd of Kona to ***Naohuleelua*** a point on the flow of 1859 that is S 57° 45' W true 64606 ft. from Ahumoa Trig. Station.

N 42° 30' E true 46800 feet along Puuanahulu to the South corner of Waikoloa at the foot of "***Puu ka Pele.***"

N 68° 30' E true 60200 feet along Tract No. 3 to the old Trig. Station on the N.E. point of the summit of ***Peak Maunakea***.

S 62° 10' E true 24200 feet along Tract No. 5 to the hill ***Kaupakuhale***.

S 13° 10' W true 17200 feet along Humuula to the initial point, and containing an—
Area of 137,200 Acres.

This lease is granted upon the condition that the Government may at any time during the term of this lease enter upon, take possession, and dispose of all or any portion of the same for Homestead purposes, the Government allowing in such case, a corresponding reduction on the rents.

Term: 15 years from Sept. 9, 1891.

Rent: \$310. per annum. [State Land Division Lease File]

Honolulu September 30, 1895.

Office of the Commissioners of Public Lands.

Permission is hereby given to the Humuula Sheep Station Co. to assign the within lease No. 451 to Messrs. H. Hackfeld & Co. it being expressly conditioned that no other or further assignment of the same shall be made without the written consent of the Commissioners of Public Lands (or their successors in office) being first obtained for such purposes and subject to the terms and conditions of said lease.

For the Commissioners

J. F. Brown,

Commissioner and Agent of Public Lands. [State Land Division Lease File]

In 1891, Samuel Parker also secured a lease on the Ka'ohē III tract (Lease No. 436), which bounded lands held in fee by the Parker Ranch. The parcel included the Hanaipoe out-station, sections of the Māna-Laumai'a trail, and also ran to the summit of Mauna Kea, adjoining the Ka'ohē IV tract (described in Lease No. 451). The notes of survey, recorded in C.S.F. No. 423, recorded the following metes and bounds:

September 24, 1891

C.S.F. 423

Description of Tract No. 3, Kaohe, Hamakua, Hawaii.

Leased to His Ex. Samuel Parker.

Beginning at the South East corner of the land Kalopa, and running as follows:

1. N 79° 30' W true 3800 ft. along Kalopa to Summit of hill **Moano**;
2. N 80° 30' W true 6500 ft. along the same;
3. S 80° 00' W true 2500 ft. to the corner of **Kalopa** and **Paauhau** to a pile of stones, above **Koailili gulch**;
4. S 88° 10' W true 5027 ft. along Paauhau to a pile of stones on the N W side of **Kaluamakani**;
5. S 43° 34' W true 16170 ft. along Paauhau to **Kemole hill**;
6. S 54° 10' W true 27900 ft. along Paauhau to **Puu Laau**;
7. N 70° 00' W true 9700 ft. along Paauhau to a point near **Aiakala** on **Auwaiakekua**;
8. S 35° 30' W true 8500 ft., along **Waikoloa** to **Keonehehee**;
9. S 20° 30' E true 22200 ft. along Waikoloa passing **Puu Kekee**, to the South corner of Waikoloa on the Southeast side of **Puu Ka Pele**;
10. N 68° 30' E true 60200 ft. along Lot 4 Kaohe, to the summit Peak of **Maunakea**, to the old Trig Station on the NE point of it.
11. N 17° 30' E true 22600 ft. along Lot 5 Kaohe, to the peak **Kole**;
12. N 9° 00' E true 8700 ft. along the same down the mountain side to the initial point and containing an area of 38700 Acres. [Hawaii State Survey Division]

This lease is granted upon the condition that the Government may at any time during the term of this lease, enter upon, take possession, and dispose of all, or any portion of the same for homestead purposes, the Government, allowing in such case, a corresponding reduction on the rents...

Consent is hereby given to a mortgage of the foregoing Lease to Charles A. Bishop trustee and to Mr. G. Irwin and S.M. Damon Trustees...Chas T. Gulick, Minister of the Interior. [Hawaii State Survey Division Files]

Lease No. 452 for the forest lands of Ka'ohē V was also issued to J.M. Horner and J.F. Hackfeld (Kukaiau Plantation Company) on September 9, 1891. The Ka'ohē V tract, covered the lands from the "**1877 Mountain Road**" at Papa Gulch to Hanaipoe iki Gulch at Kalopā (the road being the *makai* boundary), to the "summit hill of Maunakea," and recorded the following metes and bounds:

GOVERNMENT LEASE No. 452

September 9, 1891

**C.N. Spencer, Minister of the Interior;
to the Kukaiau Plantation Co. Limited**

...all that piece or parcel of land known as Tract No. 5, Kaohe, Hamakua, Hawaii, and more particularly described as follows:

Beginning at the point where the Mountain road of 1877 crosses the Papa Gulch and running as follows,
S 45° 0' W true 5500 feet along Kohalalele, the gulch being the boundary;
Due South true 11600 feet along Kohalalele to **Puu Kea**;
N 74° 10' E true 15800 feet along the head of the land of Kohalalele to a water hole on the mauka side of Puu o Kihe;
S 41° 00' E true 5200 feet along the head of the land Kukaiau to its south corner, just mauka of **Iolehaehae**;
S 73° 10' E true 5400 feet along Government tract to a place called **Waikulukulu** at the west base of the hill **Puu Kalepa**;
S 34° 30' W true 9000 feet along **Humuula** to the double Hill **Holei Kanakaleonui**;
S 18° 40' W true 26000 feet along Humuula to the hill **Kaupakuhale**;
N 62° 10' W true 24200 feet along Govt Tract No. 4 to the old Trig Station on the N.E. point of the summit hill of Maunakea;
N 17° 30' E. true 22600 feet along Tract No. 3 to the hill **Kole** on the north face of **Maunakea**;
N 9° 0' E true 8700 feet along Tract No. 3 to the South angle of **Kalopa**;
N 13° 40' W true 14400 feet along Kalopa, the boundary being the Hanaipoe Iki gulch, to the Mountain road.
S 89° 00' E true 13500 feet along — said mountain road being the boundary, to "**Hope A**,"
S 60° 00' E true 7400 feet along the same road being the boundary to initial point, and containing an Area of 24250 Acres.

This lease is granted upon the condition that the Government may at any time during the term of this lease enter upon, take possession, and dispose of all or any portion of the same for Homestead purposes, the Government allowing in such case a corresponding reduction on the rents... [Hawaii State Land Division Lease File]

As the leases in Ka'ohē were being granted in 1891, J.T. Baker also applied to the Commissioners of Crown Lands for an extension of his lease on Pi'ihonua. The minutes of the Commission reported:

September 14th, 1891

Present: Saml. Parker, J. Mott Smith, C.P. Iaukea:

...A communication from J.T. Baker was read, proposing to surrender the lease of Waiakolea & Kaimu, Puna, in consideration of an extension of his present lease of **Piihonua** for fourteen years at an increased rental of \$300. per annum from now. After some discussion it was agreed to defer formal action until the Minister of Interior had been consulted with regarding certain water rights and privileges upon the land of Pi'ihonua... [HSA – Series 367 Minutes 1888-1895:38-39]

Subsequently on September 29th, 1891, the Commissioners, granted Baker's request, adding another fourteen years to the lease, to begin on March 21st, 1907:

September 29, 1891

Memorandum of Agreement

Between J. Mott-Smith, Samuel Parker, and C.P. Iaukea; and John T. Baker (Extension of terms on Lease No. 103):

Memorandum of Agreement entered into this 29th day of September A.D. 1891 between the Commissioners of Crown Lands and the within named John T. Baker. Whereby it is agreed that the within lease shall be and is extended for the term of Fourteen years from March 21st 1907. The said John T. Baker, his executors and assigns paying an annual

rent for the residue of the within term and an extension thereof at the rate of Three Hundred Dollars instead of One Hundred and Fifty, as reserved by the said lease. And it is further agreed and understood that in consideration of the extension hereby granted, the said John T. Baker for himself, and his heirs and assigns, releases and quitclaims, all his right, title, interest and claims in and to the water and springs of fresh water upon the land herein described... [Lease No. 103 – State Land Division]

On January 24th, 1894, Hackfeld and Company applied, on behalf of the H.S.S. Co., to the Commissioners of Crown lands for a 30 year extension on the lease of Humu'ula. In the application, the applicant described its' desire to build a substantial road between Kalai'eha and the coast at Hāmākua, noting that the extension on the lease would help make such an undertaking feasible. Minutes of the Commission provide details on the application and the subsequent denial of the extension:

March 21, 1894

Present: J.A. King, W.O. Smith, C.P. Iaukea

A communication from H. Hackfeld & Co. was read requesting that the present Lease of the Crown Land of Humuula to the Humuula Sheep Station Co., which has 14 years to run, be extended for the term of 30 years from now, upon same terms, so as to enable the Company to construct a substantial road from **Kalaieha**, the station on **Humuula**, to **Ookala or Paauilo**, on the Hamakua Coast. Thereby affording better facilities for the shipping of wool, sheep &c.

The communication further stated that the construction of a good and substantial road would involve considerable expense, besides being a permanent improvement to the land.

After some discussion on the general policy of the Board in dealing with questions of renewal or extensions of Leases, the following action, or motion of the Attorney General was agreed to viz:

That as the Commissioners at present viewed the matter, it would be contrary to the policy hereto for adopted to grant an extension while there is so long a term unexpired, but the Commissioners are willing to meet the Representative of the Humuula S.S. Co., to hear any further statements they have to make... [HSA – Series 367 Minutes 1888-1895:76-77]

April 4th, 1894

Present: Mr. J.A. King, Mr. W.O. Smith, C.P. Iaukea, Land Agent; and Mr. H. F. Glade was also present by invitation.

The Agent stated that in accordance with the action taken by the Commissioners at their last meeting in the matter of the application of the Humuula S.S. Co. for an extension of its lease of **Humuula**, he had communicated to Messrs. H. Hackfeld & Co., agents, the decision of the Commissioners. Mr. Glade representing the Company, was now present to make further statements on behalf of Mr. Haneberg the Co's. Manager.

Mr. Glade stated that it had been found necessary in carrying on the Company's affairs to build a road from the Station at **Kalaieha** to the **Hamakua coast** which would mean a **large outlay**. This the Co. could not do unless an extension of the present lease was obtained. The proposed road it is claimed would open up a large section of country for agricultural purposes and would greatly enhance the value of the surrounding lands, of which a large portion belonged to the Gov't.

If the renewal asked for was not granted the Company would not be able to carry out the proposed improvements. He therefore urged that the Commissioners take the matter into consideration and hoped that a favorable decision be reached.

After some few general remarks as to the advantages which would result by the opening of the proposed road, Mr. Glade retired.

It was then resolved that final action be deferred until the Commission was in possession of more definite information as to the general character of the surrounding lands and whether the opening of such a proposed road would benefit the public generally. The Agent was instructed to communicate with the Survey Department for the required information...

...It was also further agreed, in the matter of the Humuula S.S. Co's. application for extension of the lease of Humuula, that from all the information received relative to the subject, the Commissioners see no good reason to change their opinion as expressed at a meeting of the Board held Jany. 24th last which in effect was unfavorable to the application... [HSA – Series 367 Minutes 1888-1895:78-80]

The thirty year extension on the lease of Humu'ula to Hackfeld and Company was not granted.

Being faced by difficulties in operation and logistics, the Humu'ula partners were granted permission to transfer their lease of the Ka'ohē IV parcel, including the Pōhakuloa tract, to H. Hackfeld & Company on September 30th, 1895 (Lease No. 451). On November 11th, 1895, The Humu'ula Sheep Station Company, formally mortgaged its' business interests, including the Humu'ula and Ka'ohē leases, and operational resources to H. Hackfeld and Company. The conveyance described the resources of the operation, and various lands associated with it:

November 11, 1895

Chattel Mortgage

**Humuula Sheep Station Co. (Aug. Haneberg and J.F. Hackfeld);
to H. Hackfeld & Co.**

(Indenture of Lands, Livestock and Resources to H. Hackfeld & Co.):

This Indenture made this 11th day of November A.D. 1895 by and between the Humuula Sheep Station Company, a corporation organized and existing under the laws of the Hawaiian Islands of the first part and Paul Isenberg and J.F. Hackfeld of Honolulu, partners in business at said Honolulu on the Island of Oahu, under the name of H. Hackfeld & Co., of the second part. Witnesseth: Whereas the corporation is indebted to the parties of the second part in the sum of Nineteen Thousand Eight Hundred forty four 67/100 Dollars or thereabouts which indebtedness bears interest at seven percent (75) per annum, payable annually, and whereas the party of the first part have requested the parties of the second part to defer demanding payment of said amount and to make further advances to carry on said Company's Sheep Ranch which advances including the present debt may amount to Twenty Thousand Dollars (\$20,000.) the making of any further advances and the extent of the same to remain however solely in the discretion of the parties of the second part. Now therefore this Indenture Witnesseth: That the part in consideration aforesaid and of One Dollar to it paid by said parties of the second part, the receipt whereof is acknowledged, does hereby assign, transfer and set over unto the said parties of the second part, their executors, administrators and assigns the following indentures of lease, viz:

- 1) Lease of the Commissioners of Crown Lands to James W. Gay dated March 6, 1876 of record in Liber 45 on pages 258 to 261 and the extension thereof granted July 30, 1883 of record in Liber 45 on page 259, said lease being assigned to said party of the first part by indenture dated October 31, 1883 of records in Liber 86 pages 79 & 80.
- 2) Lease of the Hawaiian Government No. 451, dated 9th September 1892 [1891] to the Humuula Sheep Station Co., of land known as Tract No. 4, **Kaohe, Hamakua, Hawaii. Area 137200 Acres.**

To have and to hold the said leases and the lands and premises thereby demised with all improvements and buildings thereon and all tenements, hereditaments and privileges thereto belonging but subject to the terms and conditions in said leases expressed for the unexpired term of said lease or any extension thereof. And in consideration aforesaid the party of the first part does further sell, convey, bargain and set over to said parties of the second part, all of its stock running on said leasehold lands, viz: Twenty Thousand sheep more or less; Three Hundred Eighteen (318) tame Horses branded [_____ diagrams]; Two Hundred (200) semi wild Horses in *Aina Hou*, partly branded as above; Eighteen (18) Wagon Saddle and Pack Mules branded as above; all clips of wool; fourteen wooden tanks; Wagons; Harnesses; To have and to hold the same with the increase thereof to said parties of the second part... [BoC Liber 157:284-286]

A note on the same conveyance records that the Haneberg brothers and partners were able to repay the loan on October 26th 1897 (BoC Liber 157:285), thus retaining their interest in the Humuula Sheep Station Company for a few more years.

As noted in the Haneberg journal and other records above, a dispute arose regarding the boundary between the lands of Humu'ula and Pi'ihonua. Indeed, the Pu'u 'O'ō out-station of the Humu'ula Sheep Station Company had been built on Pi'ihonua, land which had been leased to John T. Baker in 1887. The official boundary between Humu'ula and Pi'ihonua was finally settled by the Boundary Commission on October 3, 1891. On January 16th, 1896, and after several years of litigation, the Humuula Sheep Station Company and John T. Baker came to an agreement regarding the boundaries and compensation for improvements on the land of Pi'ihonua:

February 25th 1898

***Humuula Sheep Station Company (Aug. Haneberg and J.F. Hackfeld);
to John T. Baker***

***(Agreement on the Boundary and use of lands
along the Humu'ula-Pi'ihonua Boundary):***

This Indenture made this 25th day of February A.D. 1898 by and between the Humuula Sheep Station Company...party of the first part, and J.T. Baker residing in Hilo, in the Island of Hawaii said Hawaiian Islands, party of the second part, Witnesseth: Whereas the party of the first part, own a sheep run and ranch on the slopes of Maunaloa [i.e., Mauna Kea], including leaseholds above the District of Hilo, and Whereas the party of the second part, owns a leasehold below the sheep run of the part of the first part, but adjacent thereto used as a cattle ranch, said cattle ranch including the *Ahupuaa* of *Piihonua*, extending from the town of Hilo up to the property aforesaid, of the party of the first part, and Whereas, the party of the first part, heretofore at its own expense erected a fence on a line which was supposed to be on the true boundary line between the properties aforesaid of the parties of the first and second parts, and has demanded contribution of the party of the second part towards the expenses of said boundary fence and towards the completion thereof; and Whereas, the party of the second part has declined to make such contribution assigning among other reasons for his refusal, that the fence was not upon the true boundary line, but took in portions of the leasehold owned by the party of the second part as aforesaid; and Whereas, heretofore the party of the second part brought an action of trespass in the Circuit Court of the Third Judicial Circuit, Republic of Hawaii, to recover damages of the party of the first part for trespass of its sheep and animals upon the lands aforesaid of the party of the second part which suit terminated in favor of the party of the second part, who was awarded \$3,000.00 damages in said suit; and Whereas upon the termination of said suit as aforesaid, the parties hereto agreed to adjust all their differences hereinabove set forth, and did so adjust the same, upon the 16th day of January, 1896, by executing an agreement, a copy of which is hereto attached, marked "Agreement" and made a part hereof; said agreement consisting of a proposition by the party of the first part to the party of the second part, and acceptance thereof, with certain modifications and additions by the party of the second part and a stipulation adjusting both propositions attached hereto.

Now therefore, the parties of the first and second parts hereby mutually agree to all and singular the terms, conditions and stipulations of said agreement therein mutually accepted by them and do hereby covenant and agree to observe and perform the same, it being understood that all strips of lands enclosed within the properties of either of the parties hereto by the fence already built and by the fence to be built pursuant to said agreement, which are in fact the property of the party shut out from possession thereof by said fence, shall nevertheless be considered as leased to the party within whose enclosure such strips shall be found, without rent for and during the balance of the terms of the lease of **Piihonua** now held by the party of the second part...

Exhibit A. The Humuula Sheep Station Company will build at their expense a six foot wire fence, three and a half feet high from **Waikē Gulch** turning *mauka* to a straight line between **Puu Oo and Lae**, laid out by Baldwin, and on this line to Lae, and along the boundary line between **Paukaa** and **Piihonua** down into the woods for such a distance as to prevent sheep and horses running on Paukaa to enter Piihonua within nine months after date of this agreement; Baker to haul posts wherever they are off the line more than 100 yards, posts to be cut on both lands, Humuula and Piihonua wherever they can be had best without charge to the Humuula Sheep Station Company. The Humuula Sheep Station Company agrees to keep the whole fence and stone wall between Humuula and Piihonua in good repair, with the right to cut and use posts on both lands as stated before for said purpose, but fence and stone wall remain their property after expiration of Baker's lease of Piihonua. We close up the road through **Aina Hou** opened up by Baker, but he shall be permitted to work a new road at least 1500 feet below the lowest point of Aina Hou from **Waiakea to Piihonua**. Baker shall have the free use of the piece of **Humuula** excluded by our stone wall and situate between the boundary line from **Kahiliku**, as shown by Lidgates survey of Piihonua, to **Kaelewai** or Kaelewa, a hill in the lava; thence to the stone wall and along the same to the aa flow of 1855; thence along the edge of said flow to Kahiliku, the point of commencement. The line the so called boundary fence between Piihonua and Humuula is built on or will be built on shall be accepted as the boundary line between the two lands for the purposes of the parties. Baker shall be permitted to drive cattle over Humuula from Piihonua to Hamakua via Kaala by giving us timely notice thereof and taking such roads, or trails as will be pointed out to him by us in reasonable localities. During the time the boundary fence between Humuula and Piihonua not being finished, Baker shall not ask for trespass, damages or pasturage for such stock belonging to the Humuula Sheep Station Company as may pasture on his unfenced or uninclosed lands of Piihonua. The Humuula Sheep Station Company agrees to pay the fees of Baker's attorneys and will withdraw their pending suit against Baker for damages done to **Aina Hou**.

Exhibit B. We consent to Mr. Hanneberg's proposition with these amendments and additions. The fencing is to be such as the Commissioners have prescribed. Time to finish fencing nine months. The line of fencing is agreed to except that it should turn *mauka* at least 25 fathoms on the Kau side of the Waikē gulch. Mr. Baker declined to bind himself to haul posts though he intends to help in so doing as far as he reasonably can. The fencing and stone wall to go to Humuula so far as Baker's rights therein are concerned at end of lease or end of renewal or new lease if he obtains same, Baker claims the privilege of taking cattle and stock across to and from Hamakua and agrees to give timely notice of his intention so to do, and he further agrees to keep the cattle etc., and drivers off the made road except at the gates but submits that the further provisions about following the trails to be pointed out by the agents of Humuula is unnecessary and should be left out. He further claims the right for all persons coming and going between Hamakua and Piihonua to use said way, the above provision to be without prejudice to his assertion of the right that said way is an ancient and public way if he chooses so to do. A gate is to be built at Lae. This agreement and the payment of \$500. and costs of Court by Humuula to operate as full payment, satisfaction and discharge of all claims,

demands, and causes of actions whether pending or not by either party up to date...
[BoC Liber 112:109-112]

In September 1899, John T. Baker, sold his interest in the *mauka* lands of Pi'ihonua, including the Pu'u 'O'o Ranch station to W.H. Shipman, thus bringing Shipman into the history of the Pu'u 'O'o Ranch operation, which was maintained until the 1970s. The conveyance included the metes and bounds of the land and listed the heads of cattle, horses and livestock, buildings, improvements, and described the brands of the ranch:

September 26th, 1899

John T. Baker; to W.H. Shipman

(Conveyance of Pi'ihonua – Puu Oo Ranch lands):

This Indenture of lease and Bill of Sale made this 26th day of September A.D. 1899 by and between John T. Baker of Hilo, Island of Hawaii, Hawaiian Islands, party of the first part, hereinafter called the "Lessor" and William H. Shipman of said Hilo, party of the second part, hereinafter called the lessee. Witnesseth: That in consideration of the sum of Thirty two thousand dollars (\$32,000) to the lessor in hand paid by the lessee, the receipt whereof is hereby acknowledged, the lessor doth hereby demise and lease unto the lessee all of that certain piece or parcel of land situate in the said District of Hilo, being a part of the *Ahupuaa* of **Pi'ihonua**, described and bounded as follows:

Beginning at the extreme south angle of this land the said point of beginning being at a large mound of stones a little West of the trail crossing the flow of 1855 to **Halealoha**, the place being commonly known as **Mawae**, the boundary runs as described in Certificate 153.

1. N. 82° 32' W. mag. 15620 feet to mound of stones on **Kahiliku Hill**.
2. N. 56° 00' W. mag. 3215 feet to mound stones small hill.
3. N. 4° 38' W. mag. 13720 feet to large Koa tree on the slope of **Puu Oo** hill 1650 feet from the pile of stones on the summit.
4. N. 38° 20' E. mag. 24220 feet along edge of woods to pile of stones at place called **Lae**.
5. N. 35° 00' E. mag. 1650 feet to a little hollow, the branch of the **Honolii Stream** this being the N.W. angle of the land of **Pi'ihonua**, thence down said hollow and into the Honolii Stream, the south bank of which is the boundary, the direct bearing and distance being;
6. N 80° 50' E. mag. 18020 feet to the N.E. angle of this leased piece.
7. South mag. 37650 feet to the S.E. angle of this piece.
8. S. 78° 15' W. mag. 15000 feet to the point of beginning.

To have and to hold the said demised premises, together with all the rights, easements, privileges and appurtenances thereunto, subject always to a certain contract entered into between John T. Baker and the Humuula Ranch fixing boundaries at *mauka* end of Pi'ihonua, reference to which is hereby made; or to any part thereof, appertaining unto the said lessee, his executors, administrators and assigns for and during the entire rest and residue of the term of that certain Crown Land Lease of said *Ahupuaa* of **Pi'ihonua** to said John T. Baker dated March 21, 1887, and recorded in the Registry of Deed in Honolulu in Book 106 on pages 126 to 129, and of the full term of the extension of said lease for Fourteen (14) years from March 21, 1907. And for the consideration aforesaid, the lessor doth hereby give, sell and deliver to the lessee 1000 head of cattle, more or less, branded [___ diagram]. And also, all unbranded cattle upon, about or belonging to the said leased premises. And also about 200 head of horses and mules, more or less,

branded [___ diagram], and also all horses mules and cattle branded with Spencer's brands, except those reserved in contract, branded [___ diagram]. And also, the said brand [___ diagram] and the right to use it. And also all buildings, fences, tools, improvements, fixtures and appurtenances upon, about or connected with the said demised premises. It being hereby understood and agreed that the payment aforesaid is the full purchase price for all of said enumerated property... [BoC Liber 205:294-297]

Shortly after the tenant of Pi'ihonua changed from Baker to Shipman, changes were also being considered for the Humu'ula and Ka'ohē Sheep Stations. In 1899, the Hawaiian Gazette, announced that the Hanneberg-Hackfeld interests had entered into an agreement to sell the leases and resources of the Humu'ula Sheep Station Company to Samuel Parker, thus bringing to an end, their role in the sheep stations' operation. Though predating the recorded conveyance, the Hawaiian Gazette reported:

November 3, 1899

Meat for Hawaii

Heavy Beef and Mutton Hui for the Big Island.

A Ranch Changes Hands. Col. Sam Parker the Head of the New Company-Supply for Future.

One of the largest land deals ever chronicled in the records of the islands will be consummated on the return of the Hon. Col. Sam'l. Parker from the mainland.

For some time past Col. Parker has held an option of purchase over **the Humuula and Kaohē sheep stations** on the Island of Hawaii, comprising an acreage of 237,000 acres and immediately adjoining his present ranch of about 300,000 acres and was only prevented from completing the purchase before his departure through a difficulty in obtaining a complete inventory of the stock carried.

The lease of this great property which expires in 1908 is held by August Hanneberg, manager of Olowalu plantation, his brother Armin of Honolulu and Manager Gramberg, who together hold the whole of the 1000 shares of the Humuula Sheep Station which is capitalized at \$100,000.

With the real estate there is sold about 30,000 head of sheep, 7000 lambs, 600 horses and also two shares in the Metropolitan Meat Company.

The purchase price is said to be \$70,000. It is understood that H. Waterhouse & Co. were the brokers who brought about the transfer, but upon enquiry there, beyond admitting that Col. Parker held an option, they declined to give any information.

The Humuula Sheep Station is the ranch from which heavy drawings of mutton are made for the local market and the object of the new ranch company of which Col. Parker is the reputed head is to place a check on the present heavy draughts from that island and conserve the present stock to supply the rapidly increasing demand in Hawaii.

This action will of course benefit the local supply.

Graziers, land owners and business men generally of the big Island have for a long time been considering or expecting precisely the step that has been taken by Col. Parker. The population of Hawaii is increasing very rapidly and with the extension of established cane fields and the establishment of new plantations the pasturage area is contracting. At the same time the call from this place for livestock from Hawaii has become stronger and stronger from month to month. The agitation on Hawaii for "protection" of the meat supply of the big Island has resulted in the formation or the proposal to form a concern that will

be a factor of the caliber of the Metropolitan Meat Company of this city, upon the same lines, but probably a “closer” corporation.

No less a personage than United States Senator Clark is a member of the new company. [Hawaiian Gazette; November 3, 1899]

As final details of the conveyance from Haneberg to Parker were being worked out, the Hawaiian Gazette, again covered the transaction, reporting:

May 4, 1900

Sam Parker Gets Humuula Ranch

Sale to be Made Today for Seventy-Five Thousand Dollars and Meat Company Stock:

Today the Humuula sheep ranch will be transferred by August and Armin Hanneberg to Col. Sam Parker. The consideration is understood to be \$75,000 and several shares of the stock of the Metropolitan Meat Company.

The ranch proper contains about 250,000 acres of choice pasture lands. It is on Hawaii and the land immediately surrounding it, some 500,000 acres, is owned by the purchaser of the Humuula ranch. With the ranch goes over 20,000 sheep and about 600 head of horses.

The Humuula ranch property is all leased land, the lease on which still has eight years to run. In case of failure to secure a renewal of the lease the cattle and other livestock will be driven onto the land now owned by Col. Parker.

R.W. Shingle, who arranged the sale was asked regarding the details. He confirmed the report that the sale was about to be consummated but until it was, he felt that he could not make public the details.

It is reported that this sale is the beginning of a new meat company which will be operated on a very large scale in catering to the increasing demand for meat. [Hawaiian Gazette, May 4, 1900]

On May 8th, 1900, Samuel Parker loaned \$20,000.00 to the Humuula Sheep Station Company, Haneberg and partners, using the station as collateral (BoC Liber 204:342-344). In 1901, August Haneberg conveyed the Humuula Sheep Station Company to Parker in the following conveyance:

May 21st, 1901

August Haneberg; to Samuel Parker

(Conveyance of the Humuula Sheep Station Company):

...In consideration of the sum of Twenty Thousand Dollars (\$20,000) to me paid by the said Samuel Parker, the receipt of which is hereby acknowledged, the same being paid on account and in part payment of the sum of Forty seven thousand seven hundred dollars (\$47,700) secured by the said mortgage, do hereby remise, release and reassign unto the said Samuel Parker — that certain mortgage and the note and debt secured thereby from James Frank Woods, of Kahua, Kohala, Island of Hawaii, in favor of the said Samuel Parker, in the sum of Thirty two thousand dollars which mortgage is dated August 23rd, 1899 and recorded in the Registry Office, Oahu in liber 196 pages 244-247, together with all rights of remainder or reversion and equity of redemption of the mortgagor in said mortgage note and debt. To have and to hold unto the said Samuel Parker, his executors, administrators and assigns, absolutely, subject only to the prior assignment of the same by way of mortgage to Alfred W. Carter, trustee, to secure a loan of twelve thousand dollars which assignment is dated March 10th, 1900, and recorded in the Registry Office, Oahu, in liber 207 on pages 113-115, provided however that nothing herein contained shall prejudice or affect my security for the balance of the said Sum of

Forty seven thousand seven hundred dollars under the assignment of May 8th, 1900, of shares of the Humuula Sheep Station, a corporation, made by the said Samuel Parker to me or on shares of the Metropolitan Meat Company Limited, as additional security for the payment of the said sum... [BoC Liber 220:275-276]

Samuel Parkers' Humuula Sheep Station Company was described in a detailed article published in the December 1902 edition of the *Paradise of the Pacific*. The author, "Blacksheep," reported on the background of the station, the layout of the paddocks, and also described the shearing process:

Sheep Raising in the Hawaiian Islands

The Humuula Sheep Station largest of its kind in the Hawaiian Islands and is one of the vast estates owned by the Honorable Samuel Parker and ably managed by his son, Samuel Parker, Jr. Humuula is situated between the mountains of Mauna Kea and Mauna Loa at the average elevation of 6000 feet, and is the highest point of habitation on the Island of Hawaii as well as the coldest, for, during the winter months, when the higher paddocks are covered with snow, the thermometer has been known to show twenty-eight degrees. The station was started by the late James Gay, but most of the laying out of the paddocks and fences was done by Mr. A. Haneberg, who had acquired it, and from whom the present owner bought it. The station is composed of 250,000 acres and is divided into five sub-stations with the head station at Kaleieha, about thirty-eight miles distance from Waimea, and are all connected with a private telephone, the one extreme station from the other being about thirty-five miles.

The stock of sheep varies in number from twenty to thirty thousand head and is chiefly composed of the Merino breed, which not only seems to thrive better than any other in this climate but produces the best wool. Although the average weight of the sheep in these Islands is much lower than that on the mainland or in other countries, sheep raising, if properly attended to, is a very profitable investment, although one must have a large tract of land to raise them on, allowing at the most three sheep to the acre. Mutton brings ten cents a pound and the sheep when shorn average five pounds of wool, for which fifteen cents a pound is paid. The Humuula horse and mules, of which there are a good number, are noted for their size, speed and endurance, and in any market realize the highest prices for Hawaiian-bred stock. The greatest pest and enemy of the sheep are the wild dogs, which are very numerous in the mountains of Hawaii and are eradicated only by the laying of poison by the boundary riders along the fences and by shooting them when seen, which, however is very seldom, as they generally hide or sleep during the day time and do their mischief at night.

The shearing season is always the busiest time of the year on the station and generally begins in June. Japanese from all over the island come to work during that period, either as shearers or roustabouts, and the best of the former average about one hundred head a day during the season, which compares very favorably with that in other countries. The sheep having been driven over night into the pens in the large wool-shed at Kaleieha, where the shearing generally takes place, the head overseer rings the bell at 6 o'clock in the morning and shearing commences. As each sheep is shorn, an overseer, one on each side of the shed, puts distinguishing marks with red ochre on the ewes, wethers and rams, at the same time looking at the teeth to see the age, and as this is done, calls it out to the tally man, who enters it in his books. A roustabout then picks up the fleece and carried it to a long table where two men are constantly at work rolling the fleeces up ready for the wool-press. Two men are at work pressing the fleeces in the press with their feet, and when a bale is pressed and the bag sewn it is weighted, numbered and addressed, and is ready for market, and generally averages about 275 pounds.

One of the chief things the overseers must watch is to see that the shearers are not racing with each other, for this is a very common occurrence amongst them and a way they make a little more money on the side. When they do this, their work is careless and,

besides not getting off as much wool as they should, they cut the sheep with their shears. The only way of stopping them, when caught, is to warn them the first time and lay them off permanently the second. After the day's work is over, each shearer is credited with the number of sheep he has shorn and the sheep are driven from the small pens around the wool-shed into the larger ones awaiting the time of dipping, which commences when the season is about half over. The dip generally used, into which each and every sheep is put for two minutes, is a mixture of sulphur and lime, which destroys all vermin, scab or disease that a sheep is subject to, and also promotes the growth of the wool. It is after the shearing and dipping is over that the sheep are classified and parted generally, the wethers for market going to the fattening paddocks and ewes, lambs and rams being put in paddocks reserved for them.

The officers of the company are Hon. Samuel Parker, President; Samuel Parker, Jr., Vice President; G.J. Waller, treasurer; and Carl A. Widemann, Secretary. Mr. Fred Wundenberg is the Honolulu agent. ["Blacksheep" in Paradise of the Pacific, 1902 Vol. 15 No. 11:28]

In between 1902 to 1906, W.H. Shipman extended his leasehold interests on the mountain lands adjoining Humu'ula and Pi'ihonua. On December 1, 1902, Shipman secured a lease on the land of Makahanaloa, the lease from Pepeekeo Sugar Company covered:

...a part of that certain piece or parcel of land known as Makahanaloa... Beginning at the Southern junction of this land with the land of Humuula and running along the boundary of said Humuula in a northerly direction for a distance of 5,000 feet more or less, to the northern boundary of this lands, thence East along the boundary of the land of Hakalau for a distance of one and one half miles, more or less, thence south across the land of Makahanaloa to the southern boundary of this land where it joins the land of Papaikou, thence west along the land of Papaikou, one and one half miles more or less, to point of commencement, containing an area of 926 acres, more or less. To have and to hold unto the Lessee from the 1st day of December, 1902, for the term of Ten years... [BoC Liber 240:311-313]

The lease issued on January 1st, 1906, covered the lands of Hakalau and Honohina, and was issued to Shipman by the Hakalau Plantation Company. The lease covered the mountain lands of the two *ahupua'a*, and described the area as:

All of the open lands of Hakalau and Honohina lying and being *mauka* of the *mauka* line of the live timber as now existing on said lands.

To have and to hold the above described premises...for the term of ten (10) years from and after the first day of January A.D. 1906.

It is further provided and agreed that the party of the second part shall and will at his own expenses, so dense the premises hereby leased that the remainder of the lands above referred to shall be protected from trespass of sheep and cattle.

And the party of the first part further agrees that the party of the second part may, without compensation to said first party shoot, kill and carry away any and all wild cattle which he may be able to find in the heavy timber on the above lands and lying below the lands hereby leased... [BoC Liber 273:461-462]

Samuel Parker, Sr., and associates held the leases on the Humu'ula and Ka'ohē IV parcels for about fourteen years from 1900 to 1914. In that time, the original lease to James Gay, which had been extended for an additional seven years, ended on April 1, 1908. The Humuula Sheep Station Company, under the management of Samuel Parker and Theo. H. Davies, secured a new lease on December 30th, 1907. The lease (No. 608), covered some 53,000 acres—removing those lands

which were being incorporated into the Hilo and Mauna Kea Forest Reserve lands—had terms of twenty-one years from January 1, 1909, running until December 31st, 1929. General Lease No. 608 provides readers with the metes and bounds of the revised Humu'ula parcel, and included a map of the area described (*Figure 6*):

November 27, A.D. 1907
NOTICE OF SALE OF GENERAL LEASE OF
PASTORAL LAND OF HUMUULA, HAWAII.

At 12 o'clock noon, Monday, December 30, 1907, at the front entrance of the Judiciary Building, Honolulu, there will be sold at public auction under Provisions of Part 5, Land Act 1895, (Sections 278 to 285 inclusive, Revised Laws of Hawaii) a General Lease of the following described land:

All that portion of Humuula lying between the upper boundary of the Hilo Forest Reserve and the southern boundary of the Kipuka, Aina Hou, and containing an area of 53,180 acres a little more or less.

Term of lease, twenty-one years from January 1, 1909.

Upset rental, \$3,500.00 per annum, payable semi-annually in advance.

In addition to the regular provisions of a General Lease this lease will carry Special Conditions reserving to the Government the right to resume possession at any time of such portion or portions of the premises as may be required for settlement purposes or for public use. Also reserving to the Government for public purposes all trails, roads and right-of-way crossing said lands. Also requiring that the boundaries of the lands shall be fenced with a lawful fence within one year from the date of the occupation of the land under the lease and that said fence shall be maintained in good repair during the life of the lease. The locations of said fence to be on the public land of Humuula at or reasonably near the boundary of said land...

Jas. W. Pratt
Commissioner of Public Lands

December 30, 1907
General Lease No. 608
Commission of Public Lands;
to Humuula Sheep Station—
T. Clive Davies, President; E.H. Wodehouse, Treasurer:

...All of that portion of Humuula, Hilo, Hawaii, and more particularly described as follows:

Beginning at Government Survey Trig. Station "Kole South" (marked by ___ on set stone *ahu*) on hill of that same name on the South side of Mauna Kea and on the boundary of Humuula and Kaohe the true azimuth and distance to "Aahuwela" Trig. Station being 234° 44' 30" 22851.8 feet and to "Puu Oo" Trig. Station being 307° 04' 13" 11113.9 feet, as shown on Government Survey Registered Maps Nos. 1718 and 1809, and running by true azimuths:

- 1 – 193° 10' 17260 feet along **Kaohe** to **Kaupakuhale Hill**;
- 2 – 199° 42' 20" 26368.0 feet along Kaohe to **Holei**;

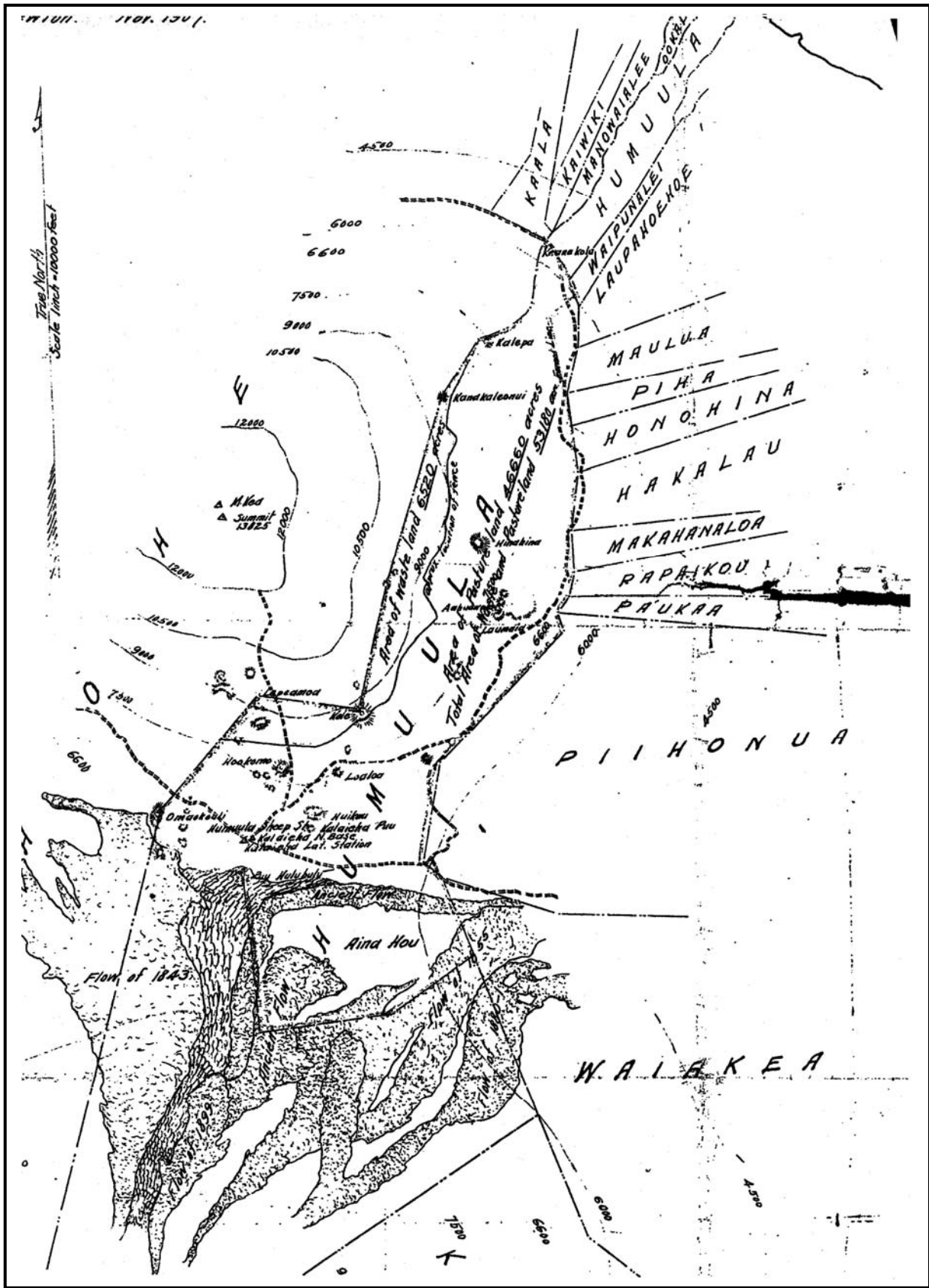


Figure 6. Map to General Lease No. 608, Portion of the land of Humu'ula (1907).

- 3 – 214° 30' 9000 feet along Kaohe to **Waikulukulu** a point in **Kaula Gulch**;
- 4 – Thence following along the center of Kaula Gulch to a [___ diagram] cut in the rock ledge near the middle of said gulch at the old **Keanakolu-Waimea trail crossing**, the said gulch at this point being on the Hilo-Hamakua Boundary, the direct azimuth and distance being 214° 34' 16000.0 feet;
- 5 – 322° 57' 45" 4374.) feet across the land of **Humuula** to the Northwest corner of **Waipunalei** at a point on the middle of three *koa* trees marked H, X and W respectively, the true azimuth and distance to "**Lahohinu Puu**" Trig. Station being 102° 00' 1241.0 feet and the coordinated referred to "Kalepa" trig Station being 9613.4 feet North and 10936.0 feet East;
- 6 – 343° 03' 03" 4502.0 feet along the *mauka* line of **Waipunalei** to a mound of stones by a *koa* tree marked "**Poloka**" at West brink or edge of a pool of water called **Kulanahakoi** [Kulanihakoi];
- 7 – 49° 55' 4638.0 feet along the North line of **Laupahoehoe** to Northwest corner of same at the crossing of the **Hopuwai-Keanakolu trail** over the "**Keahua-a**" or "**Douglass Pits**" Gully;
- 8 – 352° 02' 12" 4125.0 feet along the *mauka* line of **Laupahoehoe** to the Northwest corner of **Maulua Nui** at *koa* tree surrounded by a mound of stones a little East of the **Hopuwai-Keanakolu trail** and at the bend of the same into **Kaiaiki Gully**;
- 9 – 349° 23' 6208.0 feet along the *mauka* line of **Maulua Nui** to the Northwest corner of **Piha** at a point on the **Hopuwai-Keanakolu Trail** where it leaves the brush and enters on open flat covered with black sand, in the middle of which has been erected a large mound of stones called "**Kahuwai**", the coordinates of said point referred to "Kalepa" Trip. Station being 7867.3 feet South and 10415.5 feet East;
- 10 – 353° 28' 4069 feet along **Piha** to the **Nauhi Gulch** (same as **Umauma Gulch**);
- 11 – 354° 20' 6250.0 feet along **Honohina**, passing *mauka* of **Hopuwai**, to a rock marked H.H. [___ diagram] and *ahu* on a commanding elevation above the lower trail, half a mile South of Hopuwai, the coordinated referred to "**Kaloaloe**" Trig. Station being 6900.0 feet North and 600.0 feet East;
- 12 – 8° 15' 8080.0 feet along **Hakalau Nui** to a plat rock marked M [___ diagram] about 70 feet South from gulch and South of "**Kaloaloe**" trig. Station as per Boundary Certificate No. 130;
- 13 – 359° 10' 5450.0 feet along **Mahanaloa** [**Makahanaloea**] to the summit of a small conical hill the most Southern of a range overlooking the country below, the coordinates of said point referred to "**Aahuwela**" Trig. Station being 4550.0 feet North and 10250.0 feet East;
- 14 – 15° 00' 3700.0 feet along **Papaikou** to a fall on **Nukupahu Gulch**, near an old site called **Simmons' hut**;
- 15 – 40° 12' 2617.0 feet along **Paukaa**;
- 16 – 343° 00' 2600.0 feet along **Piihonua** to place called "**Lae**" marked by [___ diagram] on stone and *ahu* with four ridges of stone radiating from center at right angles (being Lydgates old *ahu*), the true azimuth and distance to "**Aahuwela**" Trig. Station being 112° 45' 33" 9069.8 feet;
- 17 – 44° 26' 23765.0 feet along **Piihonua** to the side of **Lydgate**' [___ diagram] on *Koa* tree, the coordinates referred to "**Puu Oo**" Trig. Station being 584.6 feet South and 1517.3 feet East;

- 18 – 11° 11' 13553.0 feet along Piihonua to a place called "**Kaelewai**" marked by a [___ diagram] on rock in Lydgate's old *ahu*, the true azimuth and distance to "Puu Oo" Trig. Station being 184° 34' 20" 13923.3 feet and to "**Kalaieha**" Puu Trig. Station being 108° 53' 55" 15000.4 feet;
- 19 – 313° 01' 3174.5 feet along Piihonua to **Kahiliku Hill**;
- 20 – 339° 25' 11200.0 feet along **Waiakea** to a point on the *Pahoehoe* flow of 1855;
- 21 – 55° 30' 12980.0 feet along **Humuula** Remainder to a point on the *Aa* flow of 1855;
- 22 – 83° 05' 17970.0 feet along Humuula Remainder to a point on the *Aa* flow;
- 23 – 175° 55' 20950.0 feet along Humuula Remainder to top of **Puu Huluhulu**;
- 24 – Thence along the edge of the *Aa* Flow to a point at edge of same on the **Humuula-Kaohe Boundary**, the true azimuth and distance being 118° 15' 12675.0 feet;
- 25 – 195° 12' 18" 3110.0 feet along Kaohe to "**Omaokoili**" Trig. Station (marked by [___ diagram] on solid imbedded bomb);
- 26 – 219° 58' 42" 19875.8 feet along Kaohe to "**Lepeamo**a" Trig. Station (marked by a [___ diagram] on set stone) and *ahu*;
- 27 – 279° 56' 58" 13798.5 feet along Kaohe to the point of beginning.

Pasture Land 46660 Acres
Waste Land 6520 Acres
TOTAL AREA 53180 ACRES, more or less.

Special Conditions...

- (2) The lessor also reserves for public use all rights of way for present roads or trails across said land.
- (3) The Lessees to construct at their own cost and expense, within one year from the date of acquiring possession of the land under this lease, a lawful fence as defined by section 407, Revised Laws of Hawaii, along its entire boundaries, the location of said fence to be on the public land of Humuula at or reasonably near the boundary of said land, and to keep and maintain said fence in good repair during the term of the lease... [Lease No. 608 – State Land Division]

Ranching the Mountain Lands in the early 1900s:

Transfer of Humu'ula to Parker Ranch, and Pi'ihonua to W.H. Shipman

A.W. Carter, trustee and manager of the Parker Ranch, and Samuel Parker, Sr., had shared disagreements over management of the ranch and trust. Indeed, Samuel Parker, had bid against A.W. Carter for leasehold interests in the Humu'ula and Ka'ohe holdings. By 1902, Samuel Parker, his cousin Eben Low, and backers, set in motion plans to take over the ranch and remove A.W. Carter from the role as trustee. Their first action was to contest Carter's trusteeship of Annie Thelma K. Parker. Parker and party also bid, unsuccessfully, on the Waikōloa lands, including the Ke'āmoku Sheep Station from heirs of the Davis estate, and attempted to demonstrate that expenditure of Parker Ranch funds by Carter on the development of water lines to the dry Waikōloa lands and northern slopes of Mauna Kea was a waste.

Things got so heated between Samuel Parker and A.W. Carter, that a take over was attempted, and on June 7th, 1904, Eben Low, J.A. Magoon, and J. Lightfoot stormed Carter's office, with Low apparently brandishing his pistols (A.W. Carter, Parker Ranch Files, 1904). Things were heated, but no shots were fired. Subsequently, John "Keoni Poko" Lindsey (father of interviewee Elizabeth Lindsey-Kimura) slept in Carter's office, armed, in case of an attack. Also in 1904, litigation over the

right of trusteeship was entered into between Parker and Carter. The case was decided on November 3, 1905 in favor of A.W. Carter as trustee; and the case regarding partition of assets was decided in September 1906, thus bringing an end to more than five years of disagreements and litigation (Parker Ranch-PPS Files, 1904-1906).

In 1904, as a part of the litigation, A.W. Carter took testimonies from cowboys regarding the range of activities undertaken on the ranch, including the rounding up of cattle on Mauna Kea and the mountain lands. Among his notes were found the following references to the taking of mountain cattle from Mauna Kea:

Mountain Cattle: As Told of by Cowboys of 1904

The cattle go up into the wild places and the more you chase them the further in they go, and never come out. Tame cattle join the wild and they become wild too.

The ***Mauna Kea summit*** is quite a distance from the forest lands. The wild cattle go up there beyond the forest into the sand and rocks. They stay there until dark, then come down to feed and go up again in the morning.

It is precipitous and it is almost impossible for the men to head the cattle down after they get started up. One man cannot head one bullock down. He will have to rope him if he gets him at all. It requires the very best of horses. There is an accident almost every time the men go up there.

When there is snow on the mountain the cattle come down to lower land and then it is easier to drive them.

An experienced man knows the right times to get the wild mountain cattle. If he goes at the wrong time he will get only a few – fifteen or twenty.

Sound: noise – on the mountain reaches a long way, sometimes down as far as ***Kemole Hills***. This way, by yelling, wild cattle are driven into certain locations – concentrated in one place. Then if the proper men are there to make the road, they can handle those cattle while there are in bunches and force them into the traps. It can be done in an hour sometimes, if the fog is not so thick it obstructs the view. With twenty or thirty of the right men you can pack your pen full. But it depends on the conditions.

When the men are lassoing wild cattle on the mountains they will always take a bull in preference to a cow. More wild steers are brought down than cows.

The cattle that hang around ***Kekuahana pen*** we call tame, even though some of them are wild. The really wild cattle are up on the mountain – ***Makahilinu***. The Hawaiians call only the really high places the mountain.

When we got wild cattle down from the mountain, one or two hundred of them, the proper thing to do would be to put these cattle into a pen and have them kept there nights. Then during the day have them put out somewhere where they could be watched. Some good places about a quarter of a mile from the pen.

It would require ten men or more to drive these cattle to the chosen place. Then three men would be able to watch, and ten again to drive them in at night.

In this way they would be tamed and used to being driven. Taming would take two or three weeks... [Parker Ranch-PPS, Cattle File]

January 18th, 1904

The Puuloa Sheep and Stock Ranch [purchased by G.W. McFarlane from the Spencers in 1896] was purchased by Parker Ranch on January 18, 1904. Frank Johnson, manager of the Ke'āmoku section of the Puuloa Sheep and Stock Ranch, reported on February 18th 1904, that a total of 6,175 sheep were held at the Ke'āmoku Station [Parker Ranch-PPS, Humuula File].

Following settlement of the law suit between Parker and Carter in 1906, the two once again entered into a cautious working relationship. By 1914, Parkers' efforts in business at Humu'ula were floundering, and in that year A.W. Carter, on behalf of the Parker Ranch, sought out a means of purchasing the Humuula Sheep Station Company for Parker Ranch. In the months leading up to the sale in 1915, A.W. Carter researched and documented the conditions, and extent of the Humu'ula holdings. From his records, come the following descriptions of the Humuula Sheep Station operation:

April 2nd, 1914

A.W. Carter; to Elizabeth "Tootsie" Dowsett Parker-Knight

(Regarding Acquisition of Humuula Sheep Station Lands and Livestock):

...I am in receipt of your letters of March 10th, 20th and 24th.

I have been on Hawaii for three weeks, returned last Saturday. My trip was confined mostly to **Humuula**. Sam Parker, Jr. went up with me and we drove the place and I took possession. Sam did not know who he was selling to when he closed with Williamson. Under my instructions Williamson did not divulge who he was purchasing for. I did this for two reasons: First, that I knew that Davies & Co., were anxious to obtain the place, so was Shingle for I think the Baldwins', and had they known that I was in a position to buy and was a candidate, it would have made a difference I think in what they themselves would offer. Money was so terribly tight that I think that Davies & Co., banked on the assurance that they could get it at their own figure. Secondly: I did not know what Sam's attitude would be and thought it was just as well to eliminate any consideration of personalities. He did not come to me, therefore I did not go to him.

I am more than ever pleased with the deal since making a drive of the place. Sam guaranteed 400 head of horses; we counted out 518. He guaranteed 400 head of cattle, and we counted out 475, but in addition to this there are about 50 head of wild cattle in a small paddock. He guaranteed 23,000 head of sheep. We drove all of the sheep but we did not count them. There were quite a large number of young lambs and it would have been bad to have handled them to the extent of counting particularly as they would have to be handled now within a month for shearing. There is very little question that this number will be made good. The sheep are superior, the cattle are very good and while there are a good many scrub horses, there are a good many which are saleable this year and the next to the Army. The sheep are ready to be shorn at the present time, and they will average a dollar a head about for wool to be taken off them inside of the next thirty days. Even assuming the balance of the value was only \$2.00 per head, this would bring the value of the sheep on the place to over \$60,000.00 The 500 and odd head of horses put it at only \$50.00 per head would make \$25,000.00; 500 head of cattle put in at \$40.00 per head would add \$20,000.00. There you have \$105,000. in livestock at very conservative figures. In addition to this, the place is well equipped with wagons, harnesses, wool sheds, shearing machines, houses, water tanks, and about \$20,000.00 worth of fencing, so you can see why I consider the purchase a good one.

There is a good deal about the purchase of **Humuula** of which I have not told you, a great deal which Sam told me which led me to believe that he did probably the only thing, although as I told him that if he had come to me I should have advised against parting with the place, but with more full information I imagine that he did the right thing so far as his own interest is concerned, of course, provided that he can hold on to his money. Ernie Wodehouse was the first one that spoke to me about Humuula being for sale and

started to tell me that they would probably purchase it. I interrupted him and told him that if Sam Parker came to me about it, I should advise him that he was a fool to sell, but if I were convinced that he was going to sell anyway, that I should endeavor to obtain the property for the Parker Ranch. He then suggested that a *hui* consisting of myself and himself, Henry Holmes and Robert Hind, be made up to purchase the property. He said that we would only have to put up \$5,000.00 apiece. I told him that I could not do this feeling as I did that the Parker Ranch should own the property. He said that he did not see the reason why, but I told him there was no use discussing it as I was convinced by very good reasons. This proposition I resented more and more as I thought of it. Now while Wodehouse was informed of my desire to acquire the place, I do not believe that he dreamt for a moment that I would be able to raise the funds, taking into consideration the condition of the money market, but I think I wrote you I had the time of my life in finally getting it.

Please treat the foregoing as confidential. Sam Parker offered it first to Davies & Co. for \$110,000.00 Wodehouse told him nothing doing, that the place was not worth over \$85,000.00 and to go out and see others and come back and perhaps they could do business. He then offered it to Shingle for \$110,000.00. Shingle wanted to give him a guarantee that sometime in the future he would give him \$110,000.00, but Sam told him that his guarantee was no good, but to go and get the Bank of Hawaii's guarantee and he would do business. Shingle then thought that Sam was bluffing about another man being in the field and Sam was told in Shingle's office that he was the biggest bluffer in town. He walked right over to Williamson's office, Williamson asked him if he was ready to do business and he said yes. Williamson then asked him what his price was, he said \$110,000.00 and Williamson handed him a check for \$75,000. and he signed an agreement of sale and the whole thing was closed up inside of five minutes.

Sam has been very decent with me and he has played square and above aboard and I appreciate it." [Parker Ranch-PPS, Humuula File]

May 21st, 1915

A.W. Carter; to O. Sorenson:

I have given instructions to have the sheep pen built at Nohonaohae. I would like to have this completed before our next shipment of sheep, therefore it had better be pushed to completion. Let Sam Parker supervise this job and give him as many men as he can use. It will be all right to take men from Manuel Vierra's gang or put all Manuel Vierra's gang onto the job. Let it take precedence over the tree planting of Pookanaka and the pipe laying on the mountain. I should like to have all of these jobs completed by the first of July or as soon thereafter as possible.

I want the floor of the small pen on the intake side of the dipping vat at Humuula cemented. If you wish to you can also cement the floor of the draining pen, but it will have to be arranged differently from the present arrangement. It should be as it is at Keamoku. The water drain into a cement container and from there drain into the vat so that the sediment will be collected in the bottom of the small cement container. If you decide to do this it is not necessary to make this pen as large as the present one at Humuula. Sam Parker can superintend this job but you had better go out with him to Keamoku to look at the arrangement out there. Have him tackle this job as soon as he finishes the sheep pen at Nohonaohae. [Parker Ranch-PPS, Humuula File]

July 23rd, 1915

A.W. Carter; to J.D. Tucker, Commissioner of Public Lands.

I hereby make application for fifteen year lease of the land of **Kaohe 4** and offer as an upset rental the sum of Five Hundred Dollars per annum.

This land has been used by the Humuula Sheep Station to run horses and mules on. Water is piped down to it and stored in a tank at a place called **Pohakuloa**. Since I have come in possession of the sheep station I have not run over One Hundred head of stock on this property but on inquiry of the former owner he informs me that they have run as many as Two Hundred and Fifty head at times. Much of this property is worthless being covered with lava flows and a portion of it being inaccessible. The land used for pasturage is on either side of the road running to Kaleieha and consists of sandy soil and is very dry. [Parker Ranch-PPS, Humuula File]

July 29th, 1915

J.D. Tucker; to A.W. Carter:

...I have for acknowledgment your application of July 23rd, for a fifteen year lease of the land of Kaohe 4, at an upset rental of \$500.00 annum.

I will recommend the same to the Land Board at its next meeting... [Parker Ranch-PPS, Humuula File]

The formal conveyance of the Humu'ula Sheep Station Company and associated properties and resources was recorded in November 1915. The sale was recorded in the following conveyance:

November 9th, 1915

**O.L. Sorenson, Trustee of Humuula Sheep Station Company;
to A.W. Carter, Trustee of the Estate of Annie T. K. Parker**

(Conveying all property and resources of the Humuula Sheep Station Company):

This Indenture, made this 9th day of November, A.D. 1915, by and between Humuula Sheep Station Company, an Hawaiian corporation, by O. L. Sorenson, Trustee for its stockholders and creditors, party of the first part, and Alfred W. Carter, Trustee under that certain deed of trust made by Annie T.K. Parker, dated April 25, 1912 and recorded in the Hawaiian Registry of Conveyances in Volume 365, page 273, party of the second part;

Witnesseth: Whereas, on May 8, 1915, the Humuula Sheep Station Company, an Hawaiian corporation, duly filed in the office of the Treasurer of the Territory of Hawaii, its petition to dissolve and disincorporated according to law; and

Whereas, notice of said petition was duly advertised according to law; and

Whereas, on August 4, 1915, said Humuula Sheep Station Company was legally declared to be dissolved by C.J. McCarthy, Treasurer of the Territory of Hawaii...and O.L. Sorenson was duly appointed Trustee for the Creditors and stockholders of said Humuula Sheep Station Company, with full power to settle the affairs of said corporation... ..Whereas the party of the second part was on May 8, 1915 and now is the sole and only stockholder of said Humuula Sheep Station Company...;

Now Therefore this indenture witnesseth: That the party of the first part, in consideration of the premises and of One Dollar (\$1.00) to it paid by the party of the second part, the receipt whereof is hereby acknowledged, does hereby give, grant, bargain, sell, convey, assign, transfer and deliver unto the party of the second part, his heirs, successors in trust and assigns, all of the property, real personal or mixed, cattle bulls, horses, stallions, mules, sheep, wool, carriages and wagons, buildings and tanks, leases, lands, brands of any and all kinds, and all other property whatsoever formerly belonging to or held by said Humuula Sheep Station Company... [BoC Liber 435:249-250]

In 1920, W.H. Shipman, leasing Pi'ihonua, and operating out of Pu'u 'Ö'ō, extended his lease on Makahanaloa, and added the uplands of Pauka'a and Pāpa'ikou (the Pua'ākala house and ranch of the Hitchcocks), to his Pu'u 'Ö'ō Ranch operation (BoC Liber 566:181-194). By conveyance on July 15th, 1920, the Onomea Sugar Company granted to W.H. Shipman:

1. All of the upper or *mauka* portion of the *Ahupuaa* of Paukaa, described as follows:

Beginning at a 2 in. galvanized iron pipe at the Southwest corner of this land and adjoining the lands of Humuula and Piihonua, the coordinates of said point of beginning, referred to the Government Survey Trig. Station "Aahuwela" being 975.3 feet South and 7395.7 feet East and running by true azimuths:

1. 223° 09' 00" 2687.0 feet along the land of Humuula to a **X** cut on rock ledge overhanging waterfall in the middle of the Nukupahu Gulch below Simmons' old hut;
2. 271° 20' 37" 10862.0 feet along the land of Papaikou, Certificate of Boundaries #165 L.C.A. 11215 Ap. 1, to a 2 in. galvanized iron pipe;
3. 13° 33' 00" 2357/3 feet along fence;
4. 45° 33' 00" 1051.0 feet along the same;
5. 34° 36' 00" 980.6 feet along same to a X cut in rock at South edge of Nukupahu Stream; thence
6. Along the Nukupahu Stream (the water of which belongs to Paukaa) as per Certificate of Boundaries #58 to a **X** cut in rock at South edge of Nukupahu Stream, the direct azimuth and distance being 108° 20' 6458.4 feet;
7. 91° 05' 00" 4682.0 feet along the land of Piihonua to point of beginning.

Containing 700 acres, more or less.

Being a portion of Land Commission Award 7715 to L. Kamehameha.

2. All of the upper or *mauka* portion of the *Ahupuaa* of Papaikou, described as follows:

Beginning at the South-west corner of this land, at a cut on rock ledge overhanging the waterfall in the middle of the Nukupahu Gulch, below Simmons' hut, and adjoining the lands of Humuula and Paukaa, the coordinates of said point of beginning, referred to the Government Survey Trig. Station "Aahuwela" being 985.0 feet North and 9233.4 feet East and running by true azimuths:

1. 195° 45' 30" 3667.3 feet along the land of Humuula to a 2 in. galvanized pipe on the summit of a small, conical Magnetic Hill, the Southern of a range overlooking the country below;
2. 260° 50' 00" 10928.5 feet along the land of Makahanaloa and as per Certificate of Boundaries #165 to a 2 in. galvanized iron pipe;
3. 9° 42' 00" 3911.6 feet along fence;
4. 9° 05' 00" 1690.3 feet along same to a 2 in. galvanized pipe;
5. 91° 20' 37" 10862.0 feet along the land of Paukaa, L.C.A. 7715, Certificate of Boundaries #181, to point of beginning.

Containing 1108 Acres, more or less.

Being a portion of Royal Patent 7875 Land Commission Award 11215 *Apana* 1 to Kealiihonui.

To have and to hold the same together with all rights, privileges and appurtenances to the same belonging or appertaining, unto the Lessee for the term of Nineteen (19) years,

Six (6) months from June 1, 1920...

That he or his successors or permitted assigns shall and will during said term occupy all of the said premises and use the same for purposes of pasturage of livestock according to the most approved method and practice which shall be in vogue in the Territory of Hawaii.

That he will not cut down, fell or injure, or suffer to be cut down, felled or injured, any trees or saplings now or hereafter growing upon the lands hereby demised, except when it shall be necessary so to do for the purpose of cutting trails and in order to obtain material for fence posts to be used solely on the fence line of the demised lands, and for such cross or paddock fence lines as may be required, and also for the purpose of obtaining material for the construction of ranch buildings of various character...

The Lessee agrees to use his best efforts to kill all wild cattle and pigs within the forest area on the Easterly side of the lands hereby demised, and to report semi-annually to said Lessor the number of Wild cattle so killed by him. It is understood that all such animals shall belong to the Lessee to be disposed of as he sees fit.

Lessee further agrees to use his best efforts in preventing other animals from becoming a pest upon the demised area.

That he will eradicate from said demised premises all noxious weeds and plants that are generally recognized to be a detriment to good pasturage conditions now growing or being or which may hereafter during the continuance of the said term grow or be upon the said demised premises...

That he will plant not less than Five Hundred trees of suitable species each and every year during the term of this lease upon areas adjacent to springs and water sources and along the boundaries of the lands hereby demised, on such areas as shall be approved in writing by the Lessor. Such areas as may be planted to forest trees adjacent to springs and water sources shall be completely fenced with a stock-proof fence and maintained in that condition for the term of this lease... [BoC Liber 566:187-194]

By terms of leases, 1929 was an important year on Humu'ula and Ka'ohe. It was also of importance at Pi'ihonua, as it was the year in which W.H. Shipman, Limited, purchased the 40 acre parcel that made up the Pu'u 'O'o Ranch headquarters. On February 3, 1929, Governor Farrington, issued Land Patent Grant No. 8970 to Shipman. The grant included the following conditions:

***Land Patent Grant No. 8970
...Containing an area of 40 00/100 Acres. [Figure 7]***

Together with right-of-way to the Patentee, its successors and assigns, over the Government lands of Humuula and Pi'ihonua, Island of Hawaii, subject always to the existing rights of others, for reasonable and ready access to present Government Roads for animal and vehicular traffic.

The land herein described is granted subject to the condition that the Patentee will maintain the spring situated on said premises in good condition, with the purpose in view of the conservation of the water flowing therefrom, and will maintain in good condition tank or tanks on said premises for the storage of eight thousand (8,000) gallons of water, so long as said spring is a live spring, and

Subject also to the condition that prior to the expiration of the present Government General Lease No. 992, dated April 6th, 1918, from the Commissioner of Public Lands of

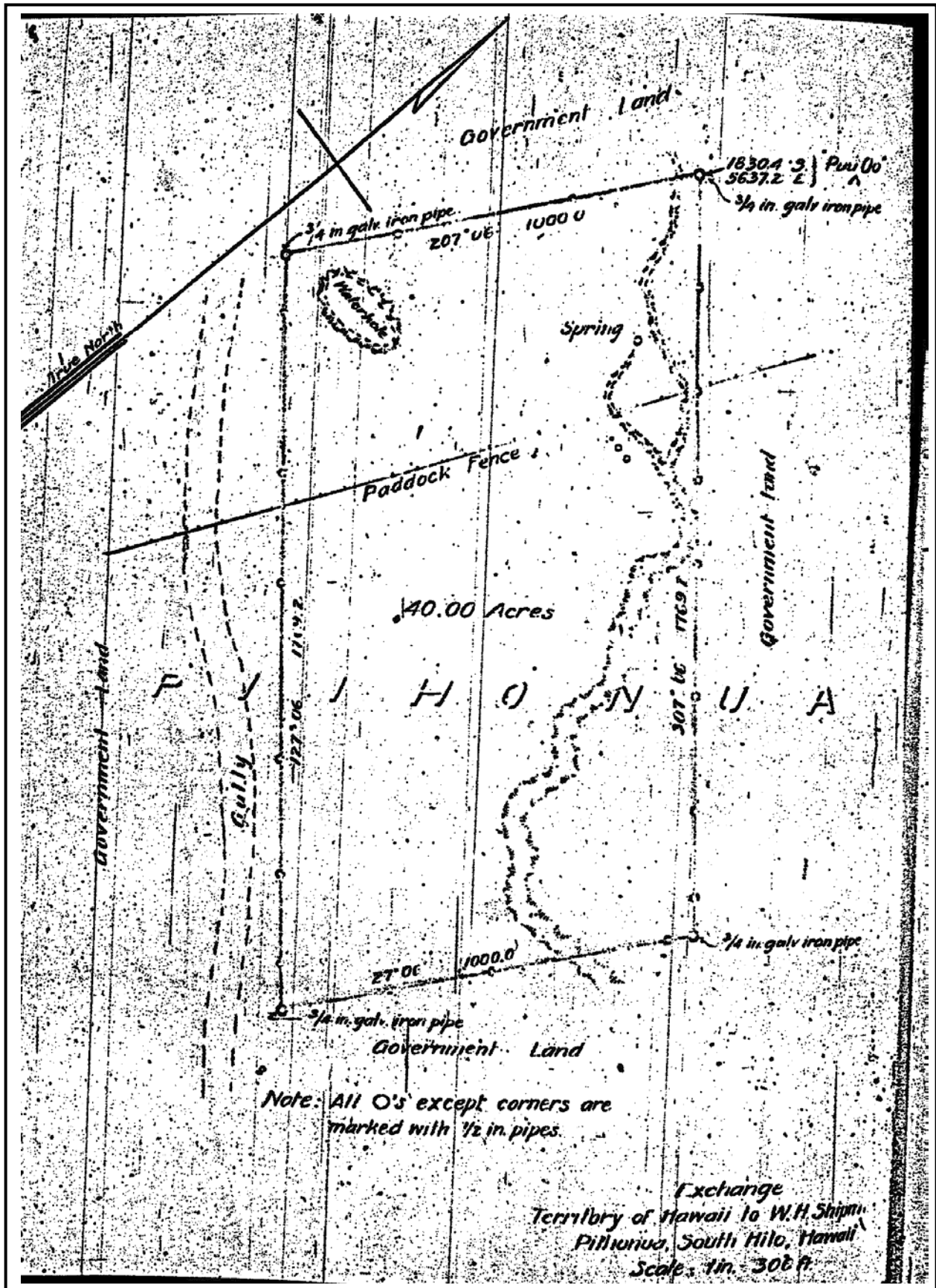


Figure 7. Map of Pi'ihonua Parcel, Grant No. 8970, sold to W.H. Shipman, 1929.

the Territory of Hawaii, to W.H. Shipman, and assigned to W.H. Shipman, Limited, the Patentee will erect a good and substantial fence around the said premises herein granted, and thereafter will maintain the same, and that no building or other improvements shall be placed on said granted premises for the purpose of the operation of the leasehold premises covered by said General Lease No. 992, it being the intent of the parties to this exchange as set forth in the deed above referred to that improvements and equipment for the operation of said leasehold premises covered by said General Lease No. 99s shall be placed on said leasehold premises, and

Subject also to the further condition that the Patentee shall be entitled to a prior right to, with first charge upon, all waters flowing from the above mentioned spring, for agricultural, garden, household and domestic purposes, also for the use of livestock as may be upon the granted premises, and the patentee covenants that it will not sell or lease to others the water which is granted to it by these presents. The surplus over the above stated requirements for the said Patentee its successors and assigns, shall be retained for the use of the Territory of Hawaii, its lessees and assigns, shall have a right-of-way for a pipe-line to said storage tanks situate on the granted premises, with right of entry for maintenance of said pipe-line. [BoC Patent Grant No. 8970; Vol. 53:317-320]

Leases on the Humu'ula and Ka'ohē lands were renewed in 1929. Parker Ranch secured Humu'ula and portions of Ka'ohē, A.W. Carter being out-bid for the Pōhakuloa section, though the bidder defaulted, and Parker Ranch secured the lease once again.

March 14, 1929

Pasture Lease

Kaohē III Section B, Hamakua, Hawaii

(C.S.F. 5301):

Being a portion of the Government land of Kaohē adjoining Mauna Kea Forest Reserve, and the lands of Paauhau and Waikoloa. Beginning at a + on the Northeast slope of Puu Laau on set stone at the Northeast corner of this tract, on the Southwest boundary of the Mauna Kea Forest Reserve, the coordinates of said point of beginning referred to Government Survey Trig. Station "Puu Laau" being 37.0 feet north and 188.0 feet East from the Government Survey Trig. Station "Ahumoa" being 9030.0 feet North and 5872.0 feet East, as shown on Government Survey Registered Map No. 2786, and running... [13 courses] ...AREA 12,131 ACRES.

Excepting and Reserving there from all existing roads and trails within this tract and such other roads, trails and other rights-of-way that may be required for public purposes.

Compiled from Gov't. Survey Records and Parker Ranch Map by Geo. F. Wright.

E.W. Hockley

Assistant Government Surveyor. [State Survey Division]

On April 7th, 1929, A.W. Carter bid for and secured General Lease No. 1971, replacing the earlier General Lease No. 608 for the land of Humu'ula. Terms of the lease were for twenty-one years, from January 1st, 1930 to December 31st, 1950; with a one year extension granted from January 1st, 1951. The lease was sold at an annual rental of \$25,100.00, and 49,100 acres, with 9,000 acres of the total being described as "waste land" (Land Division, General Lease No. 1971).

In his notes of April 29th, 1929, describing the new leases of Humu'ula and Ka'ohē, A.W. Carter observed that he:

...was run up tremendously on all of the leases. **Humuula** went from \$8,150.00 to \$25,100.00. It was an outrageous price to pay for this but I am glad that we got it. I would

have even gone some higher to obtain it. We can make money on this rental. I doubt, however, if anybody else would have. We have the stock and we need the land.

The road to Humuula [the Pōhakuloa flats of Ka'ōhe], consisting of about 16,000 acres, was bought by a Portuguese at an annual rental of \$8,000.00. This is largely a desert section and runs well up into the rocks on the Mauna Kea side. The lease provided for a fence to be built by the successful bidder of sixteen (16) miles, which will cost him, I think, not less than \$1,000. a mile. No one, I think, can make anything out of the place on the price paid for the lease and the conditions of the lease.

The other section of Kaohe between the Waikii gate and the last gate [the Ahumoa section] consisting of about 11,000 or 12,000 acres, I was run up to \$4,000.00, which is an excessive rental but considering the fact that it butts right into our Waikii paddock, it was essential that we get it.

There is considerable good land in this lease and I feel that we can make it pay its way. The other two leases, one back of the homesteads in Waimea Village and the other one on the mountain back of the old dairy, I obtained. We got all our leases with the exception of Kaohe section above mentioned, and the rent to the purchaser of this lease is prohibitive.

NOTE: The Land Commissioner went up from Honolulu early in February "to inspect Humuula and decide upon the question of a new lease." [Parker Ranch-PPS, Humuula File]

In 1919, Parker Ranch had closed its sheep station at Ke'āmoku—this was in-part the result of an introduced bur infesting the lowlands, making the wool almost impossible to clean. The Ke'āmoku and Waiki'i stations were dedicated to the cattle operation, with Waiki'i also focusing on feed production. Humu'ula served as the heart of the Parker Ranch sheep operation throughout the period of General Lease No. 1971.

Ranches on the Mountain Lands Described in 1929 (L.A. Henke)

In 1929, L.A. Henke, published a "Survey of Livestock in Hawaii," University of Hawaii Research Publication No. 5. The publication included historical descriptions of ranches throughout the Hawaiian Islands. The following narratives describe the primary ranches and their operations on the mountain lands around Mauna Kea up to 1929:

KUKAIAU RANCH

Kukaiau Ranch is located above Kukaiau Plantation and the headquarters of the ranch are reached by an automobile road leading seven miles *mauka* from the government road.

Kukaiau Plantation was started about 1886 by John M. Homer and Kukaiau Ranch was started about 1887 by Chas. Notley above the sugar belt. The ranch lands begin *mauka* of the sugar plantation at the 2,300 foot elevation and extend up to 7,600 feet. The ranch headquarters are located at 3,513 feet elevation.

The area at present consists of about 35,000 acres, about 2,000 of which are lava flows and 1,000 acres are so heavily wooded with blue gum trees that no grass is found between them. In May, 1928, the ranch carried 5,063 cattle, about 500 of which are Holsteins and the balance well bred Herefords. The ranch also had 294 horses, 100 mules and 3 jacks at that time. Forty nine of the horses are heavy brood mares of the Percheron breed, which are largely bred to jacks to produce mules. No sheep and practically no swine are kept at the present time.

The aim is to carry about one animal to seven acres. On this basis the ranch is slightly overstocked at the present time. The forage consists of native and imported grasses. *Paspalum dilatatum* does very well and buffalo grass (*Stenotaphrum americanum*) cocks foot (*Dactylis glomerata*) and mesquite (*Holcus lanatus*) are among the other leading forage grasses found on the ranch. Hilo grass (*Paspalum conjugatum*) is also found to some extent on parts of the ranch. Cultivated crops have been grown to some extent in days gone by but none are being produced at present.

The ranch is divided into about 30 large pastures with a total of about 150 miles of wire fencing, and a few stone fences.

Beef cattle are marketed at about 3 to 3 ½ years of age, at which time they weigh about 1,200 pounds and dress out slightly in excess of 50%. Calves are branded with the number of the year when born. About 1,000 to 1,100 are marketed annually, about 50% being sent to Honolulu, being [page 33] driven to Kukaiau Station, thence by train to Hilo and steamer to Honolulu. About 30% of those marketed annually are slaughtered locally and 20% are slaughtered in Hilo.

The Holstein male calves are sold as steers and at a given weight are as large as the Herefords but do not dress out quite as well. A few cross-breds occur and at a given age these in the first generation are larger than either the Herefords or Holsteins. Holstein females are sold as dairy cows, locally and in Honolulu. No dairy products are produced except for local consumption.

The ranch has 52 Hereford bulls, 8 of which are imported and practically all are purebred. They have five purebred Holstein sires, one of which, Matador Segis Walker, originally purchased from a mainland Holstein breeder, was later sold back to the same breeder for \$5,000, a price many times greater than the purchase price.

Mules are raised and sold to local sugar plantations. Perhaps the biggest problem is to get enough drinking water for the cattle. The rainfall averaged about 79.5 inches annually during thirty years at Umikoa, the station at the ranch headquarters. However, the rainfall varies greatly from year to year, being as low as 19.3 inches in 1897 and as high as 180.59 inches in 1902. A severe drought was experienced in 1920 and about 1,000 head were lost due to drought at that time.

Roofs are built in the various paddocks for catching the only water that can be secured, and the smallest of these roofs has an area of 10,000 square feet, and supplies about 600 cattle. Tanks are used to store this water, the total tank capacity at present being 2,140,000 gallons. This includes a 640,000-gallon reinforced concrete cistern. Additional water storage facilities are contemplated. Something in excess of 3,000,000 gallons storage capacity is desired.

The climate is cool, 34° F. being the record low temperature on the ranch. About 18 men are required to take care of the livestock on the ranch with additional men needed from time to time for special work. The ranch consists of about 2,000 acres held in fee simple by the owners, 20,000 acres are leased from the government and the balance is leased from other private owners.

Kukaiau Ranch interests were sold by Mr. Notley to J.M. Horner soon after he started same and Robert Horner was the manager for many years till 1912. The herd books of those early days (about 1890 to 1910) show that many Hereford bulls were purchased from Gudge and Simpson, noted Hereford breeders of Independence, Mo., and these bulls were rich in the blood of Don Carlos, Beau Brummel, Lamplighter and Anxiety 4th, all outstanding animals in Hereford breed history. Excellent light horses, both standard

breeds and thoroughbreds rich in the blood of Hambletonian X were imported and raised in the nineties and thereabouts when horse racing was more popular in Hawaii than it is at the present time. A small Short-horn herd was also maintained in the early days of the ranch. Good butter was made in the nineties but difficulty in marketing same caused this work to be abandoned. Good cattle giving 20-25 quarts of milk were, sold at that time for about \$75 each.

Mr. D.S. Macalister has been manager of the ranch since 1912. T.H. Davies & Co., Ltd., are the Honolulu agents. [page 34]

PARKER RANCH

Historical

The Parker Ranch is by far the largest of the Hawaiian ranches. The Parker Ranch proper (excluding the Kahuku Ranch owned by the Parker Ranch) has a total area of about 230,000 acres, about 155,000 of which are held in fee simple and the balance is leased, mostly from the government. The beginnings of the Parker Ranch go back one century. Wild cattle were abundant in the Waimea plains (then largely forested) about 1820, these cattle being descendants of those brought in by Vancouver.

The present Parker Ranch is the combination by purchase or lease at various times of smaller ranches which existed in this region, the Humuula sheep station consisting of 50,000 acres being acquired as late as 1914. The ranch derives its name from John P. Parker of Newton, Massachusetts, who was the original owner of the ranch (then much smaller than now) about 1830. He had two sons, John and Eben and one daughter, Mary, who married a Mr. Fuller. John P. Parker, Jr., succeeded his father as manager. Samuel Parker, a son of Eben Parker, was manager for a time. Following this Paul Jarrett was manager from about 1887 to 1899, when Alfred W. Carter became manager and has continued to the present time, his son Hartwell now acting as assistant manager... [page 37]

...The lands of the Parker Ranch extend from the sea to the slopes of Mauna Kea about 7500 feet elevation. Soil, rainfall, wind and temperature conditions vary widely in the different sections of the ranch. Some areas are not capable of carrying more than one steer to fifty acres while other more favored sections of the ranch may carry one head on about three acres... [page 38]

The Humuula Sheep Station

The sheep ranch headquarters are high up on the slopes of Mauna Kea, 32 miles from Kamuela. These lands, having an area of about 50,000 acres, became a part of the Parker Ranch in 1914 and have an elevation ranging between 6600 and 9500 feet. Twelve thousand Merinos are kept, all the rams being purebred.

The wethers average about a seven pound fleece and the ewes five pounds, the total wool production being about 70,000. [page 39]

Dressed two year old wethers weigh about 48 pounds. Present day demand is largely for lamb, but marketing lambs interferes with the wool production program.

This is a region of heavy dews and much fog and the sheep get all their water from the vegetation... [page 40]

PUU OO RANCH

Puu Oo Ranch, largely on the slopes of Mauna Kea on a line between Hilo and the top of the mountain, has an area of 23,000 acres, 40 of which are held in fee simple, 13,000 are leased from the government and the balance from private parties. The ranch is located at an elevation ranging between 5,000 and 6,500 feet, and can be reached by an auto trail

through Waikii and by horse trail from Hilo. The soil is good except for about 3,000 acres of rocky land between Mauna Kea and Mauna Loa. It is mostly an open forest country with *Ohia lehua*, *koa* (*Acacia koa*) and *mamani* (*Sophora chrysophylla*) trees.

This region has an annual rainfall of 92.48 inches based on eighteen years' records and the temperature has been observed to drop as low as 19° F. Water is secured from springs which lead to tanks and this ordinarily is an ample supply for the cattle. It is estimated that an average bullock drinks about 15 gallons per day. Puu Oo Ranch has about 75 miles of fence. This ranch carries about 4,000 high grade Herefords, 100 of the Hereford cows being registered animals. Forty-five bulls, all registered, are in service. All of the herd bulls except three from the Parker Ranch are Puu Oo raised. A total of about 1200 head are marketed annually from Keaau and Puu Oo Ranches, cattle from Keaau, the lower ranch, often being brought to Puu Oo for a year or more before marketing them.

Kentucky Blue Grass (*Poa pratensis*) with white clover (*Trifolium repens*) mixed in predominates as a forage grass in this section, and mesquite (*Holcus lanatus*) is considered very good. A wide variety of forage grasses are found, including cocks foot (*Dactylis glomerate*), *Paspalum dilatatum*, carpet grass (*Paspalum compressum*), redtop or Herd's grass (*Agrostis alba*), perennial rye (*Lolium perenne*), sweet vernal grass (*An-[page 42] thoxanthum odoratum*), *Phalarus bulbosa*, Begg's grass (*Cynodon dactylon*), tall meadow oat grass (*Arrhenatherum elatins*), brome grass (*Bromus unioloides*), *Panicum pruriens*, native sedges, creeping bent grass (*Agrostis alba* var. *maritima*), bird's foot trefoil clover (*Lotus corniculatus*), sheep sorrel (*Rumex acetosella*) and Hop vine clover (*Trifolium agrarium*), etc.

The lease on Puu Oo Ranch was purchased in 1899 by W. H. Shipman from John Baker, who started the ranch about 1896. He had built some fences, and about 600 head of mixed cattle, including some Longhorns, were found on the ranch at that time. Hereford bulls have been used on this ranch since 1900 and the cattle are well bred.

The ranch is still owned by W. H. Shipman, Ltd., and managed by W.H. Shipman and his son, H.C. Shipman.

Humu'ula– Recollections of Parker Ranch Operations

By the end of the term of General Lease No. 1971, in 1952, the Territory subdivided the Humu'ula lease into several smaller divisions, and placed them out for bid. These included the Keanakolu Paddocks (General Lease No. 3438); the Hopuwai Paddock (General Lease No. 3439); and the Kole and Laumaia Paddocks (General Lease No. 3440). All of the leases were sold by terms of twenty-one years from December 29, 1952.

By the middle 1950s a number of changes in ranch operations and management were occurring. In 1956, the Ka'ohē IV (Pōhakuloa) began to be withdrawn from the leases of the Parker Ranch, for military purposes (Governor's Executive Order No. 1719; and Presidential Executive Order No. 1167). The Ke'āmoku and Waiki'i stations were closed, and many of the station buildings moved or demolished. By 1963, the ranch announced that it would be shutting down its sheep operation at Humu'ula, with all grazing activities focusing on cattle. Rally Greenwell, then manager of Parker Ranch, and Richard Smart, heir of the Parker Ranch Estate, announced the closure of the sheep operation at Humu'ula in the ranch newsletter, *Paka Paniolo*, observing:

February 1963

Sheep Raising Business

Over half a century of sheep raising on Parker Ranch will end next year in a program to enlarge the Ranch's cattle operations. Manager Radcliffe Greenwell has announced.

The Humuula Sheep Station will see a “peeling off” of its sheep population by June, 1964.

Greenwell said there would be no changes in Humuula personnel. Foreman Peter L’Orange will continue as head of Humuula operations.

“There are four reasons why Parker Ranch is stepping out of the sheep business,” Greenwell said.

By disposing of the sheep and utilizing the 33,185 acres at Humuula solely for cattle raising, Parker Ranch will receive a far greater return on its investment. Our machinery is old. If we continue this operation we must invest thousands of dollars in new machinery. It is becoming more difficult to get men to shear.

Wild dogs and wild pigs kill a great many of our sheep. Predatory dogs will attack anything—ewes or lambs. The wild pigs go after only new born lambs. Of the 4,500 head of sheep at Humuula today, we suffer at least a five per cent loss from wild animals.

Greenwell said “the Ranch has stopped the breeding program. First lambs of the season will drop the end of February, these lambs to be marketed as soon as they are fat.”

Shearing has started with about 40 to 50 a month going under the scissors.

Mutton is being sold at the Kamuela Meat Market, some shipped by the Market to Honolulu. Between 50 to 60 sheep are being marketed, this number to be increased to 200 a week as feed improves and the animals gain weight.

“We should get the sheep off Humuula by June of 1964, thereby increasing our cattle operations. About 85 percent of the Humuula crew’s time is spent on cattle work as it is,” Greenwell said.

He said calves born and raised on the main Ranch will be weaned and sent to Humuula where they will stay until old enough either to be bred or fattened for market.

He said no physical changes are anticipated at the sheep station. Present employees will continue to live at Humuula.

Humuula is closely woven into the history of Parker Ranch.

The area is leased until June 1974, from the Hawaiian Homes Commission with the exception of a little finger of land known as Waipunalei near Keanakolu, which runs to a point above Laupahoehoe.

It is the highest elevation of any Parker Ranch land, a nippy country in the winter. Three times this past month the temperature has slid to 32 degrees and lower.

The Humuula Story

German immigrants first ranged sheep at Humuula and on the Mauna Kea slopes. Humuula was acquired by Sam Parker Jr. It was bought March 3, 1914 by the late Alfred W. Carter as trustee and manager of Parker Ranch. Waipunalei was bought from Colonel Samuel Parker at the same time, “being valuable on account of the water in the gulch.”

Humuula then included some 400 head of horses, 500 head of cattle, and 23,000 head of sheep. As high as 30,000 sheep have been run on the station.

In his early years as Parker Ranch manager, Mr. Carter authorized “small importations of sheep, recommending full blooded Shropshire or Southdown ewes, these to be already in lamb, to mix the blood.”

When the shipments reached Honolulu they were “admired by everyone—a prize lot.”

Experimentation proved these two breeds did not do so well at Humuula as Merinos.

In 1904, Mr. Carter bought the Puuloa Sheep Ranch for Parker Ranch from the MacFarlane Estate. The inventory showed 6,175 head of sheep. The sheep industry, from this point on, became an important factor in Ranch affairs.

Ten thousand pounds of wool were sent to Boston in 1904; 30,000 in 1908. A wool press was ordered from Sydney in 1912, also a shipment of rams.

Continued ram importations gradually raised the wool clip per animal. The wool was of a high quality desired by the trade. Shipments were made to Boston, headquarters of the United States wool market. Last year’s entire clip was sold to the Blue Mountain Wool Co., Portland, Ore.

Humuula has long been one of our greatest and finest sections and will continue to be...

“There will be no changes at Humuula. I regret we are moving out of the sheep business but I feel it is a step toward strengthening our cattle production,” Richard Smart said. [*Paka Paniolo*, February 1963. No. 15.]

In December 1963, Richard Smart penned an article in *Paka Paniolo*, from interviews with Willie Kaniho, Sr., who had been manager of the Humu’ula and Ke’āmoku Stations. The elder Kaniho shared his recollections of the sheep operation and lands of the Humu’ula region:

December 1963

Willie Kaniho, Sr., Recalls Humu’ula and Ranch Life:

There are some people for whom you can find the proper adjectives. But a new set should be invented for William Kaniho Sr., who winds up 50 years with Parker Ranch and is still strong as the ropes he used to tie the wild cattle.

He is “Willie” to everyone, the Big Boss on down.

Born at Kalopa on March 18, 1894, Willie’s life has been woven into the ranching history of Hawaii. His father was William Kaniho who worked “for the Germans at Humuula.” His mother was Kanaiholā Papa.

His father died shortly after Willie was born and he was taken by his grandparents, the John Papas, who also worked at Humuula. There was an older brother, Robert, now a Kona tour guide.

This is Willie’s story. We regret the typewriter does not carry the proper inflection and the humor in Willie’s face as he tells it.

I went to school at Kalopa but I left at 14 and went to work at Humuula but the Germans had gone and Sam Parker Jr. was owner then. He was a big fellow, tall, husky—the house where he lived in Waimea is down now. It is where the CCC camp is now.

I was all-around cowboy for Sam Jr. I worked for Sam little more than two years then he sold to Parker Ranch. Mr. Carter bought it. I remember the day Mr.

Carter came to Humuula and said Parker Ranch had bought the land.

When I started at Humuula, Ikuia Purdy was the foreman—you know the famous roper. He stayed on as foreman when Parker Ranch bought the land. Then three of us went to Kauai—for better pay—Ikuia Purdy and Kainapau Kailikini and me. We went for more money. We got \$12 a month at Humuula. Princeville Ranch paid us \$75 and a bonus. Ikuia was Princeville foreman.

I worked at Princeville two years. Then Frank Wood at Kahua offered us better pay—\$85 a month, top wage and bonus. Ikuia was to be foreman, I was still a hand.

We had a disagreement over the wage bonus and I got in my Model T, packed my gear, and drove to Waimea. Mr. Carter heard I had left the job and he had a cowboy named Manoa (he was our lunch boy and carried lunches out to the job on horseback in those days) waylay me at Uyeda's Barber Shop (across from Lanakila Park).

He said, "Mr. Carter wants to see you." I said, "I'll see him in the morning." He said, "He wants to see you now." I said, "I'll see him in the morning." So I went to my mother's house at Hamakua and came back the next morning.

Mr. Carter's office is where the Bank of Hawaii is now. He asked "You left Kahua Ranch?" and I said "yes," and he said "Why?" so I told him. Then he asked me to come back and work for Parker Ranch. I say "Okay but how much you going to pay me." So he told me he'd pay me "\$35." "Excuse me for that," I told Mr. Carter. "But I get more pay at Kahua Ranch and they feed me and I get free wood."

He say he cannot pay that much. I say "That's Okay, you can't pay that much, I don't ask for the job, you want me." He told me he'd "give me a foreman's job then can pay more high pay."

So I took that job at \$100 and he sent me to Keamoku and I stayed there one week and he brought me back to stay with him at a cottage in the back. I get free food with him. Then he send me to work with the cowboys as a hand but I got my \$100. I stayed six months with Mr. Carter.

He sent me back in charge of Keamoku. I stayed there two years. Then he sent me in charge of Humuula replacing Herbert Ishizu's brother Junichi Ishizu who was killed in the flash flood on his horse.

Willie then tells of his six years at Humuula, returning to the cowboy gang, replacing Johnny Lindsey Sr. when he retired, and his eight years as cowboy foreman in the days when cattle were lashed to longboats and lifted aboard the Humuula.

He talked of Hogan Kauwe, Awili Lanakila, Harry Kawai, Joe Pacheco, Kaliko Mainaupo, Tom and Albert Lindsey, Frank Vierra, Alex Akau Sr., William Campbell, John Lekelesa and others who were members of the legendary cowboy gang.

Willie stayed on at Humuula until 1959 when he was brought to Waimea as general foreman under Manager Richard Penhallow... [*Paka Paniolo*, December 1963. No. 25.]

Oral history interviews with Johnny Ah San, Teddy Bell, Rally Greenwell, Toshi Imoto, Sonny and Danniell Kaniho, Hisao Kimura, Irene Lindsey-Fergestrom, Pete L'Orange, David Woodside, and others provide readers with first hand accounts of the history of Humu'ula and the 'āina mauna, dating from the 1930s to 1980s.

Nā Ala Hele o ka ‘Āina Mauna – Native Trails to Government Roads

The story of travel and access on the *‘āina mauna* is an interesting one. We know from native traditions and historical accounts (written as early as the 1820s), that people traveled across the mountain plateau lands and up to Mauna Kea with great frequency. One early account dates back to the 1500s, at the time that ‘Umi-a-Līloa fell into a disagreement with the chief of Hilo over a whale tooth (ivory) pendant. Traveling from Waipi‘o, across Mauna Kea, ‘Umi and his warriors camped in the uplands of Kaūmana. Native historian Samuel Kamakau (1870 & 1961) wrote that ‘Umi-a-Līloa:

...conferred with his chiefs and his father’s old war leaders. It was decided to make war on the chiefs of Hilo and to go without delay by way of Mauna Kea. From back of Ka’umana they were to descend to Hilo. It was shorter to go by way of the mountain to the trail of **Poli’ahu** and **Poli’ahu’s spring** at the top of **Mauna Kea**, and then down toward Hilo. It was an ancient trail used by those of Hamakua, Kohala, and Waimea to go to Hilo. They made ready to go with their fighting parties to Mauna Kea, descended back of Hilo, and encamped just above the stream of Wai- [page 16] anuenue without the knowledge of Hilo’s people that war was coming from the upland. Hilo’s chiefs were unprepared.

A certain fisherman of Pu’ueo was at sea, catching *nehu* fish, and he noticed that the water in the ocean was dirty. He was surprised and guessed that there was war in the mountain, and it was that which caused the water to be so dirty. Some [of his companions] denied this and declared that it was a cloudburst instead of war, and that was the cause of the dirt and the reddening of the water flowing into the sea. He would not believe them and insisted that this dirt was stirred up by the feet of men. He hauled up his drawnets at once and went ashore. He did not stop to dry his nets, but cooked taro and some *nehu* fish, picked up his war spear, draped his cape of ti leaves over his back, and departed for the upland. The name of this man was Nau.

When Nau arrived away up in the upland of Ka’umana, he remained at a narrow pass, and the other side of it was the camp [of ‘Umi]. He sat on a flat stone beside the stream and after opening his bundle of *nehu* fish, ate some with the cooked taro (*kuala*). ‘Umi-a-Līloa’s warriors noticed Nau, the noted fisherman of Pu’ueo, eating taro and *nehu* fish. It was difficult for ‘Umi-a-Līloa’s men to pass through to the trail. They came in single file to go through the pass, and at the narrowest part a leg had to reach out first. The spot in which he sat was comfortable and was in a depression. When someone on the other side reached out to go through, he was stabbed with a spear and fell over the cliff, dead. (*Ke Au Okoa*, Nov. 24, 1870). This was continued until many were destroyed by this lone man who guarded the narrow pass of Ka’uamoā. Forty were killed. Pi’i-mai-wa’a climbed over the cliff and saw but one man against its side. He said to himself, “I shall kill you,” and leaped over. [A cry went up] “Pi’i-mai-wa’a is dead! He has fallen over the cliff.” It was Nau who died, and so there was no one to warn the chief of Hilo. When night came, the war party reached Hilo. They were supplied with torches and saw the chief’s residences and the house of Kulukulu’a’s daughter. ‘Umi-a-Līloa’s warriors surrounded them, and the chiefs of Hilo were destroyed. Kulukulu’a’s daughter was spared, and Nani-koki, the famous *palaoa*, was restored. Regret for the loss of the *palaoa* was the cause of the war. After the battle, the districts of Hilo and Hamakua were united under the rule of ‘Umi-a-Līloa... [Kamakau 1961:16-17]

In this account, ‘Umi went on to secure all of the island of Hawai‘i under his rule, and it was at that time that the *heiau*, Ahu-a-‘umi, Pu‘u Ke‘eke‘e, Mauna Halepōhaku, and Pōhaku o Hanalei, and many trails and other sites were made in the mountain lands (see the account of Kanuha, recorded by Jules Remy in 1865, earlier in this study).

In ancient times, travel across the mountain lands, via the *ala hele* (trails and byways), afforded people access to various localities, and also facilitated the collection of various resources, including, but not limited to: stone for adze; burial sites; *‘ua‘u*, *nēnē*, *‘ō‘ō*, *mamo* and other birds; and various plant materials. In 1793-1794, A. Menzies visited Hawai‘i with Captain Vancouver, during which time Menzies and crew members walked inland with native guides to botanize and take readings of the topography. While ascending Mauna Loa, Menzies observed that the Hawaiian kept "*Morai*" (*heiau* – ceremonial sites) along the trails at which they regularly stopped in prayer and with offerings (Menzies 1908:110). The following excerpts from Menzies describe this practice:

“So bigoted are these people to their religion that here and there, on the sides of the path, they have little Morais, or spots consecrated to their Deity, which none of them ever pass without leaving something—let it be ever so trifling—to obtain his good will, and they were highly delighted, indeed, when we followed their example in throwing a nail or a few beads, or a piece of tape, before their Deity, which the women were not allowed to pass without uncovering their breasts and shoulders.” [Menzies 1908:110]

While the above narrative was recorded on a trip to Mauna Loa, such protocol was uniformly practiced throughout the island, and is deeply rooted in the spiritual beliefs of the people. There remain to this day examples of small shrines, upright stones (Pōhaku o Kāne) and other features along trails across the mountain plateau, leading across the *‘aina mauna*, and to the summit of Mauna Kea.

By the 1840s, social and economic pressures led to the formalization of a road division in the Hawaiian Kingdom. Native *ala hele*, which had been used for centuries and often provided the “path of least resistance,” to travel around and across the island, proved inadequate for the new methods of travel with horses, wagons and team animals. By 1847, Kamehameha III had instructed island governors to undertake the survey of routes and construction of new roads, which became known as the *Alanui Aupuni* (Government Roads). Construction was to be paid for through taxation and “labor days” of the residents of the lands through which the roads would pass (Kapeau to Keoni Ana, August 13, 1847; HSA – Interior Department, Roads).

The great land resources of Ka‘ohe, Humu‘ula, Waimea, Waikōloa, and the plateau lands between the mountains, were early determined to be important to the development of ranching interests on Hawai‘i. Thus, while in most locations roads were improved through populated areas, on the mountain lands old trails were modified or realigned to improve access to large tracts of Crown and Government lands. The earliest map found, depicting trails across the mountain lands between Waimea, Humu‘ula, and the coastal lands of Hilo was published in the Pacific Commercial Advertiser in 1859 (*Figure 8*). The map depicts two routes around Mauna Kea—the first, indicated as a solid line (a more significant route), extends from Kawaihae to Waimea, into Hāmākua, along the forest to Kula‘imano, and then along the coast to Hilo Bay; a branch also continues along the forest to the Laumai‘a vicinity. The second route, indicated by a dotted line, extends from Waimea, along the base of Mauna Kea to the Humu‘ula-Kalai‘eha vicinity. A third route is also depicted as a dotted line, out of Kailua, through the saddle between Hualālai and Mauna Loa, to the 1859 lava flow, and then across the saddle between Mauna Loa and Mauna Kea, down to Hilo.

In between May to December 1873, and again in August 1891, testimonies given by native informants regarding the land of Humu‘ula documented the locations of old trails around the mountain. Among the references to trails—most associated with bird catching, canoe making, and later bullock hunting—and the Government Roads on the mountain lands of Humu‘ula and vicinity are the following:

Kahulanui — “The *mamani* grows on ***Humuula***, the water is called ***Kapuuakala***. I have been up the road on Makahanaloa with John Pilot and saw a place called Kapuuakala; this was before the land was surveyed” (Volume A No. 1:183).

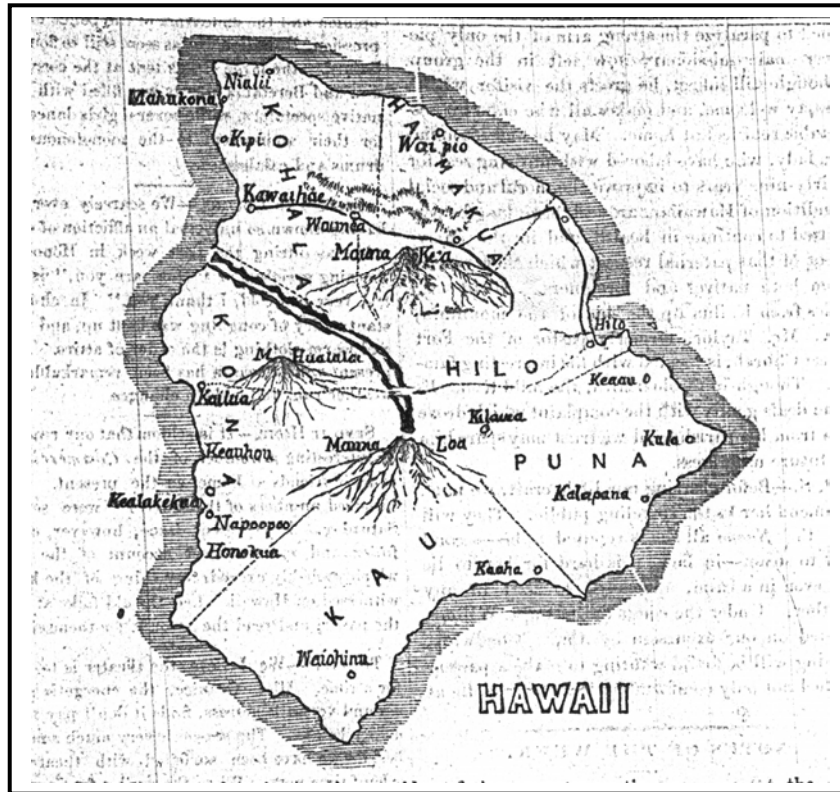


Figure 8. Roads and Trails of the Hawai'i Island Mountain Lands (1859).

Ili — "...came to *kahawai* of **Kolekole** and was told **Hakalau** was on Hamakua side of this gulch. Before we came to this gulch we came to Nahuina, where Hakalau road comes in" (Volume A No. 1:184).

Manuia — "**Mawae** is where **Waiakea** and **Piihonua** cut off **Kaaumana**, and the Mawae was covered up by the lava flow of 1855. I saw a pile of rocks there before the flow of 1852... This pile of stones was on the boundary between **Piihonua** and **Waiakea**. The boundary used to run up old road in a straight line from **Kalapalapanui** to Mawae..." (Volume B:23)

Nainoa — "The old trail from **Humuula** towards **Piihonua** used to run along the *mauka* edge of the woods, near the boundary, not in the woods" (Volume B:31). Waiki observed that "The road in olden times, ran from **Lahohinu** to **Laumaia**, above the woods. No road from Humuula to **Lai**, along through the woods" (Volume B:43).

Hanioa — "The road from **Humuula** to **Piihonua** runs along on the *pili*, and not in the woods. The roads in the woods were only bird catchers roads" (Volume B:45).

Kamohaiulu — "...along the land of **Kahoahuna 1st** to **Lainakaunohi**, a spot in the old canoe road of **Humuula** at **Mauiana**" (Volume B:48).

Naaikauna — "In olden times the road from **Humuula** to **Laumaia** went along on the *pili* and not through the woods. I used to go into the woods a short distance catching birds, and then go back outside again" (Volume B:52).

Kainoa — "The ancient road runs along outside of the woods" (Volume B:56).

R. Lyman (notes from field visit with *kama'āina*) — “The boundary between **Humuula** and **Makahalanaloa** as pointed out by Kahue is a hollow commencing on the ridge between these two lands, this ridge is the one on which the road from the beach, through Makahalanaloa lies” (Volume B:176).

Amina — “The boundary from **Iolehaehae** to **Poopuaa**, a hill below, then to **Puukalepa**, at **Kaula gulch**. I know **Lahohinu** on **Humuula**, near the road, a small road, the Government road is above that” (Volume D:56).

In this historical collection, we look at several primary routes, most, if not all of which were based upon traditional *ala hele*. Subsequent to the 1840s, the same trails were modified into the system of *Alanui Aupuni*, thus being constructed in conformance with the then accepted practices of road development. The primary *ala hele* and *Alanui Aupuni* include: the Hilo-Kalai'eha-Waimea route; the Hilo-Kula'imano-Makahalanaloa-Mānā-Waimea route; and the *mauka* Waimea-Kona route, passing from Keauhou, by Ahu a 'Umi, Nā'ōhule'elua, Nāpu'ukulua, to Pu'u Koko on the Pōhakuloa-Ka'ohē flats, and connecting with the Hilo-Waimea road.

It will be noted below, that formal surveys of the Hilo-Kalai'eha-Waimea government road via Waiki'i (the early Saddle Road) were begun in 1862. The Kalai'eha-Waiki'i alignment remained basically the same until after the outbreak of World War II, and the paving of the “Saddle Road” in the 1940s. In the area from Kilohana (on the north side of the present-day Girl Scout Camp) to Waiki'i proper, the route is almost as it was finally laid out in 1869 (overlying one of the ancient trails through the area), except for widening. Near the Pu'u Māhaelua-Keanahuehue vicinity, the old route cuts across the Pā Kila-Pā 'A'ali'i Paddocks and out past Pu'u Heihei and Holoholokū; while the present-day road cuts down to Pu'u Nohonaohae. The latter route was established around 1902, coinciding with the construction of the Waimea-Kona road.

The Kalai'eha-Hilo section of the route remained basically as constructed in 1869, but because of the dense forest vegetation—extending up to about the present-day 18 mile marker—and the difficulty encountered in traveling through the region, the route received little maintenance and use by travelers other than those on foot or horseback, generally on their way to one of the ranch stations or the summit of Mauna Kea. Portions of the 1869 alignment are still visible on the 1855 lava flow between the 19 to 21 mile markers.

The Waimea-Mānā-Kula'imano-Hilo route along the upper forest line of Hāmākua and Hilo, was developed in 1854, with subsequent modifications in 1877, and again in the 1890s, as a part of the Humu'ula Sheep Station operation. Further modifications to the Kalai'eha Keanakolu-Mānā route were made as a part of the tenure of Parker Ranch-Humu'ula Sheep Station, the Civilian Conservation Corps (CCC), and Territorial Forestry tenure of the land.

Construction on the *Alanui Aupuni* from coastal Kona to the saddle lands was actually begun in 1849, and ten miles of the road, completed by 1850. The route was cut off by the lava flow of 1859, and all but abandoned by public use; though it remained in use by ranchers and those traveling between Kona, the saddle region, and Waimea until the early 1900s.

One facet of travel that is not described in great detail in written communications, is that which tells us of the mountain trails, known as *ala pi'i uka*, *ala pi'i mauna*. The ancient trails, the subsequent mountain roads, and those of ranching operations through the 1800s, have been partially described in narratives cited in this volume. Selected historical accounts, particularly those recorded by surveyors, who also mapped out some of the trails, and oral history interviews with elder *kama'āina*, provide us with important documentation pertaining to the *ala pi'i uka* on the landscape of Humu'ula, Ka'ohē, Pi'ihonua, Waiākea and the *'āina mauna*. Through such historical accounts, we find documentation pertaining to several *ala pi'i uka*. These include, but are not limited to the:

Kalai'eha-Waiiau Trail (SIHP No. to be assigned);
Hilo-Humu'ula-Waimea Trail and Cart Road (SIHP No. 50-10-32-21150);
Hilo-Pu'u 'Ö'ö-Kaupakuhale-Waiiau Trail (SIHP No. 50-10-33-20878);
Waipunalei-Laupāhoehoe-'Umikoa-Mauna Kea Trail (SIHP No. to be assigned);
Kūka'iau-'Umikoa-Mauna Kea Trail (SIHP No. to be assigned);
Kemole-Pu'u Lā'au-Nanahu-Waiiau Trail (SIHP No. to be assigned);
Keanakāko'i Trail – encircling a portion of Mauna Kea (SIHP No. to be assigned);
Pu'u 'Ö'ö-'Āina Hou-Keauhou-Volcano Trail (SIHP No. 50-10-33-10309)
The Pu'u Koko-Nā'ōhele'elua-Kona Trail (SIHP No. to be assigned)

Further details, including cartographic references, pertaining to these trails are found in several sections of this study.

The following communications, are among those found in the government files of the Hawaii State Archives, that describe the development of trails and roadways across the *'āina mauna*. Emphasis by underlining, bold and italics is used below to draw the reader's attention to particular place names, or points of interest in the cited narratives.

April 1850

Report of the Minister of Interior for the Years of 1848 & 1849

(Reports on Status of Kona to Hilo Mountain Road – Judd Road):

...A Mountain Road is being constructed on the Island of Hawaii, from the District of Kona to that of Hilo. This is a great and important work, and the Prisoners on that Island have been employed upon it. It is said that about 10 miles of the road are completed. Should this Road be finished, it will be of immense advantage to the People of the Island, and greatly facilitate the business of the Government. But work of such magnitude must require time... [HSA – Interior Department, Misc. Box 141]

Kailua, Hawaii

May 15, 1851

Isaac Y. Davis; to Keoni Ana:

...On the 12th day of May past, however, I went up to inspect the Mountain Road which S. Haanio is building with the prisoners. Began the ascent from where it starts to where they are now working, the road has nearly reached **Ahuaumi**, there is about 2 miles more before it reaches there. It has been built properly, S. Haanio has been fast building the road and it is good too, Kinimaka was very slow. You will praise the road too, and everything you will see... [HSA ID Misc. Box 144]

Kaupakuea, Hilo, Hawaii

December 14, 1854

Contract to Construct Waimea-Kulaimano Road (via the Hamakua Mountain lands) between T. Metcalf, Superintendent of Public Works, and Jno. Van Houghten

...It is hereby agreed between John Van Houghten of the Island of Hawaii, and T. Metcalf, Superintendent of Public Work on the part of the Hawaiian Government. That said, John Van Houghten shall superintend the construction of a road from Waimea to the present Aupuni Road in or near **Kulaimano kai**, Hilo. Said road to take the shortest and most eligible course through the mountain i.e. by the way of **Hanaipoj**, **Puu Kalepa** crossing the clinkers as high up as practicable, then through Nauhi to Palauolelo or thereabouts, selecting the most practicable starting point at the upper edge of woods. Then cutting to clearing out a road sixty feet wide down through woods to said **Kulaimano kai**. Said road to be prosecuted to completion with the utmost diligence and to be left in a condition practicable for carts or carriages to pass over its entire length. Said Van Houghten is to make and perfect all contracts for labor, provisions &c. necessary, and pay for the same at the most reasonable rates in wild bullocks now running in the

region of **Maunakea**, and he shall render a strict account of the same to the Superintendent of Public Works.

The above work is to be executed to the entire satisfaction of the Superintendent of Public Works and for the faithful performance of which the said Superintendent of Public Works for as on the part of the Hawaiian Government hereby agrees to pay to said John Van Houghten or his representative five hundred wild bullocks above mentioned. The same to be caught and delivered at the expense of said Van Houghten.

In witness whereof we have hereunto set our hands this 14th day of December A.D. 1854, at Kaupakuea, Hilo, Hawaii... [HSA, Misc. Public Works, DAGS 7 Box 35; Fldr. 6]

December 22, 1856

**R.A.S. Wood, Superintendent Bureau of Public Works;
to R.C. Wyllie, Minister at War and Public Works
(Regarding payment for work on Mountain Road between Waimea
and Kulaimano, Hilo):**

I beg to state for your information and guidance in settling the claim of Mr. John Van Houghten for the Mountain Road, Hawaii, that 500 Wild Bullock was sold on the 3rd day Dec. to Mr. Bryan, for the sum of \$500. which price was considered fair. Mr. Metcalf accounted to me for that amount, after deducting \$360. 25/100 paid to Mr. Van Houghten, the balance was paid by Mr. M. in *ohea* [*ohia*] Lumber to this department – April 4th, 1856. [HSA – Public Works; DAGS 7, Box 35, Folder 6]

Honolulu, Oahu

December 22, 1856

John Van Houghten; to Superintendent of Public Works:

...I beg leave to lay before you a statement of my claim for the information of His Excellency R.C. Wyllie for my services in forming the Mountain Road at Hawaii.

On the 14th day of December 1854 I entered into a contract with Mr. T. Metcalf, late Superintendent of Public Works, for the Superintendent for the construction of a road from Waimea to the present *Aupuni* road in or near **Kulaimano Kai**, Hilo and to make and perfect all contracts for labor, provisions, necessary, and pay for the same at the most reasonable rates in wild bullock now running in the region of **Maunakea**, and he shall lender a strict account of the same to the Superintendent of Public Works for the time being—and for the due performance of the said work to the satisfaction of the Superintendent of Public Works. I was to receive Five Hundred Wild Bullock to be caught and delivered at my own expense. I proceeded with the making of the said road for six months until stopped by you in a letter dated 2nd August, 1855. I now claim from the Hawaiian Government for money expended on the said road the sum of \$468.75 as per furnished and herewith enclosed from which sum I have deducted the sum of \$360.25 in cash and good received from the hands of Mr. T. Metcalf and which leaves a balance in my favor from the Government the sum of \$108.50, besides 300 Bullock which is the number I claim in proportion for the work I have completed out of the 500 as per Agreement if the road had been entirely completed. I beg further to state that there is due to the natives for their labor the number of 188 Bullocks which they hold me responsible. I therefore urge upon you to lay this before His Excellency at your earliest convenience as I am now being delayed in Honolulu until this matter is arranged.

Comments by T. Metcalf:

I believe the amount claimed above by J. Van Houghten on his contract for superintending the Kawaihae to Hilo road to be fair & just... [HSA, Public Works DAGS 7 Box 35 Fldr 6]

December 24, 1856

**R.A.S. Wood, Superintendent Bureau of Public Works;
to R.C. Wyllie, Minister at War and Public Works
(Regarding payment in bullocks, for work on Mountain Road between Waimea
and Kulaimano, Hilo):**

...Please pay to John Van Houghten on his order, Five Hundred & eighty eight wild bullock now running in the region of Maunakea, to be caught at his own expense, being the amount awarded on account of his contract for making new mountain road as follows, viz.:

300 according to voucher No. 1. on Contract.
100 according to voucher No. 2. on account.
188 according to voucher No. 3. due to Natives.

Total 588.

And charge the same to the appropriations of 1854, viz., \$2000 payable in Wild Bullock for making Mountain Road from Waimea to Hilo... [HSA – Public Works; DAGS 7, Box 35, Folder 6]

April 17, 1862

**Samuel Wiltse, Government Surveyor;
to Lot Kamehameha, Minister of the Interior
(Regarding development of the Kawaihae–Waimea–Hilo Mountain Road,
via Waikii, Pohakuloa and Kalaieha):**

...In accordance with your Highness' request, I proceeded to examine the proposed route for a Govt. Road, commencing at Kawaihae and passing through Waimea, thence in a South East direction crossing the plains of Puukapu and Waikoloa, to the S. West base of Maunakea. Thence along the S.W. and South base of this mountain to the plains of Kaihea [Kalaieha], and to Hilo.

Mr. Reed, Road Supervisor of Hilo has passed over the entire route, or rather somewhere along the general course of the route, and you are doubtless in receipt of his report. I met Mr. R. at Kalihae [Kalaieha], where we compared notes. I was then satisfied that a shorter and better route could be found than the one which he had explored. Examinations which I have since made confirmed that opinion. And I have no doubt but when the road shall be located by actual Survey, that many improvements will still be made. The distances which I shall give will be found very nearly correct, as I have taken observations between prominent points along the route from Kawaihae to Waimea, distance 10 miles; there is already a passable wagon road. This is by far the most important section of the proposed road. It is traveled present and probably always will be, by more heavy teams than any other road on this Island. I would recommend that one thousand dollars in addition to the District labour should be expended on this section of the road.

From Waimea to Kalihae [Kalaieha], distance of 30 miles. There is a good surface and easy grades nearly all of the way. If prison labour is employed \$500.00 expended will build a good wagon road to this point.

From Kalihae [Kalaieha] to Hilo, I take for granted that a good horse road is all that is contemplate at present. This is the most difficult part of the route, as the road will require to be built over an uneven surface of lava for the distance of about 18 miles. I estimate that one man will be able to build 10 ft. of this part of the road per day, bad weather and necessary loss of time included.

Distance in feet 9540; days labour 9504; 11083 days rations, which will cost 15 cents per day per man which amounts to \$1662.45.

The next three miles take us through the forest, nearly all of this section will require to be ditched, and the road built of logs & covered with fern roots. Timber of a suitable size can be had in abundance.

I estimate that one man will average 10 feet of this part of the road per day; requiring 1584 days labour. Cost for board, \$237.60.

From the lower edge of the forest to Hilo, distance 4 miles will cost, say \$400.00 all told.

Distance from Kawaihae to Hilo by this route, about 65 miles, saving in distance over the old road 15 miles.

Cost to build this Road.

| | |
|--|---------------|
| From Kawaihae to Waimea, | \$1000.00 |
| <u>From Waimea to Kalaihae.</u> | 500.00 |
| <u>From Kalaihae to Hilo.</u> | 2300.00 |
| Tools and Shelter for the entire rout | 1000.00 |
| Overseers. | 500.00 |
| Surveying and locating. | 300.00 |
| Incidental Say | <u>300.00</u> |
| Total Cost | 5900.00 |

I believe that the road can be built for this amount and when once built will require but little repairing for the future... [HSA, Interior Department Roads, Box 37, Fldr. 2]

1866

D.H. Hitchcock; to Hutchinson

(Regarding proposed route of Mountain Road from Hilo to Kalaieha, and Waimea):

...Since writing you last on the subject of the Mountain Road I have seen Governor Dominis, on the matter. From what I learn from him, I am led to think that Mr. Wiltze, has not said anything to your Ex. about there being a shorter route through the woods to the lava flow than the one he surveyed. The flow in its nearest point to Hilo. I don't think is over 5 ½ miles, maybe 6 [Figure 9]. That is directly above **Kaumana** some two miles to the South of Mr. W's survey. That is the route always travelled by parties going up to visit the flow. I myself have been over it several times. I don't think it is over 1 ¾ miles perhaps two, through the woods. Not a single stream to cross in the woods & on the whole, I think easier to make than Mr. W's. From Hilo to the woods can't be much if any further & the route from town to the roads in the whole distance over the *Pahoehoe* & not over mud as the other route.

It has been several years since I went on the road through the woods, but from my recollection of it there is more rock & easier to be got at, wherewith to make a road bed.

I don't think it could lengthen the road over half a mile on the flow. But every half mile of road saved in the woods is great gain, as it will be harder work to maintain a passable road through the woods than anywhere on the whole road.

I have spoken with Mr. Coan and others in reference to the matter & they all say, "take the Kalama route." Mr. Coan calls the flow by that route only 5 miles from town but I think he is mistaken. Horses have frequently been up that way to the flow. The road now is entirely grown over.

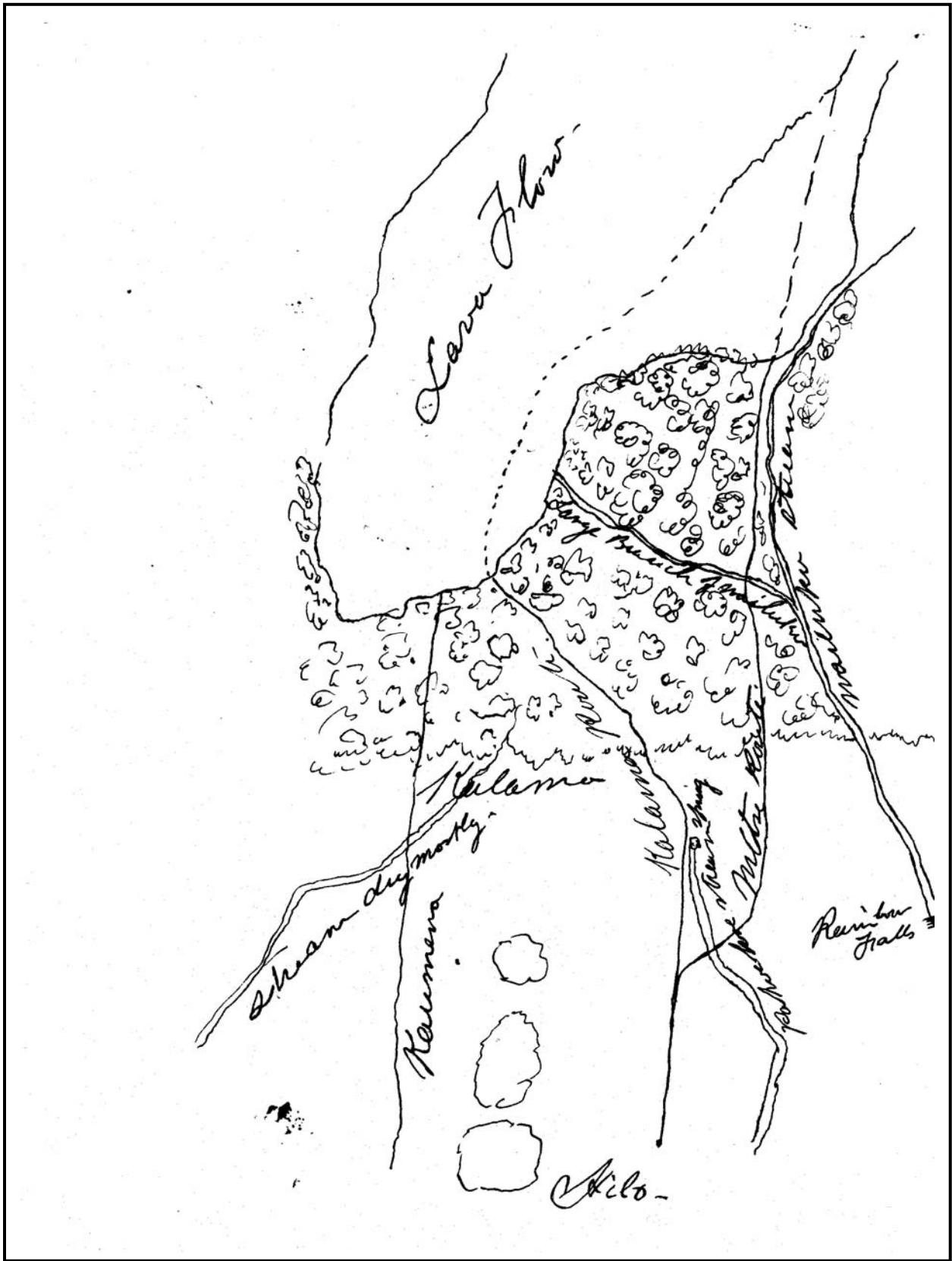


Figure 9. Sketch of proposed Route of Mountain Road from Hilo Town towards Kalai'eha (D.H. Hitchcock, 1866).

I do not write this in any ones particular interest, but because I think you ought to know that there is another route than the one Mr. W. surveyed & one fully as feasible & one which I think can be built, on the whole, at less expense. Mr. W's route is, I know the nearest in a straight line, but that is not always the nearest in reality. I think the one matter of Bridges alone sufficient to make a change.

It may be possible that a small 12 foot bridge may be necessary on the Kalama route to pass a hollow where when there are heavy rains there is a small stream but no 60 foot bridge, always rotting out & hard to keep in repair. The Flow covered over the stream that's in Mr. W's survey, requires to be bridged.

As for the work I'd rather take the Wiltze's route, as of course more money can be made on making 3 miles of Wood Road than two, but, as for the cheapness of getting the road done, I do not hesitate to say the Kalama route is the best.

I do not think of any thing more to write at present on the matter. Only to say that if Mr. W. could come again & survey this route, all doubts as to the length would be set at rest... If Mr. W. did not wish to come back to do that work, I can do it for you. [HSA – ID Roads, Hawaii, Folder 5]

June 16, 1869

**S.C. Wiltse; to F.W. Hutchinson, Minister of the Interior
(Regarding Survey of new road from Waimea to Hilo, via Holokawai
– Hamakua Route):**

...Your letter dated June the 7th did not reach me in time to return an answer by the last mail, by some mistake my letter was forwarded to Mr. Holmes in Kohala & his letter sent to me.

You wish me to estimate the cost of surveying a route for a Road, from a point known as "Holokawai" on the mauka Hamakua Road to Hilo, by the Mountain road.

I beg to say that so little is known about the last 20 mls. of this rout, that it would be impossible for me, or any one, to estimate the cost for exploring and selecting the best rout for a Road for that part of the one proposed.

In common with everybody here, I am very anxious to see a Road opened from Waimea to Hilo by the mountain rout & will do the exploring & locating as cheap as it can possibly be done.

I am presently willing to leave it to your Excellency to say what it is worth after the work is done.

I would respectfully say, that there is already a good, natural road from **Waimea** to a point known as "**Kalaeha**" [Kalaieha] on the S.E. side of **Mauna Kea**. Distance about 35 mls. This rout is along the southern base of the mountain. Kalaeha is about 22 mls. from Hilo Bay on a direct line. When the road for this 22 mls. is built the whole rout will be opened from Kawaihae to Hilo.

This rout is so much shorter & better everyway than the one by Holokawai around the northern base of the mountain, that there are hardly to be compared and Mr. Spencer should have told you so.

Should your Exel. decide to have me undertake this work I will be much obliged if you would advance me \$50. to pay expenses with, as I have not funds enough on hand of my own to do it... [HSA, ID Roads, Fldr. 5]

Waimea, Hawaii

June 19th, 1869

S.C. Wiltse, Surveyor;

to F.W. Hutchison, Minister of the Interior

(Regarding the route of the Waimea-Hilo Road, via Kalaieha):

...Your note dated Hilo, June 11th, is at hand. The people of Hilo informed your Excel. correctly with regard to the merits of this new route for the proposed Road from here to Hilo. The one around the south & S.E. base of the mountains is the best every way. I propose to commence my explanations from a point known as "Kalaeha" [Kalaieha] on the S.E. side of the Mountain and follow the lava flow of 1854, as, far as it extends in the direction of Hilo. (This I now think is the best rout for the road.) I will next see if a rout that is practicable can be got through the forest. If either of these should prove practicable for a Road, I could then proceed to make a partial survey of the two routs from the *mauka* side of the Hilo forest to Waimea & a careful report on the same so that your Excellency can decide on their merits... [HSA ID Roads Fldr 5]

Waimea, Hawaii

August 2, 1869

S.C. Wiltse. to Minister of Interior

(Regarding Proposed Route of the Hilo-Waimea Mountain Road):

With this, please to receive my report survey re – of a Rout for a Road from Hilo to Waimea in South Kohala [Figure 10]. I drew the Plan on cap paper with the intention of copying it, but I found that I had not time to do so, and forward it by this mail. Should your Excellency wish it drawn on better paper, I will do it some other time.

The expenses amount to more than I expected, but they were unavoidable. I used every economy possible.

I received no assistance whatever from the People of Hilo or Waimea.

For my own Service, I will be perfectly satisfied with whatever amount your Excellency may be pleased to allow me, I will be greatly obliged if your Excellency can make it convenient, to let me have some money, by the return mail, as I have been compelled to borrow money to help me through...

Expenses of Surveying a Rout for a Road from Hilo Bay, to Waimea in South Kohala. As made in July 1869 by S.C. Wiltse.

| | |
|--|----------------|
| To B. Macy Chainman 13 days | 13.00 |
| To G. Kembal Chainman 13 days | 13.00 |
| To Kekekawai Kaamina 13 days | 13.00 |
| To Kamalo Kaamina 9 days | 9.00 |
| To Kailihakuma Paeku 8 days | 8.00 |
| To Kahooikaika Paeku 8 days | 8.00 |
| To Kahooikaika for 2 Pack Mules 2 days | 3.00 |
| To Kauloa for taking our horses from Hilo back to Waimea | 5.00 |
| To board of 5 men in Hilo 2 days | 5.00 |
| To Kauailana, self horse & mule 6 days | 10.00 |
| Outfit & Provisions for the Sup | 16.00 |
| Total Expense | \$103.00 |
| Cash received on a/c of | <u>\$50.00</u> |
| Bal Due | \$53.00 |

[HSA, ID Roads, Fldr. 5]

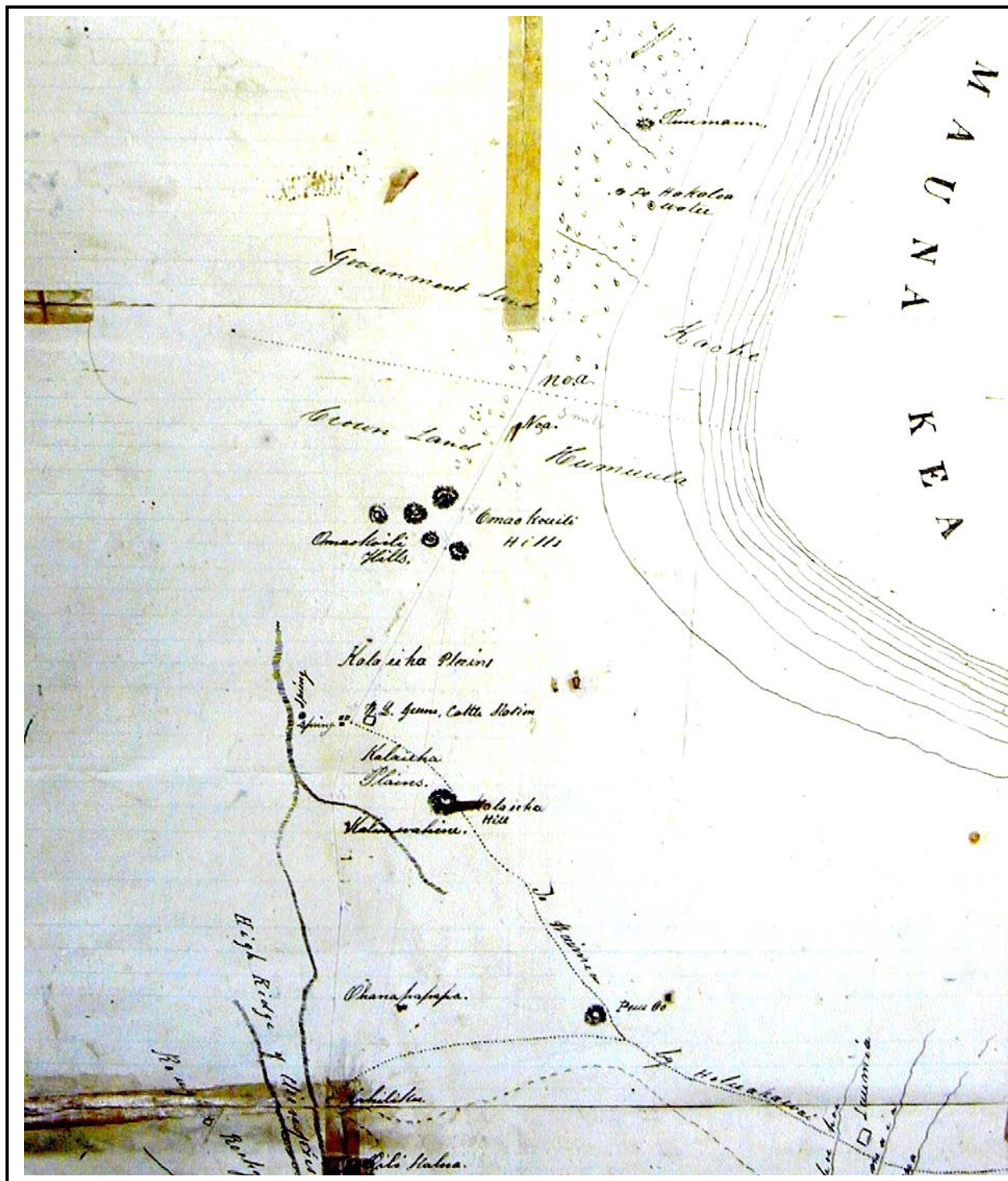


Figure 10. Portion of Register Map No. 528, Depicting Humu'ula-Ka'ohē Section of the 1869 Alignment of the Hilo to Waimea Road via Kalaieha (HSA Collection).

Honolulu, Oahu
September 14th, 1869

Robert Stirling; to S.C. Wiltse Esqr.:

(Regarding Proposed Route of the Hilo-Waimea Mountain Road):

...I am instructed by His Excellency the Minister of the Interior to acknowledge receipt of your favor of July 31st accompanied by the Plan & survey of the proposed new road from Waimea to Hilo, and to explain that he would have answered your letter sooner had it not been that His Majesty who takes a lively interest in the formation of this road wished to have your report &c submitted to him, and to have time to study it before coming to any determination on the subject. I may also say that it would have been answered 10 days ago but that the "Marilda" (our only means of Communication with Kawaihae) has been under repair for some time.

His Excellency is highly satisfied with your work in this matter & desires me to inform you that you may draw upon him for the sum of two hundred (\$200) dollars as compensation for your labour. You may perhaps not be able to find any one who wants this sum in Honolulu, in which case I beg you will advise me, and I shall have it sent to Mr. Chillingworth in Kawaihae, where you can call for it without much trouble.

His Excellency also requests me to inform you that although at present he cannot find funds to carry the road through, he is still desirous to make a beginning, in the hope of being able to complete it after the next meeting of the Legislature, and with this expectation he requests that you will Endeavour to find out some one who is willing to undertake to make that section of the road, say from Hilo to the upper edge of the bush, (a distance of 7 miles), on the terms of your estimate. You are of course in a position to know better than any one what sort of road, or rather what construction would be best for this road, all H.F. desires at present is a solid and dry path, upon which two horsemen can pass each other conveniently, say 7 or 8 ft. wide, and from our experience on other portions of your Island I should think there would be no difficulty in getting such a road made, within the figures of your estimate. Please therefore to make inquiries on this subject and advise His Excellency at your earliest convenience. Of course you must specify to a nicety the class of road that is to be built.

His Majesty the King and H.E. the Minister of the Interior both take a deep interest in the carrying out of this project, and I trust you will be able to further their desires on reasonable terms, as there can be no doubt that if this road were made it would be of immense services...[HSA ID Letter Book 9]

Hilo, Hawaii
October 11, 1869

D.H. Hitchcock; to S.C. Wiltse:

(Regarding Hilo Forest Section of Hilo-Waimea Mountain Road):

...Mr. Wiltse on last Saturday requested me to go up through the woods on the route proposed by him for **the New Mountain Road**, & examine the route & the practicability of the road. I went up with my Brother H. Rexford, & we both carefully examined the proposed route. It lays for the most part near the old Saw Mill road & through an Ohia & Koa forest. The undergrowth is very heavy in most places. The soil is apparently not very deep, as stones crop out presently on the route. One or two swamps lay in the route, but which I think might be gone around. Only two hills or steep pitches are found inside the woods. It is for the most part a gentle rise. One long bridge from 40 to 60 feet will be necessary over a branch of the Wailuku. A ford will not be passable only a low water. No material, as I came to find in the woods, presents itself to make a good road with. The best to be had is the Fern stump—Sand & gravel can be had from the Wailuku river bed, but it will cost a good deal to get it out & on to the road. A large deposit of sand & gravel are to be found just in the upper edge of the woods along side the lava flow, and I think

that there is little doubt, but that more is to be found lower down on the river & not very far from the road. So as to the practicability of the route I would say that a really good road can be made through the woods by this Route.

As to the road from Town to the woods it will need a good deal of marking especially on the upper half. I will enclose a draft of the Route surveyed by Mr. W. I also add to it some changes in the Route, as suggested by myself from previous knowledge of the route [Figure 11].

I can not estimate the cost of a road through the woods such as you may wish but would say, that it is the opinion of myself & Brothers that a Road through the Hilo bush, ought to be as follows. The road to run through a cleared space of 100 feet in width. The road 20 feet wide to be ditched each side & rounded up. The Road way to be 8 feet wide & either ferned with heavy long Ferns or sanded heavily. The cost of a Road built thus we estimate, (if ferned & not sanded) will be not less than \$2,500 per mile— The clearing of the 100 feet swath through the woods is in itself a heavy job. We however would be unwilling to call this a final estimate until further examination of the wooded route. From our own knowledge of what it takes to clear land we feel assured that 50 men will not be able to cut & clear off a swath through the woods 100 feet wide & a mile in length, cutting down & remaining the large trees under 18 or 20 days & that would not be one half the labor but nearly so our estimate.

I think that the road through the woods will cost not less than 8,000 together with a good substantial Bridge & the road way ferned at that. The Road this side to town can be done well for \$ 1200 per mile, i.e. a horse road.

I think that the road through to Waimea & Kona practicable & one that is much needed by the whole island. I have personally examined the route & over the lava Flow a good road can be constructed.

The want of Labor is the great obstacle. Could the prisoners be put on work to the number of 40 or 50 under the management of one able man. That I think would be the cheapest method to get the road through.

In order to get native labor one will have to pay \$12 to 18 per month & board, in order to induce them to work on the road.

As I think of nothing more now I will close saying that anything I can do to assist in this matter I will willingly do, and hope that your Excellency will feel perfectly at liberty to call on me for information or assistance in this matter... [HSA – ID, Roads, Hawaii Fldr. 5]

Hilo, Hawaii

October 12, 1869

S.C. Wiltse. to F.W. Hutchison

(Regarding Proposed Route of the Hilo-Waimea Mountain Road; and plans for Section of road in Hilo Forest Lands):

...Under date of the 14th ult: I had the pleasure of receiving from Mr. Sterling a communication with reference to the projected road, through the woods, from this post to Waimea. As suggested by that gentleman, that I should do, I have made inquiries—with the view of getting parties to render estimates of the cost completing that portion of the road from here to the upper edge of the woods — and, to enable me to do so the more effectually, I have come over here myself, for that purpose; as well as to make a new and more thorough investigation of the said route; which I have now done, within the first few days in company with the Messrs. D.H. and H.R. Hitchcocks, as well as with Mr. Chesebro, who came over with me from Hamakua, which gentlemen will, at an early date—if they have not already done so—render you their own ideas and estimates.

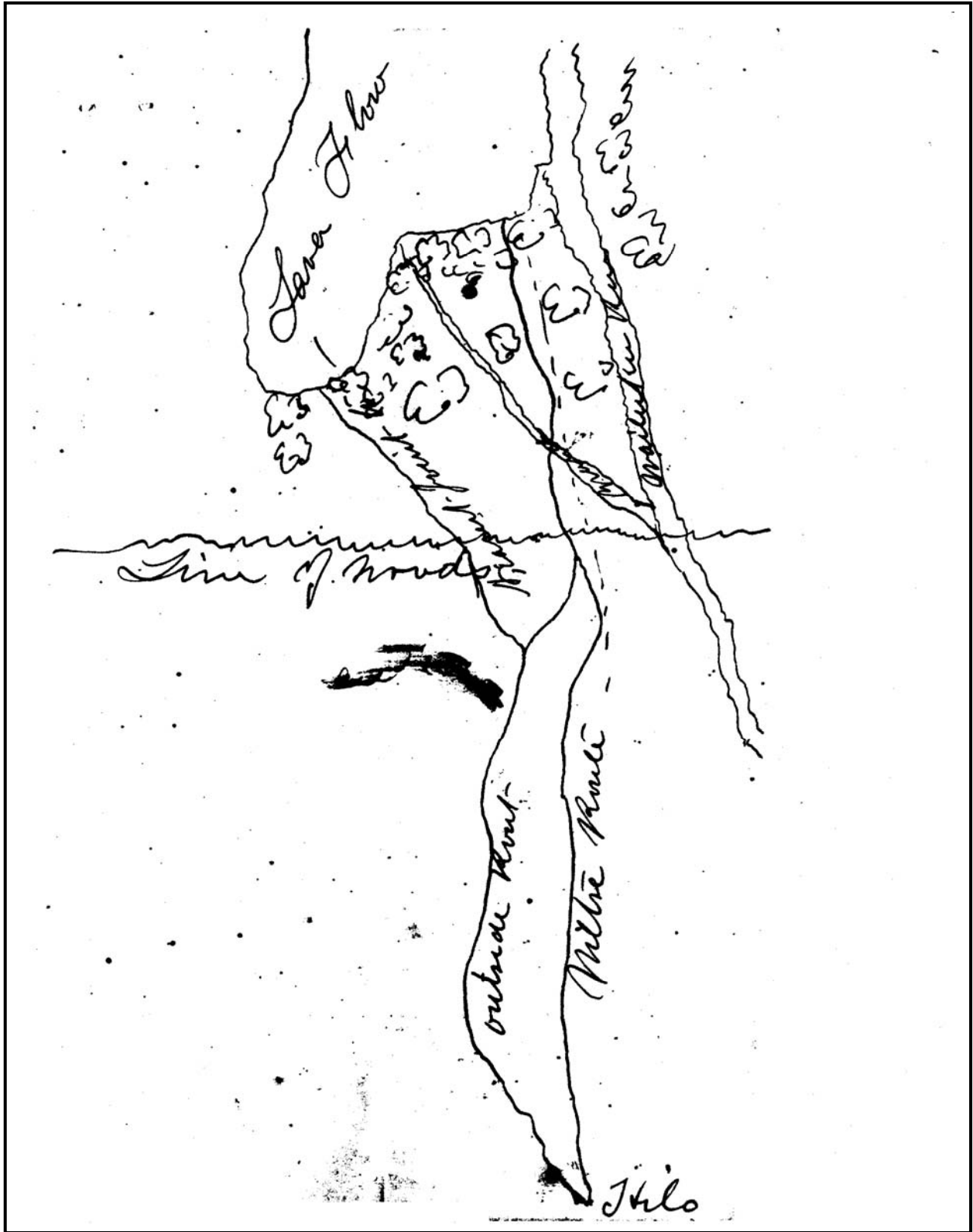


Figure 11. Sketch of the Proposed Mountain Road Route through the Hilo Woods (D.H. Hitchcock).

Annexed here with, I also beg to hand you my own ideas of a Road which it might be expedient to construct.

After referring you to my estimates which I had the honor of submitting to your Excellency some few weeks ago, I would now beg to state that after a very careful review of the whole matter, I have no reasons for changing my then expressed views. Still it may be possible that I have somewhat under estimated the probable cost, though I hardly think materially so.

The Messrs. Hitchcocks, however, seem to think that my calculations are altogether to low in figures, and such opinion also appears to be entertained by some other parties here, at the same time opinions widely differ, as other parties more nearly coincide with my views.

Mr. H.R. Hitchcock, since his return from Honolulu a few days ago, informed me that he had heard a report in that City to the effect that I had already began to feel a little "Shaky" with regard to the practicability of the route as well as my estimates &c. All this however, entirely foreign news to me; as I have not had occasion nor have I ever to any one expressed any such opinion.

I could wish, for your Excellency's satisfaction, that it mite be convenient for Mr. Sterling to come up and take a survey of the road &c. Should it not however, be possible for him to do so, I will—should you desire, it—do my self the honor of paying you a visit in person; when I could explain matters in detail, and much more explicitly than it is possible for me to do in writing.

To parties and settlers here, who really sum to have the welfare of this Island in view, I would beg to say that the projected road is looked upon in no other light than one that cannot otherwise than contribute to most materially to the prosperity of the whole country.

Messrs. Hitchcocks, Chesebro & S. Kelii, will give you their ideas of the kind of road that should be built over the first (7) miles, extending from this place to the upper edge of the forest, and tender proposes for making the same. They are all thorough practical men, and have had more or less experience in road building, but I believe that either Chesebro, or Kipi, would make as good a road as Mr. Hitchcocks, and for a good deal less money, neither of them can command all the labour necessary would supertend the work in person & am willing to work for much less pay.

I am satisfied that neither of these gentlemen would have contracted to have built this section of the road, for considerable less than this tender, had they not been frightened by extravagant estimates of what it would cost, made by some prominent men in this place who are opposed to this road.

Mr. D.H. Hitchcock says that if he undertakes to make this section of the road that it must be on their times that every days work per man must count him one dollar, or in other words, he must make one half of the amount of his contract clear. It is not to be wondered at that he is anxious to see the road made, if he can get the contract to build it on such terms.

The kind of road that I propose to build. From Hilo to the woods, distance (4 mls.) there is a uniform gradual assent, over an old formation of *Pahoehoe*. The first half of this distance (or nearly so) is covered with soil from 1 to 2 feet in depth, here I propose to make a road 8 ft. wide, well ditched & drained, the tract to be in an oval shape, the center to be 2 ft. higher than the bottom of the ditches. Two small bridges of 10 or 12 ft. span,

will be required on this part continuing the road the same width over the *Pahoehoe* to be leveled with earth and rocks covered with fern.

It appears to me that 20 men can build this piece of road (4 mls.) in five months time very easily. I should think that prison labour, under a good overseer could be employed here to advantage.

Through the woods three miles in distance, I propose to open a space 100 feet in width, all the tree tops and brush to be cleared from this opening. Road to be 12 feet wide with 4 ft ditches on either side, with covered drains sufficiently often, so as to keep the tract in good traveling condition at all times.

Where the ground is swampy, or inclined to be soft I propose to build the road with *Ohia* logs, to be fitted close together well imbedded in the soil and covered with *iii* (a species of *hapu*) not less than 1 ft. in diameter, the whole land to be covered with earth not less than one foot in depth. This kind of a road, I am satisfied would last good for many years, and when repairs were required, an abundance of the same material is at hand to do it with.

A bridge of 60 feet span will be required across the "*Hopau*" creek, this can be built of *Ohia* timber & planks, cut upon the ground, and should not cost to exceed \$600.

I do not know what style of a road may be proposed by parties who have examined the rout, and reported to your Excellency, but I trust that the best will be adopted with out respect to persons of one thing I am positive that is, that I have selected the best rout for the road that can be found.

I shall be in Waimea on the 15th inst. Where I propose to remain, until I hear further from your Excellency upon this subject.

I feel a deep interest in the success on this project, and am ready and willing to do all in my power to forward it... [HSA – Public Works, DAGS 7 Box 36 Fldr. 2]

Hilo, Hawaii

October 12, 1869

Joseph L. Chesebro; to Minister of Interior

(Regarding Hilo Forest Section of Hilo-Waimea Mountain Road):

...I have been With Mr. Wiltse to Hilo after that section of the proposed route for a road from Hilo to Waimea stretching from Hilo to the upper edge of the bush and now feel prepared to make the following proposal to build the Said road from Hilo to the bush, 4 miles including three bridges, the road to be 8 ft. Wide, to be ditched on both sides, where practicable to be built With the best material at hand, \$2000 to build the Said road through the 3 miles as follows: to clear a shape 100 ft wide to build the track 12 ft Wide With the best Material at hand, *ohia* timber ferns *Hapu* & *ii* to be covered with earth say from 10 to 12 inches. With a ditch on both sides say 4 ft Wide. With all necessary drainage including a bridge over the *Hopou gulch* about 60 ft span the bridge to be built with timber but on the ground.

If his Excellency should be fit to give me the Contract I Will do the Work in a Workman like manner for 5000. or including the full Seven miles for Seven thousand dollars finding my own tools, & Commence directly after signing Artikles. I Should Come to Honolulu to get my tools then I Could Explain more fully on the Subject... [HSA – Misc. Public Works, DAGS 7 Box 36 Fldr. 2]

Hilo, Hawaii

October 28, 1869

R.A. Lyman. to F.W. Hutchinson

(Regarding Hilo Forest Section of Hilo-Waimea Mountain Road):

...I have been looking at Mr. Hitchcocks plan of the three roads to the lava flow. I have been over the Wiltse route & the Kalama route a great many times, during the lava flow of 1855 and once over the Kaumana route. And I think that the best road can be made by the Kalama route. Parties used to ride up the lava flow every week, for several months, as there was less deep mud that way than on the other roads and the lava of old flows comes nearer the surface than on the Wiltse route. The lava flow comes nearer town on that side than on the other side of the flow. And you can go from town here to the woods at Kalama, without having to crop half a dozen streams, and do not crop the large branch of the Wailuku in the woods.

I think that there is only one place on the road, that would ever need a bridge and that would not have to be a large one.

The natives that guided Mr. Wiltse through the woods came to me several times, to try and get me to promise not to tell Mr. W. about the Kalama road, as they said that they wished to have the road go direct to the old saw mill on the Wailuku and not by way of Kalama, & up the lava flow. I told Mr. W. all about the different roads, and he said that he should go up the Kalama road. But after he left here the guides persuaded him to go the other way. It will be very difficult to get lumber in the woods for the 60 feet bridge across the branch of Wailuku, & very expensive. I have been through the woods from the Kaaumana side of the flow to the Wailuku side.

I write now as Gov. Dominis said that Your Excellency wished to know what I thought about the road. I am very anxious to see the road opened & to have it opened in the best place. And that can only be determined by having some competent person explore the different routes thoroughly, and go all over the lava flow, & pick out the best way up the stream. As in some places on the flow, the lava can be worked easier than in others. It is the general opinion here, that Judge H. would be the best person on Hawaii to explore, as he understands native, and is well acquainted with work in the woods. As he has made several flumes in the woods & brought out the water from the gulches for the Plantations here.

I hope that you will pardon me for writing you about it, as I want to see the road made...
[HSA – ID, Roads, Hawaii Fldr. 5]

Hilo, Hawaii

December 22, 1869

D.H. Hitchcock. to F.W. Hutchinson:

...The undersigned would respectfully make the following offer, as regards the building the Mountain road from Hilo through the woods, the Kalama Route, as per Survey of D.H. Hitchcock reaching to the Lava Flow of 1856; a distance of about 6 ¾ miles.

The road to commence at the head of Waianuenue St., and following the general line of the Survey, to build a good and substantial road 8 ft wide over the route to the woods, leveling down the irregularities of the rock & filling in the low & swampy places with Rock (not pounded up fine, but paved) & making one Bridge 12 ft long over the stream nearest Station No. 3 & for the sum of two thousand six hundred dollars (\$2,600). The Road through the woods to be built as follows.

1st To Cut down & trim up all the trees Bushes & ferns (not carrying the same off the ground) for the space of 40 feet each side of the road way.

2nd To Clear a road way 20 feet wide of all trees, bushes & ferns between said 40 feet side clearings.

3rd To build a road of Fern or paved with Rock, or cleaned down to the bed rock & evened up, as may be found practicable the said road to be eight feet wide, and if ferned to be ferned in a good & trusty manner. The said road not to be drained, unless in swampy places & then only when practicable without going through rock. The price for the same to be (\$3,400) three thousand four hundred dollars.

The undersigned therefore are prepared to contract for the sum of \$6,000 to build the road as above specified, for the sum of six thousand dollars (\$6,000). The work to be done before the 1st day of January A.D. 1871. The terms of Layman subject to arrangement...[HSA – Misc. Public Works, DAGS 7 Box 36 Fldr. 2]

Hilo

January 5, 1870

L. Kipi; to F.W. Hutchison

(Construction of the Mountain Road from the lava flow and forest into Hilo Town):

I hereby inform you of my desire pertaining to the Mountain Road, from Kalama to the lava flow.

I have heard from S.H. Coney, that the distance from the Town of Hilo to the lava flow is five and three quarters (5 3/4) miles, perhaps so, or maybe not. But, if that is the distance, I can build it well for those 5 3/4 miles of the road, just as described by R. Stirling at the time that he was in Hilo, for eight thousand six hundred dollars.

It will be:

First taking for the beginning, \$2,600.00.

Finishing the Road in the forest, till it is good, then taking again \$2,4000.00, to complete the miles below the forest to the Town of Hilo; and when it is approved, I shall receive the balance of \$3,6000.00... [HAS, ID Roads, Hawaii, Fldr. 6]

Honolulu

January 10, 1870

J. Wilson & Benj. Macy; to Minister of the Interior

(Proposal to Construct Portion Hilo-Waimea Route; Hilo Forest Section – Via Kalaieha):

Tender

For six and three quarter mile of the proposed Road from Hilo to Waimea via **Kalaihea** [Kalaieha].

First Section

From Hilo to the Busch four miles Road to be eight feet wide all grass and fern to be cleaned all low swampy places to be filled to an ordinary level and all high ridges to be thrown off, so as to make convenient traveling; and two bridges twelve feet span if required.

Second Section

One and three quarter miles through the bush, all timber and scrub to be cut a space of One Hundred feet wide, Twenty feet in the centre of that to be cleaned eight feet in the centre of that to be cross laid with fern or so filled as to make it at all times passable in such places as the cross layering and filling in may be required, and to give a good Drainage the whole distance that in no place shall the water be allowed to stand on the road.

Third Section

One and a quarter miles Lava flow to be a road eight feet wide to be filled in all low places to an ordinary level all high sharp ridges which cannot be avoided to be removed so as to admit of easy pass and all cracks and crevices to be properly filled for the full accomplishment, and performance of the Foregoing Described Work the undersigned will do the same for the sum of Thirty five hundred Dollars with sufficient surety for completion of the contract... [HSA – Misc. Public Works, DAGS 7, Box 36, Fldr. 3]

No date (post-dates preceding communications)

Report on Mountain Road, Hilo To Waimea

(Summary of proposals for construction of the Hilo-Waimea Mountain Road):

...In July, 1869 Mr. Wiltse surveyed the whole route from Hilo to Waimea, making a distance of 53 ½ miles, as against 80 miles by way of Hamakua. He also formed an estimate of the cost of making a road by the route surveyed in the sum of \$12,300. He afterwards in October of that year went over the Hilo end of the proposed road accompanied by Messrs. D.H. and H.R. Hitchcock, Mr. Kipi, & Mr. Chesebro, as intending officers for its construction, when he again wrote to your Excellency confirming his previous letter in every respect.—

In December, the above mentioned parties sent in Tenders for the Construction of the road to the lava flow of 1854, but all much in excess of the estimate:

| | |
|--------------------------------|---------|
| Amt. of Mr. Cheseboro's Tender | \$7000. |
| Amt. of Mr. Kipi Tender | 6850. |
| Amt. of Hitchcock Bros. Tender | 6000. |
| Amt. of Wilson & Macy Tender | 3700. |

In October Mr. D.H. Hitchcock wrote to recommend a different route from Hilo to the lava flow to that proposed by Wiltze, and your Excellency sent me up to go over both routes to see which would be most easily made & kept in repair. I went over both routes with Mr. Hitchcock & decided in favour of the route proposed by him. He then, at my request made a survey and sketch of the route and the contract to build the road was given to Wilson & Macy for the sum of \$3700.—

On the completion of the work I went up again to inspect it, and on this occasion I went over the whole route from Waimea to Hilo, and was so impressed with the difficulties in the way of constructing a practicable road from Kalaieha to the forest above Hilo, that had I seen it before, I would not have recommended attempting to make a road there. I reached the portion of the road already constructed, in a deluge of rain, & found almost the whole road to Hilo under water, with strong currents sweeping across the road every few yards carrying away the material with which it was constructed, fern trunks & stone indiscriminately, and I felt satisfied that under such conditions no road that was not paved with blocks of stone could stand. Mr. Hitchcock has reported that on this road, one small 12 ft. bridge might be necessary and I found at least 20 streams of as many feet wide each, and one of 50 to 60 ft. wide with a depth of water up to the middle of the saddle.

It was said to be an unusually wet time in Hilo and that may have been the case, but still the road would have to be built to withstand such a time and only a road built of stone could do so.

New Bridges in the District of Hilo

| | | |
|-------------|---------------------------------------|---------|
| March 1867. | New Bridge on Wailuku Stream | \$3800. |
| March 1869. | New Bridge on Waiakea Stream | 2050. |
| March 1870. | New Bridge on Kolekole & Nanue Stream | 1534.34 |

| | | |
|-------------|------------------------------------|---------------|
| March 1871. | New Bridge on Kawainui Stream | 935.38 |
| Sept. 1871. | New Bridge on Kaiwilahilahi Stream | <u>734.42</u> |
| | | \$9054.14 |

In addition to the above there was a bridge put up near Onomea, costing somewhere about 6 to \$700, but of which I have no record and cannot speak positively...[HSA, ID Roads, Hawaii Fldr 4]

Honolulu

January 21st, 1870

Robert Stirling; to D.H. Hitchcock:

...Your favor of 3d inst. only came to hand on the 19th per "Pauahi," which will account to you for not receiving an answer to it by the "Kate Lee" as you requested.

Your Bill for surveying, in the sum of \$80. has been paid to Messrs. H. Hackfeld & Co to your credit; as you desired. I shall be glad in future to put any surveying the department may require in your neighbourhood in your way, as it is satisfactory to be able to get a reliable survey when needed.

As regards the building of the new Mountain road His Excellency the Minister of the Interior desires me to inform you that John Wilson of Hamakua having offered to build that portion from Hilo to the Lava flow of 1855 for the sum of \$3500. and within 6 months from February 1st he has accepted his tender. The work will therefore be begun early in February, and I trust that a really serviceable road may be the result. – I expect to go to Waimea during next week to inspect the road now being built through "Mud Lane" by Mr. Wilson, when the final arrangements in connection with your road will be made. [HSA - ID Ltr. Bk. 9]

Honolulu

February 7th, 1870

Robert Stirling; to John Wilson

(Regarding Construction of Mountain Road from Hilo to Waimea):

...By this opportunity, Mr. Gulick, Chief Clerk of the Interior Department, sends to care of Mr. Spencer \$2400. for you, \$1200. for Balance of your Contract for the Aiku road, and an equal sum on a/c of advance on your Contract for the Mountain Road from Hilo to Waimea. I trust that by this time you have completed the Aiku road in the manner we talked of, and that you may soon be able to commence operations at Hilo.

In the Carrying out of this new contract, should there be any thing requiring explanation further than I have already given you, I beg that you will let me know at once, and I shall do all in my power to facilitate matters for you as well as to explain what may be required.-

Please to send by return the receipts Mr. Gulick asks for, and do not forget to have filled in to the contract &c the date on which it was executed.-

The plan of that section of the road which you contract to build is sent today to care of Mr. Spencer. If you are in any doubt as to the precise location of the road, you must get Mr. Hitchcock to point it out.

Honolulu

July 27th, 1870

Robert Stirling; to John Wilson:

...I have your favor of 18th inst. and note contents. Since Mr. Reed approves the change in the location of the road near Hilo, if there is no one who objects to it on account of crossing his land or otherwise, I can have no objections to it. I will however write to Mr.

Reed on the subject, and he will advise you what to do when he has made enquiries about it. In a letter I had from him two days ago, he says that your idea is that the specification for the making of the road is only a matter of form, and that we had a private understanding on the subject. Now I never have private understandings in matters of Public Works, but in regard to this one, I told you that it was impossible for me in the then state of the Forest to specify absolutely what kind of road would be best in every point, and that I must leave a good deal to your own judgment in this respect when you saw the ground cleared, and certainly my only motive for waving the specifications was in the hope of getting a better road, & not a worse one, so that unless you can shew a better construction of road, we must fall back on the specification. When the *pahoehoe* is smooth and level, and not covered with mud it would be folly at the present time to round it up in the centre with earth or anything else, as I have no doubt that in its present state it is a better road than any that could be made, and it will be many years before it is so much worn as to make it unfit for travel. Wherever, in the forest, or out of it, the roadway has to be built up, it must be done with such materials as can not be washed away, and of course using earth is inadmissible.

I must say that I do not see why there should be any difficulty in this matter, and I trust that you will go on and make a good job of it. I cannot go up just now to see your work, but shall do my best to be able to go when it is finished. Meantime, do not get into bad blood with any one on the subject.

Per "Kate Lee" I send you today to care of Mr. Reed the \$800. – you ask for on the faith of your work being half finished, and I have to beg that you will give Mr. Reed a receipt for it as on former occasions. –

I hope you continue to have favourable weather and that you may soon have your work finished... [HSA – ID Letter Book 9]

Honolulu
July 27th, 1870

Robert Stirling; to W.H. Reed:

...Yours of 19th inst. came duly to hand and I thank you for the information it contained in regard to the Mountain road, although I am sorry to hear that you think so poorly of the way in which the work is being done. The specification is no mere matter of form, and I had no understanding with Mr. Wilson farther than this, that as it was not easy to specify what road would be best for all parts of an uncleared forest. I left a good deal to his judgment to depart from the specification if he saw any way of making a better road than that specified, but on no account will a worse road be received. I wish I could go up to see it, but I cannot at present and must hope to be able to do so when it is finished.- I will be obliged if you will enquire whether there is any objection on the part of the owners of the property on the route on the south side of the hills in entering Hilo, and if not, let be made there.

I send p. "Kate Lee" \$800. to your care to be paid to Wilson, and for which I beg you will take his receipt and send it to me.

The \$59.64 due you has been paid to Messrs Hackfeld & Co to your credit as you desired, & I am much obliged to you for your trouble in the matter... [HSA – ID Letter Book 9]

Hilo

August 6th, 1870

H.R. Hitchcock; to H.W. Hutchison

(Regarding status of Hilo-Waimea road construction):

...Agreeably to your request, I have been over the new road, now being built by Wilson and Macy. The following are the facts which I gathered on the exploration.

Upon the first section, as per specifications, nothing has yet been done. In regard to the second section, that thro the woods, the trees have been cut down to the width of a hundred feet, except the last half mile, where the width cut will not average more than 75 or 80 feet. A clearing thro the middle of this swath has been made, of an average, available width of 12 feet.

There is no ditch on either side to distinguish the road way proper of eight feet, nor is there any pretence of rounding up in the center. The bog holes have been filled in, apparently with fern stumps. In some portions of the clearing the trunks of ferns of the proper length have been laid across the road, but these trunks have been split, in most instances into quarters thereby rendering them very springy. There is not the slightest solidarity about the portions ferned. The decided tendency is to sag in the middle. I witnessed the men at work laying the ferns. These were simply thrown down and placed in position, without any previous preparation of the ground.

I crossed two streams, within the length of this section, which, in rainy times, would swell to torrents, and sweep away large portions of the road, as at present constructed.

I went up on the a-a flow portion. I left my horse behind as he was not shoed and as the road across the flow was rougher than the flow itself. The filling in material is the hard *pahoehoe* instead of the crumbling *aa*. The stone has been pounded up till the fragments averaged about the size of breadfruits, and with these fragments the road has been filled in for the average width of six feet.

These are the facts which I have to communicate to Your Excellency.

In my opinion there is no reason why the road should be so shiftlessly done; as the material for a good road, and for a literal carrying out of the specifications are abundant and close at hand. [HSA - ID Roads Hawaii, Fldr. 6]

Honolulu

August 10th, 1870

Robert Stirling; to John Wilson

(Regarding status of Hilo-Waimea road construction):

...I have duly received yours of 3d inst. and note what you say in regard to the difference of opinion between yourself and Mr. Reed as to the proper understanding of the specification for your work on the New Road. In reply, I can only refer you at present to mine of 27th ult. Advising you to adhere to the specification, unless you can shew that a deviation from it would be advantageous.

I wish to call your attention to a report on the state of the road made to the Minister of the Interior by Mr. H.R. Hitchcock, at his request. He says, "upon the first section, nothing has yet been done." In regard to the second section, that through the woods, the trees have been cut down to the width of a hundred feet, except the last half mile, where the width cut will not average more than 75. or 80 ft.

A clearing through the middle of this swathe has been made of an average available width of 12 ft. There is no ditch on either side to distinguish the road way proper of eight

feet, nor is there any pretence of rounding up in the centre. The bogholes have been filled in, apparently with fern stumps.

In some portions of the clearing, the trunks of ferns of the proper length have been laid across the road, but these trunks have been split, in most instances into quarters, thereby rendering them very springy. There is not the slightest solidity about the portions ferned. The decided tendency is to sag in the middle. I witnessed the men at work laying the ferns; these were simply thrown down and placed in position without any previous preparation of the ground. I crossed two streams within the length of this section, which in rainy times would swell to torrents and sweep away a large portion of the road, as at present constructed. Farther on he says, "the road across the flow was even rougher than the flow itself. The filling in material is the hard *pahoehoe*, instead of the crumbling Aa. The stone has been pounded up till the fragments average about the size of breadfruits, and with these fragments the road has been fitted in for the average width of six feet." Again he says, "there is no reason why the road should be badly done, as the materials for a good road, and for a literal carrying out of the specification are abundant, and close at hand."

I give you these quotations from Mr. Hitchcocks letter, simply to let you know how the work is looked at by an outsider, not that you should be made angry, and I have again to beg of you that you will not get into any row with anyone on the subject, but go ahead, do your best; and let me know when you expect to finish it. Let me know a fortnight beforehand.

Again recommending you to keep the specification always in view, and hoping you will soon be able to announce the completion of your contract... [HSA – ID Letter Book 9]

Honolulu

September 24th, 1870

Robert Stirling; to John Wilson

(Regarding status of Hilo-Waimea Road Construction):

...I am sorry to say that through the "Kate Lee" having been laid up for repairs for the past fortnight, I have not had an opportunity of answering yours of 3d inst. nor of sending you the \$400. you asked for. She goes this afternoon however, & I send by her to care of Mr. Reed the money you require, for which you will please sign the order I enclose to him.

I note that you propose being finished with your work in about 3 weeks from the date of your letter, and although I do not expect that you will be so to a day or two, still I hope you may not be long after that time.

The "Kilauea" is expected to be ready for sea in about a fortnight, and if you are ready by that time, & advise me so, it is probable that H.E. the Minister of the Interior will go up to inspect your work, and in any case I shall go by her. Her first trip will be made to Hilo.

Try then to be ready by that time, and to have the road in as good shape as possible so that there may be no difficulty... [HSA – ID Letter Book 9]

Honolulu

November 14, 1870

Robert Stirling; to John Wilson

(Regarding status of Hilo-Waimea road construction):

...By last steamer I sent you a message by Mr. Spencer to the effect that in the short time I had been at home, I had not had an opportunity of consulting His Excellency the Minister of the Interior on the subject of the Mountain Road from Hilo to Waimea, on the construction of the first section of which you had been engaged & had just completed

previous to the severe storm which broke over that district and which I experienced.

Since that time I have talked with His Excellency on the subject, and represented the matter to him as fairly as I could in the interest of both parties to the contract, and I have now to inform you that he has come to the conclusion to pay you \$800. being the Balance of the contract price still due to you, and to release you and your Bondsman from all further liability in respect of this road.

I am truly sorry that the issue of this undertaking should have been so unfortunate for you, in that you have suffered loss through it; and, had the road remained tolerably decent and serviceable after the storm, I would have done all in my power to obtain for you something in excess of the contract price, but, under the circumstances; I could not conscientiously advocate such an arrangement, and I trust that you will see it in this light yourself.-

Please let me know at your earliest convenience whether you will have this money sent to you to Hilo, or Kawaihae, and I shall cause it to be forwarded by return... [HSA – ID Letter Book 9]

Waimea

November 16th, 1870

John Wilson to Robert Stirling

(Regarding completion of the Hilo-Kalaieha section of the Mountain Road):

...Yours of the 14th inst. has duly come to hand and in answer would say that I am glad to hear from you and that there was nothing worse befell you than your sore feet after such a time as we had in Hilo on the *paahoehoe* in the storm.

I hope for my part never to have to travel it again in such a time altho for my part am all right, and I am also glad to hear that you have got me out of Hilo and that His Excellency the Minister of the Interior Accepts the road as it stands for if His Excellency had not have done so I do not know what I would have done to pay off the men. But now I can do so without any default on my part.

There is only one thing I am sorry that it is a failure what is done, altho I must say that you've seen the road under very unfavorable circumstance it may be a long time before Hilo will be deluged again should you ever come again to see the place please let me know and I will go with you and forward your project all I can.

When you send me the balance of the money please to send it to Kawaihae as all the men are now in Hamakua. I have just heard from Macy, he says that it is still raining in Hilo. I shall go there next week to bid in good... [HSA – Misc. Public Works, DAGS 7 Box 36, Fldr. 3]

Waimea, Hawaii

June 13th, 1871

John A. Simmons; to F.W. Hutchinson

(Regarding funding for repair of Hamakua Mountain Road):

...The Mountain Road from Waimea requires about two hundred dollars, to place it on good order from that place to the Hamakua-Hilo Road, upon Kaohe, which amount I would respectfully ask be sent me. I have place Guide Boards so that the stranger may no longer need a guide from Waimea to Hamakua. The two hundred dollars will make a Cart Road to where I mention... [HSA - ID Roads, Box 37, Fldr. 8]

Puuloa, Hawaii

October 7th, 1871

John A. Simmons; to F.W. Hutchinson

(Regarding completion of repairs on the Waimea-Hilo Mountain Road to Kohalalele):

I have finished the Mountain Road from Waimea to Hamakua, a loaded wagon can now be driven from Kawaihae to the Landing at Kohalalele in that District. The whole cost of which amounts to two hundred and twenty dollars.

I have had three new bridges made upon the Hilo Road from Waipio in the same district which cost One hundred and five dollars, in all expended \$325... [HSA - ID Roads, Box 37, Fldr. 8]

Honolulu

March 5, 1884

H. Hackfeld, Agent for the Humuula Sheep Station; to Chas. T. Gulick:

...The undersigned agents of the Humuula Sheep Station Company of Waimea, Hawaii, hereby most respectfully beg to petition your Excellency to grant a subsidy and encourage the Company to cut and build a road through the woods from Humuula to Ookala, the total cost of which is calculated to be about \$1200.

Said road would not alone open a very large area of land towards the Hamakua District, but also place all the neighboring Plantations in a position to obtain their Beef and Mutton from Humuula, whereas now they have to consent with great inconveniences in attempting to procure their supplies from distant places.

Trusting the foregoing will receive kind consideration, we remain... [HSA - ID Roads, Box 38 – fldr. 10]

Hawaiian Government Survey Register Map No. 1438, issued in 1886, depicts the alignments of the mountain roads from Hilo to Kalai'eha and Pu'u 'O'o; from Kalai'eha, past Pōhakuloa, and on to Waimea; and from Kalai'eha, to Pu'u 'O'o, Keanakolu, Hanaipoe, Mānā, and on to Waimea. A portion of the map is cited below as *Figure 12*.

Waimea March 30th, 1897

Wilmot Vredenburg; to J.A. King, Minister of the Interior

(Regarding disposition of the Waimea-Humuula Road and Waimea-Hamakua Road):

...Your favour to hand & contents noted. For the information wanted I enclose for you a rough sketch of the district showing the two roads in question [*Figure 13*].

The **Humuula** road is though in fact a Government road, yet in a strict practical sense, private one. It is used by no one except the Humuula Sheep Stn. And the Puuloa Sheep Ranch.

The road leading from Waimea to Hamakua is the only available road from the district of Hamakua to the landing of Kawaihae. In former years people did not travel so much to Kawaihae to catch steamers, hence the neglect of this road, but of late the carriage and wagons passing over this road have cut it up to such an extent that in places, the ridge is almost touching the axles.

I drew Mr. J.F. Brown's attention to this matter and he promised to draw your attention to the road in question.

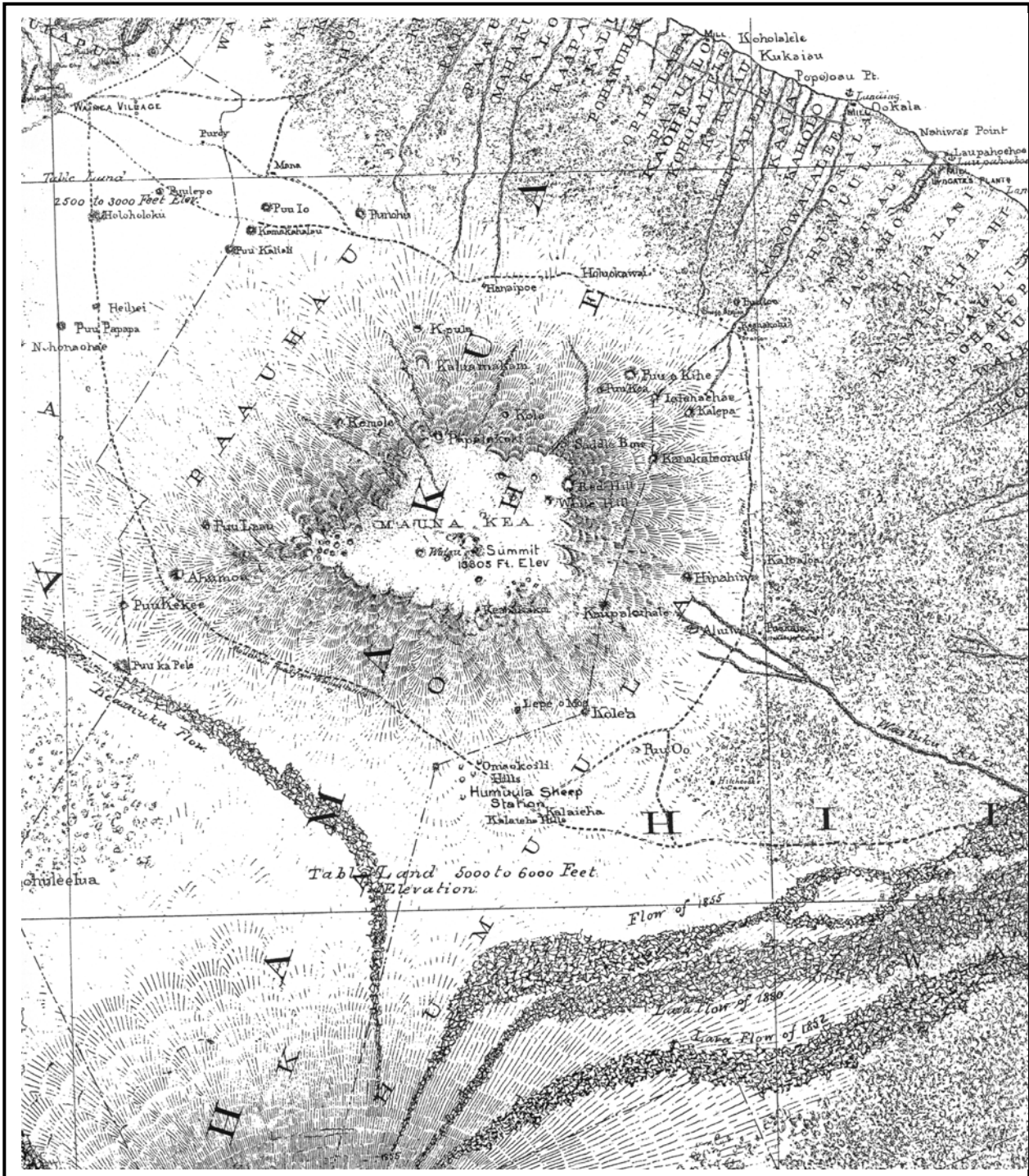


Figure 12. Portion of Register Map No. 1438 Depicting Government Mountain Roads (W.D. Alexander, Surveyor General, 1886).

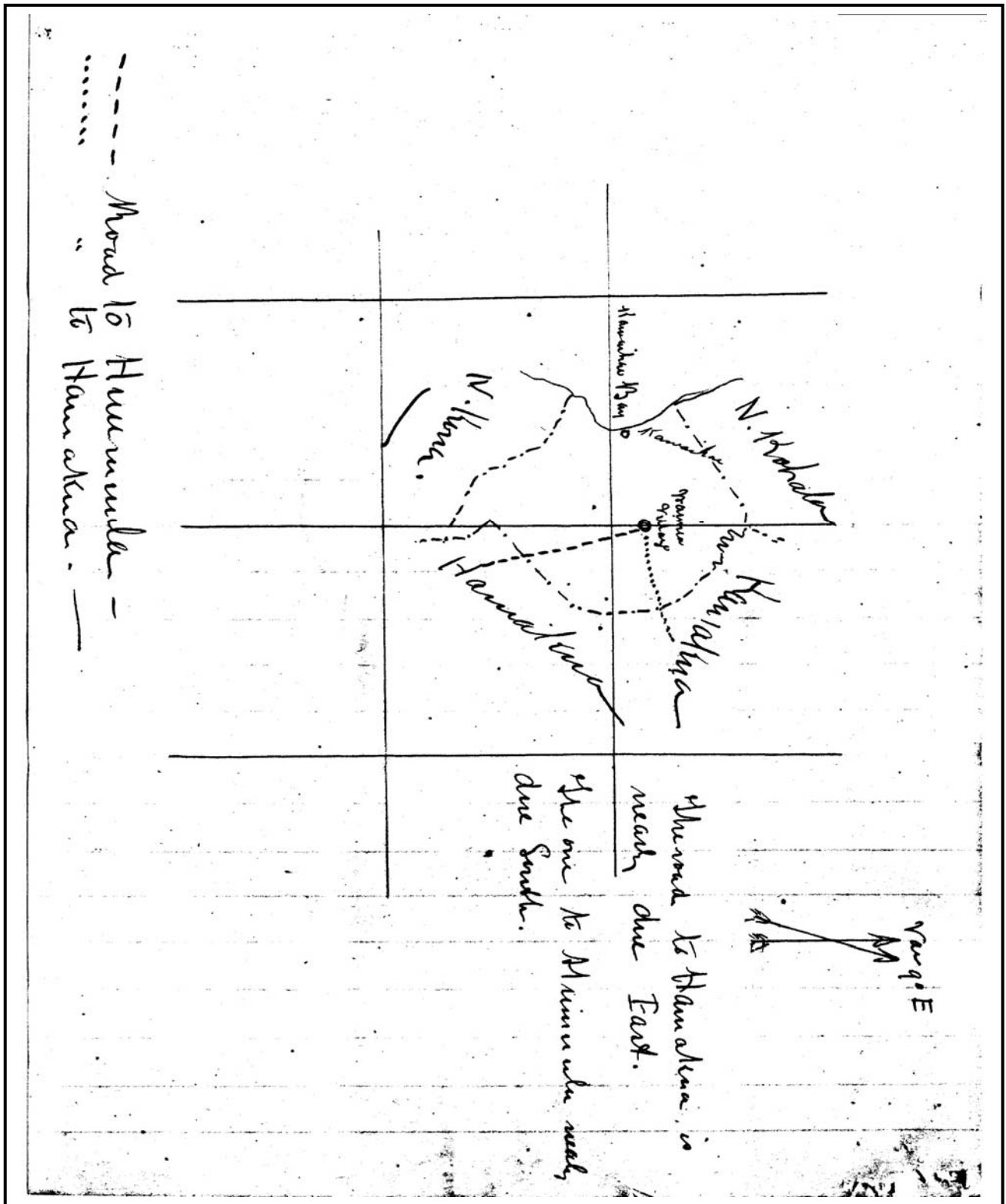


Figure 13. Sketch of the Waimea-Humuula, and Waimea Hamakua Mountain Roads (W. Vredenburg, 1897).

I do not deny that I will be particularly affected by the repairing of this road. It is for this reason that I have made an excessively low bid for its repair. Mr. Lidgate estimates the building of such roads at \$150. per mile, and this road is far nearer 5 miles than 4 ½ miles.

As I live midway on this road, I am in a better position to put the work through with dispatch. Besides this, I have several teams and plows that could be utilized to push this work through.

Our district is in a deplorable state as far as roads are concerned. The Kawaihae road is perfect as all our available funds are spent on this road only. The road from Waimea to Kohala does not exist any longer, though two appropriations have been made for it. It is now nearly a cattle trail.

The road to Humuula, as I have before stated, is not a public thoroughfare, and if you do not think fit to spend much on this road, I can have the stones thrown out and a little filling done, which will enable teams to get through a little better than they do at present. If you will look on the map of Hawaii you will see what extent of this road is in Hamakua, Hilo, and S. Kohala. I could not repair this road to the boundary for less than \$500. There is no water, and every drop has to be carted 10 miles.

Planters in Hamakua are getting a petition up in the matter of the road leading to Hamakua. You may probably receive it by this mail.

For the last 15 years south Kohala has not been extravagant in its demands for road funds. If I am not mistaken, this is the first instance of extraordinary repairs being asked for. I have done all in my power to further the cause of good roads but am not in a position to continually repair roads as I have done, after freshets, to enable my own teams to travel.

My offer to repair the Hamakua side of our roads for \$500. still stands good, and will keep it open until arrival of next Kinau's mail... [HSA – ID Roads, Hawaii, Box 42]

Following the above letter of 1897, almost no further communications regarding work on the mountain trails and roads between Hilo and Waimea—routes via Kalai'eha or above the forest on the Hāmākua side—were located. Indeed, from the early 1890s, nearly all communications describing travel and the trails-roads of the Kalai'eha section—via the Pōhakuloa-Waiki'i route, or by the Laumai'a-Keanakolu-Mānā route—were documented as a part of the operations reported by the Humuula Sheep Station Company and Parker Ranch, or in historical accounts by visitors to Mauna Kea and the mountain lands, as cited in various section of this study.

In the 1930s, the Civilian Conservation Corps (CCC), under the direction of L. Bill Bryan, undertook improvements on the mountain roads, particularly the section between Kalai'eha and Keanakolu, and in 1942, following the outbreak of World War II, the USED and United States Army began realignment and improvements of the route that became known as the Saddle Road. Territorial ownership of the road was assumed on June 30, 1947 (HSA – GOV 9-21, Saddle Road). Government photographic records also document that by April 1941, the United States military command was scouting the Humu'ula-Kalai'eha vicinity as a possible landing field (NARA Photo Collection, No. 37389 A.C.)

Historical Surveys of the Lands of Humu'ula, Ka'ohe, and the 'Āina Mauna

By the 1830s, early surveys of the inland sections of Hawai'i began to be made. This work was formalized as a part of the *Māhele 'Āina* in between 1846-1855, and furthered by the work of the Kingdom Survey Division and Boundary Commission proceedings between 1860s to 1900. In the 1860s, W.D. Alexander was appointed Surveyor General, a position he held through the 1890s, and under his direction detailed surveys of the islands were undertaken. The survey work focused not only on parcels of land sold, but also on land divisions and entire islands. In this period, several island-born surveyors excelled—among the surveyors were Curtis Lyons of Waimea, Hawai'i; J.S. Emerson of Waialua, O'ahu; D.H. Hitchcock of Hilo; and the Lyman brothers of Hāmākua and Hilo.

In the region of the *'āina mauna*, S.C. Wiltse did some of the earliest work through the 1860s, though through subsequent surveys, the boundaries set by Wiltse were modified. Wiltse's 1862 map of Humu'ula (Register Map No. 668), depicts the boundary of Humu'ula and Ka'ohe extending to the summit of Mauna Kea, and also names several key locations on the boundaries and within the land. Subsequent surveys and proceedings of the Boundary Commission (1873-1891), revised the *mauka* boundary of Humu'ula, to its present location, and was depicted on Register Map No. 1641, prepared by C.J. Lyons and others in 1891. E.D. Baldwin's Register Map No. 1718, of Central Hawai'i (1891), includes details of the topography from the summit of Mauna Kea, to Ahumoa, across Pōhakuloa, to The Waiākea-Pi'ihonua Boundaries of Humu'ula, and along the boundary of Humu'ula to Hakalau. C.J. Lyons and E.D. Baldwin also prepared sketches as a part of their field books, thus through their work, we are given views of the landscape as it appeared in the 1870s and 1890s.

The *kama'āina* testimonies and surveys recorded as a part of the proceedings of the Boundary Commission on the Island of Hawai'i (1865-1891), are presented at the end of this section of the study. The communications cited below, were viewed in collections of the State Survey Division and Hawaii State Archives, and are presented in chronological order. Readers should also refer back to the articles published by E.D. Baldwin (1892) and W.D. Alexander (1892), documenting their survey expeditions in 1889 and 1891 respectively.

Citations include important documentation pertaining to—place names; the presence of trails of the Humu'ula-Pi'ihonua vicinity and larger *'āina mauna*; features associated with the Humu'ula Sheep Station Company, and other ranching operations of the mountain lands; and the location of vegetation lines and geological formations. Selected sketches from the field books are included with the narratives below. Underlining and emphasis is added to selected portions of the texts to draw reader's attention to particular references.

February 10, 1866

***S.C. Wiltse; to Jno. O. Dominis, Crown Lands Commission
(Reports on Completion of Survey of Humu'ula):***

...I have added the survey of the *makai* part of the Crown land "***Humu'ula***" to the plan of the *mauka* part as you requested and will forward the same to you by the first opportunity. The field notes are also appended to the notes of the *mauka* part.

That part now added contains 7215 acres, 924 acres of which is good grazing land below the forest. **The forest part is a rich alluvial soil and covered with the largest growth of ohias and koa that is to be found on this Island.**

The reason for this survey was not reported to the late Mr. Webster at the time it was made because I had lost confidence in the men that pointed out the boundaries. They pretended to be kama'āinas of the old land and a survey was made accordingly. I afterwards ascertained that they knew little or nothing about the boundaries of the *mauka* part and so I had all of that work to do over again. But since then I have found out by inquiries and examinations that those men were kama'āinas of the lower part of these

lands, in fact, the only men living that did know said boundaries through the forest. I am therefore able to now report that survey as correct according to the best of my knowledge... [HSA - Crown Lands Commission]

Hilo

October 16, 1877

C.J. Lyons; to Prof. Alexander

(Reports on establishment of Triangulation Stations on Mauna Kea):

...I was glad to get your letter the other day. We have had like experience in the weather line but it seems better now. I have started a party in charge of Mr. Cabot to clear off the famous hill of **Kauku** in **Makahanaloa** woods – and put up a signal there. I am expecting it to take not less than a week.

I was disappointed in not getting a co-visible station on the extreme point of Makahanaloa, but the hill would have to be occupied anyway – so it is just as well probably.

There will then be the following points to occupy [Figure 14].

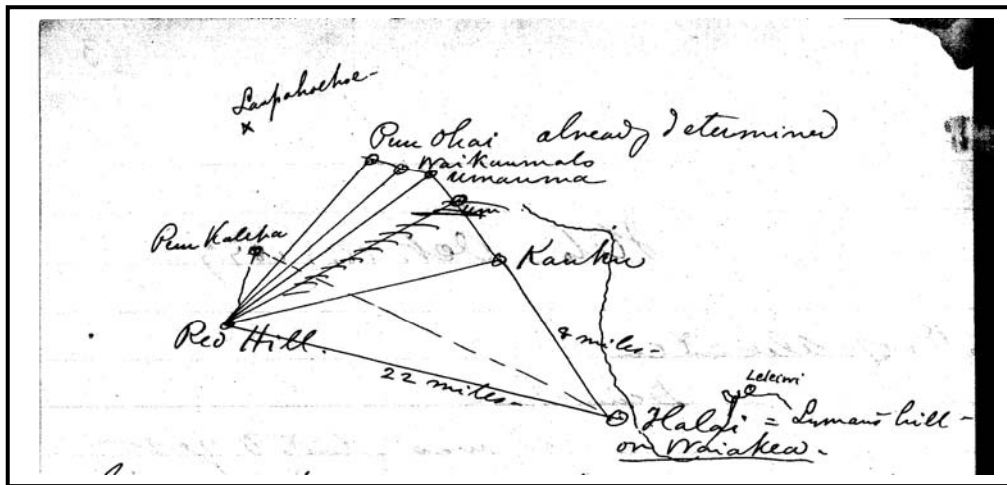


Figure 14. Sketch of Mauna Kea Stations–Kaupo (Red Hill) and Stations from Halai (C.J. Lyons, 1877).

You see there are only three primary stations between where I left off & that one. I was up at Halai this morning with the instrument; the signal on Red Hill shines like a white star.

There is a check triangle from Puu Kalepa of about 10° apex. The Kauku triangle makes a trifle over 30° here.

I cannot make out anything of my Mauna Loa signal, and have no time this season to look after it.

This (Halai) is a very important station, as it commands a line of points extending from the East Cape, Kumukahi, to Mauna Loa. I think as soon as we have time it should be made an azimuth station and latitude too perhaps.

The Mauna Kea Station is visible here & I regret much the necessity there has been for not having a good signal there although it would have been of no use for the series thru Hamakua & Hilo. It will be invaluable for going to the southward.

I shall not dare give a thought to anything not necessary for the main object, viz. a map of Hilo & Hamakua. Shall try to get a signal out toward Lelewi, in order to get in coast between here & Makahanaloa by resection, and then occupy Kauku, Umauma & Waikaumalo.

Eight triangles revolve on Red Hill as a centre, & eight on Papalekoki.

I hope to get the distances correct to 1 in 5000. Mr. Cabot measured a test line of 2000 ft in Hamakua with the chain & the agreement was absolute to an inch. As it was a very uneven line – the coincidence seemed almost an obscure piece of luck – tho he took great pains.

I have sent Mrs. Adams some secondary Hamakua triangles to work up – My plan is now to have all the triangles in one book...

Mr. Eiles made some more unwarrantable changes in the lettering of the map of Hawaii, which made the pains I took in marking out the larger ahps. of Hilo &c. of no account, other names are omitted entirely.

The location of Waiakea seems to be practically correct – on our Cert. map... [HSA – Survey DAGS 6, Box 1, Fldr. 4]

Subsequently in 1879, C.J. Lyons was working on the Hilo Mountain Lands, trying to determine the Humu'ula Boundary with lands below it. In Field Book No. 315 (page 18), Lyons included a sketch of the Makahanaloa-Honohina boundary with Humu'ula, and also depicted the mountain road, named localities, "Norton's hut" and survey points in the vicinity (*Figure 15*).

Ten years later, E.D. Baldwin returned to the Hilo Mountain Lands to conduct surveys. His trip and results of the survey were documented in an article he published in 1890 (cited earlier in this study), and in letters as the one cited below:

Hilo, Hawaii

August 18, 1889

E.D. Baldwin; to W.D. Alexander

(Reporting on Mauna Kea and vicinity survey trip):

...I am just back from our ***Mauna Kea*** trip. We left Hilo Aug. 6th at 8 A.M.; with three pack animals. Mr. Burt, Levi and Ernest Lyman went along with us. We took the Hitchcock road, up through the woods and then over the 1855 flow to their camp ***Halealoha***, about 20 miles from Hilo, which camp we reached at 8 P.M. – the moon assisting us to find the trail the latter part of the way. The bark house at ***Halealoha*** is partly rotted away, but gave us good shelter for the night. Next morning we made a start for ***Puakala*** or Hitchcocks house near ***Ahuwela***.

Mr. Burt and I went on ahead with our rifles and shot two young bullocks, from which we got enough meat to last us several days. Arrived at ***Puakala*** about 5 P.M. Here the Hitchcocks have a fine large house, made of koa, - which was sawed out by hand. They had kindly given us the keys of the house, so that we made it our headquarters. The rest of the week was spent getting out poles for ***Ahuwela*** sta. We had to go a mile below Puakala house to find straight – enough poles, which we hewed out and then dragged up to the hill. (Mr. Lowenstein and I saw the poles clearly this morning, from Hilo.) Both

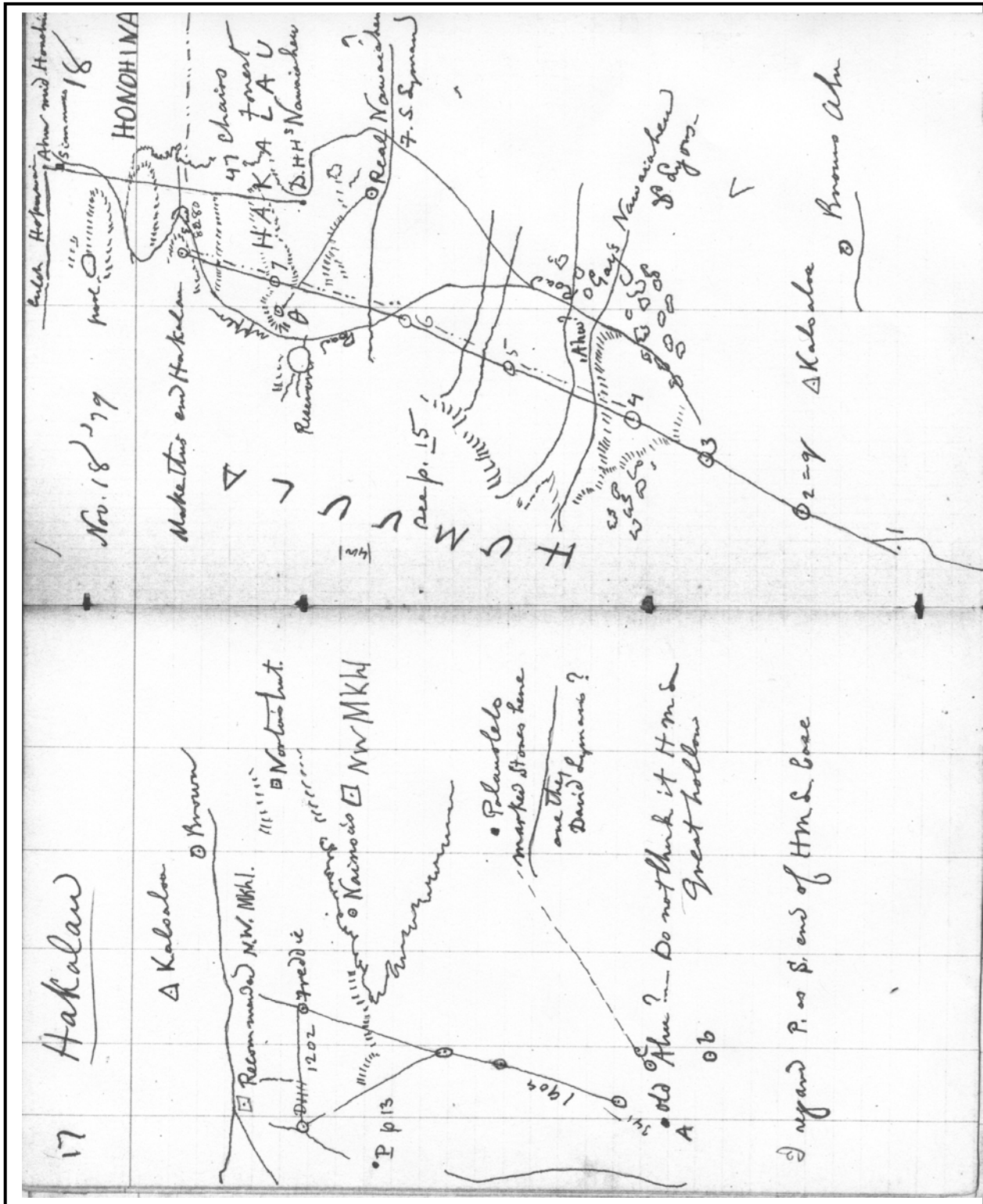


Figure 15. C.J. Lyons' Field Book 315 (pages 17- 18), Depicting the Boundary between Humu'ula and Makahalaloa-Honohina (November 18, 1879).

Morris Chamberlain and my native boy were taken down sick Monday. We intended to make a start for the top of the mountain at any way, and got up at 4 A.M. for that purpose, but found some of the horses gone, which were not found until near noon, so we gave up the trip for that day. Next morning, Tuesday, we started at 7 A.M. The party consisting of Mr. Burt, Levi & Ernest Lyman and myself. Morris and the native boy (David) being left behind, as they were not well enough. Mr. Burt was the only one, in the party who had been to the top of *Mauna Kea*. There is no regular trail going up, we followed the main cattle trails until those disappeared, and then clambered over the clinkers, picking our way as best we could. One of our pack mules began to act rather stubborn about going up the mountain so I packed my horse, and rode the mule, and by means of considerable spurring got him about a mile further, or about three miles from the top when he refused to go at all, so we tied him, with a feed of oats near by and left him. I walked part of the way, when Mr. Burt kindly urged me to ride his horse, which I did for a ways, (as I had quite a headache) reaching on the top plateau we pushed on some two miles further, trying to find the lake. I tramped the last two miles on foot, and was taken down very sick, with mountain sickness. We concluded to camp while Mr. Burt went in search for the lake, which he found quite aways above us among the central cones. The animals were very uneasy during the night; clawing up the dust, and breaking and chewing up their ropes. One mule persisted in breaking away and hanging around the tent; barking all of our wood, tearing an animal cloth and one of our blankets all to pieces. Levi Lyman and I were the only sick ones. Mr. Burt and Ernest standing the trip first rate. Next morning we packed up; visited the lake on the way down, which is about 200 feet by 150 feet; and set our pole on the summit cone. We struck the right cone the first time. I rode up on my horse, carrying the pole and 4 inch instrument up with me. The climb was a hard one, but by zigzagging and taking it slowly the horse managed to get up, a mile north of us I could see Lyon's pole lying on the ground. Our cone over topped considerably all the others. The day was fairly clear, but I was feeling rather under the weather to appreciate the grand scenery from the top, so we made for lower regions. Found our plaid out mule had also concluded he would seek a lower altitude; as he had broken loose and gone. It fogged in, about half way down, so thickly that we could see only a few hundred feet before us. We kept on steadily going down, crossing the trail to the house, without knowing it just at dusk, and fetched up against the *makai* end of a fence which we recognized, and followed up about a mile until we struck the main trail near the corner of the fence. Here we started one of the mules ahead on the trail and trusted that he would keep the trail and carry us to the house (as it was intensely dark – with the thick fog; which the mule did nicely, getting us there about 8 P.M.

Mr. Burt, Levi and Ernest Lyman started for Hilo Thursday noon, and I concluded to start for Hilo Friday morning, (reaching Hilo at 8 P.M.) and sent another pack animal up to Morris. On the way down here I found the mule, which had given out going up the mountain... [HSA – ID Survey, 1889]

In 1891, Baldwin again returned to Humu'ula and vicinity, furthering the survey work initiated in earlier years, and to finalize the surveys of the Boundary Commission. Baldwins' letters and sketches from his field books, provide us with descriptions and views of the mountain landscape at the time. On April 27th, 1891, Baldwin reported back to W.D. Alexander:

...I arrived in Hilo last Saturday night from *Puakala*. We have had fairly good success at *Aahuwela*, having measured the angle between *Alala* and Kulani also nearly finished the angle between Halai and Kulani also Alala and Halai. The 8 inch is a very slow instrument to work with, there being a great deal of lost motion in setting. But by a great deal of care in setting, I believe we have managed to do very fair work with it. The measurements of the Alala-Halai angle so far close the triangle within 4".

We had a very rough trip up the mountain; it raining steady all of the three days on our way to **Puakala**. Thrum started the day before I did and reached **Hale-Loulu** just at dusk; and was unable to start a fire, everything was so wet. He had a great deal of trouble with the pack animals in the woods. Two of our animals were completely used up by the trip, and I am afraid will be unfit for use any more.

I will start back early tomorrow morning. I send down any April accounts; the laborers pay roll, I will send down next month... [HSA – ID Survey, 1891]

In May, Baldwin reported:

Hilo, Hawaii

May 30, 1891

E.D. Baldwin; to W.D. Alexander:

(Reporting on survey trip along Humu'ula slopes of Mauna Kea):

...We are having a very tedious time of it upon the mountain; the weather has been very fair below, but the fog and clouds hang just over **Aahuwela**, so that for the last three weeks we have done almost nothing.

I have given up the idea of trying to see Kapoho or the other Puna stations from Aahuwela as they are always covered with a cloud, and I am afraid we will have to wait until doomsday to see them. I am going to send a heliotrope to Kaloli point – a short ways beyond Keaau, and devote myself to the large quadrilateral **Aahuwela**, Alala, Kulani and Kaloli, and work on through Puna from the base, Kulani to Kaloli which will form good triangles with my other Puna stations.

We hope to finish with Aahuwela soon if the weather permits, at any rate I am going to finish the topographical work around the base of the mountain to **Kalaieha** and a little beyond, and leave Thrum to watch at **Aahuwela**. We have been on Aahuwela for the last four weeks, every morning at day light, and then gone up before noon, and remained until there was no hopes of its clearing, without accomplishing any thing on the Hilo station with the exception of Kulani and Puu Ulaula which are always clear in the morning.

Kulani is just below the almost perpetual cloud line, so that I think it will not take us long there.

I have no suitable map tin to send the Hilo map down in; and think rather than run any risk of damaging the map, I will bring it down with me, as I intend to go to Honolulu on June 22nd and attend the Punahou Jubilee.

I send part of my accounts for the month of May, that is all but the labor items. Can you please turn over to H. Chamberlain \$72.00 on my account.

We need all the animals we can get, but they must be strong and in fairly good condition to stand our hard trips. If the Molokai horses are in good condition, I think we had better have them up here... [HSA – ID Survey, 1891]

Entries in Baldwins' Field Book No. 323 (viewed in the collection of the State Survey Division), from June 1891 include sketches depicting various localities on Humu'ula and in neighboring lands. Among the features identified are Pu'u 'Ō'ō survey points and the original house; fence and paddock lines; trails to Mauna Kea, Kīpuka'āhina, and the mountain road; named *pu'u*; the extent and range of the forests; and the Haneberg facility at Kalai'eha (*Figures 16a, 16b, 17, and 18*).

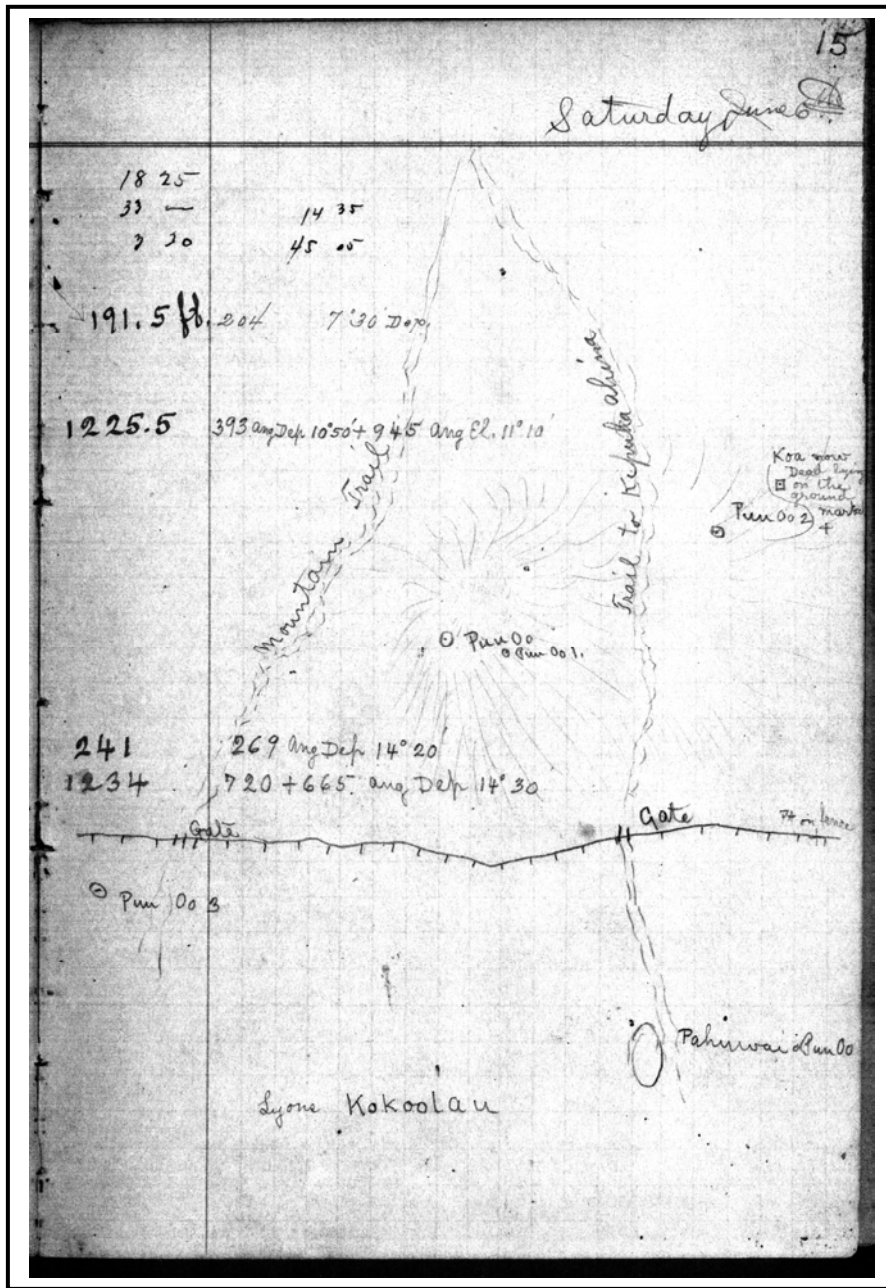


Figure 16 a. Pu'u 'O'ō Vicinity Trails and Fence Line
 (E.D. Baldwin, Field Book No. 323:15; June 6th, 1891).

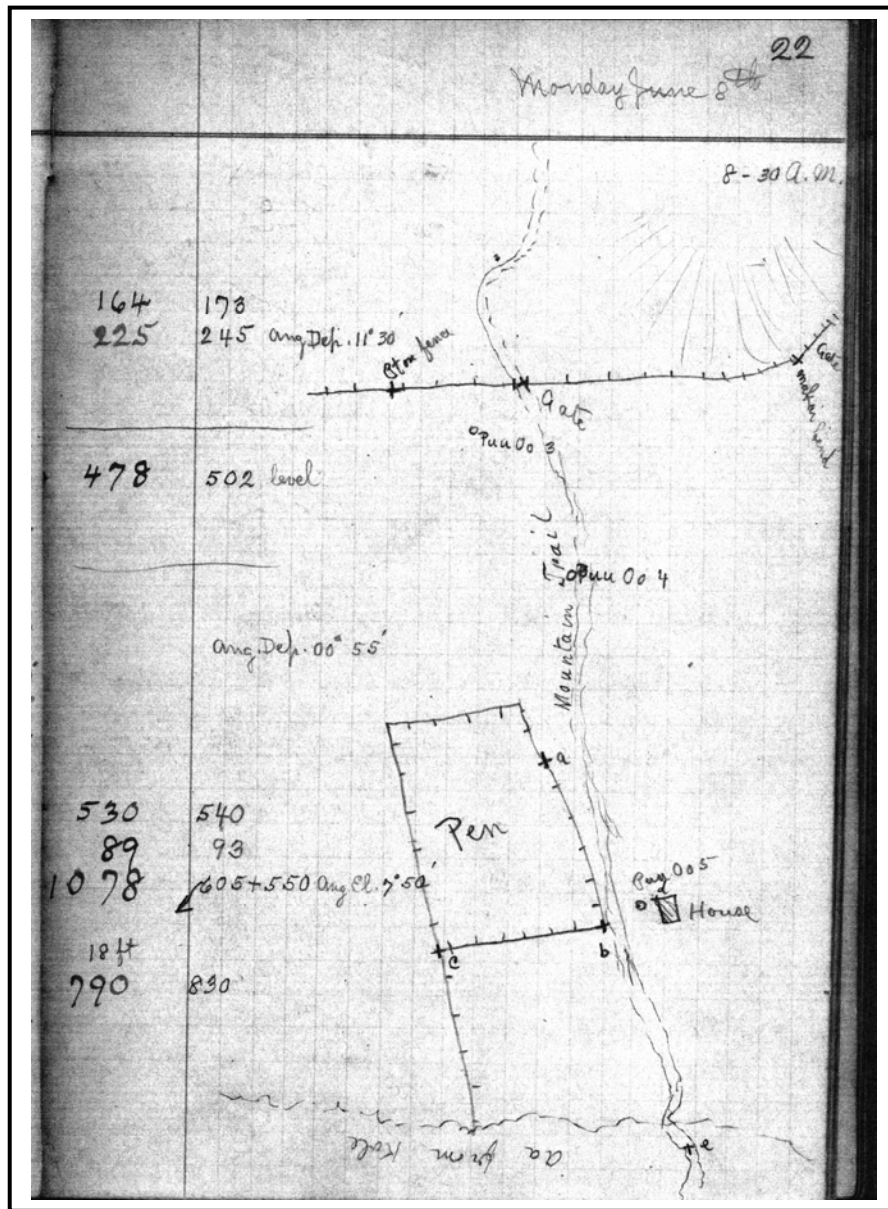


Figure 16 b. Lower Pu'u 'Ō'ō Vicinity Trails, Paddocks and House (E.D. Baldwin, Field Book No. 323:22; June 8th, 1891).

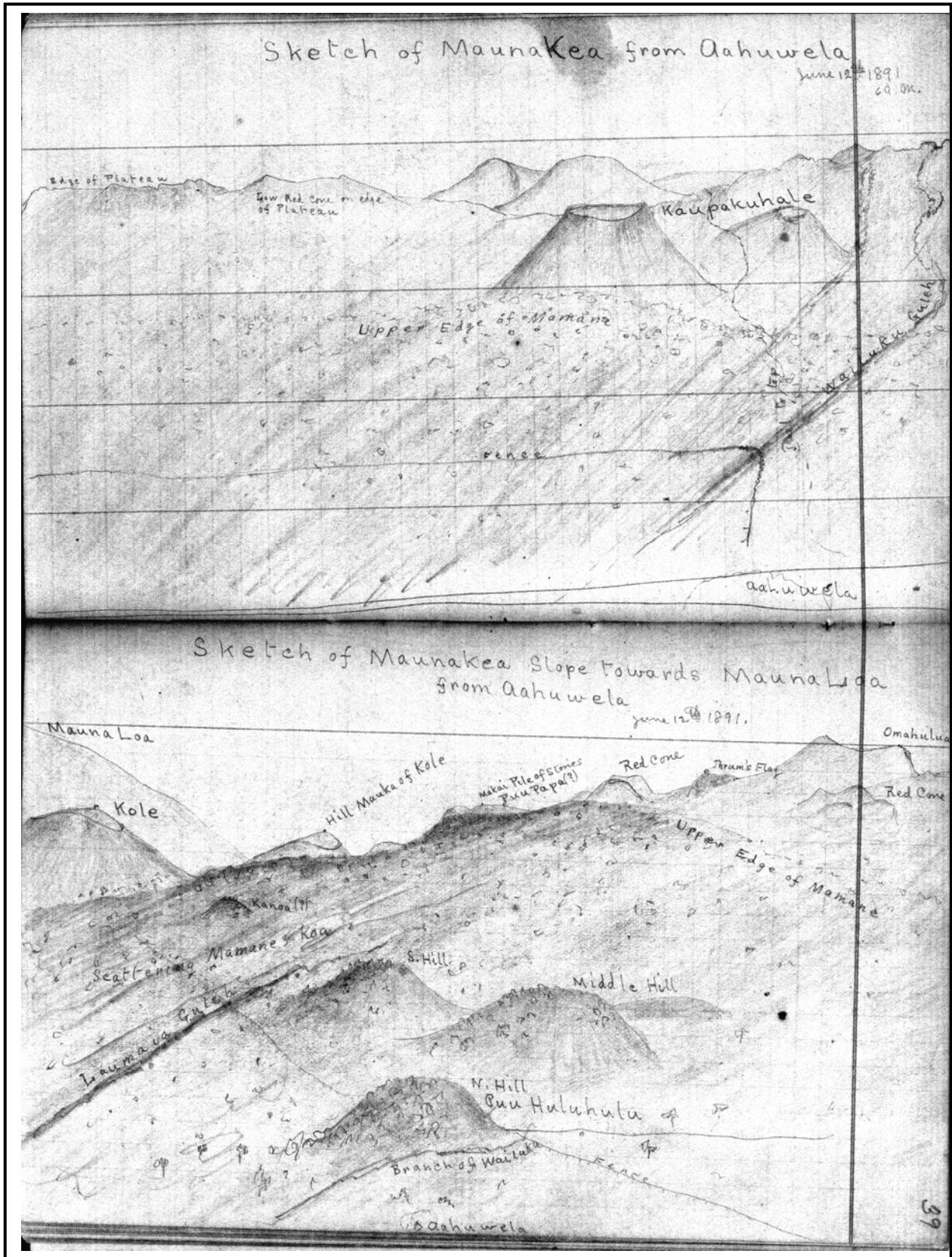


Figure 17. Humu'ula and Mauna Kea from 'A'ahuwela; Depicting Named Pu'u and Gulches, Fence Lines, and Forest Lands (E.D. Baldwin, Field Book No. 323:39; June 12th, 1891).

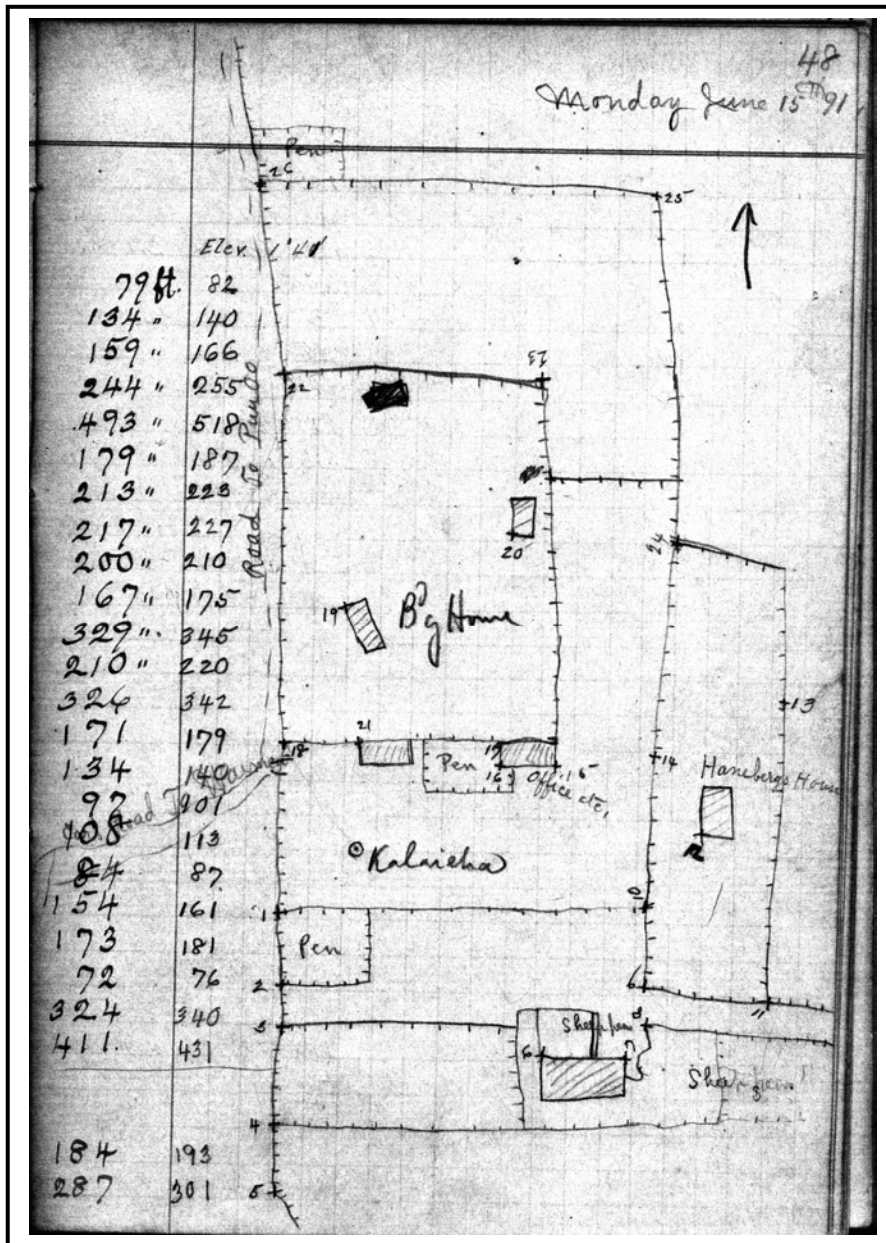


Figure 18. The Kalai'eha Station, Buildings and Pens
(E.D. Baldwin, Field Book No. 323:48; June 15th, 1891).

Figure 19, taken from Baldwin's entry in the field book for June 16th, 1891, depicts the scene from Pu'u Huluhulu across the table lands to the Kalai'eha Station, and up to the summit of Mauna Kea. Baldwin includes the main station paddock fences, a depiction of the station buildings, and names several prominent features on the Mauna Kea landscape.

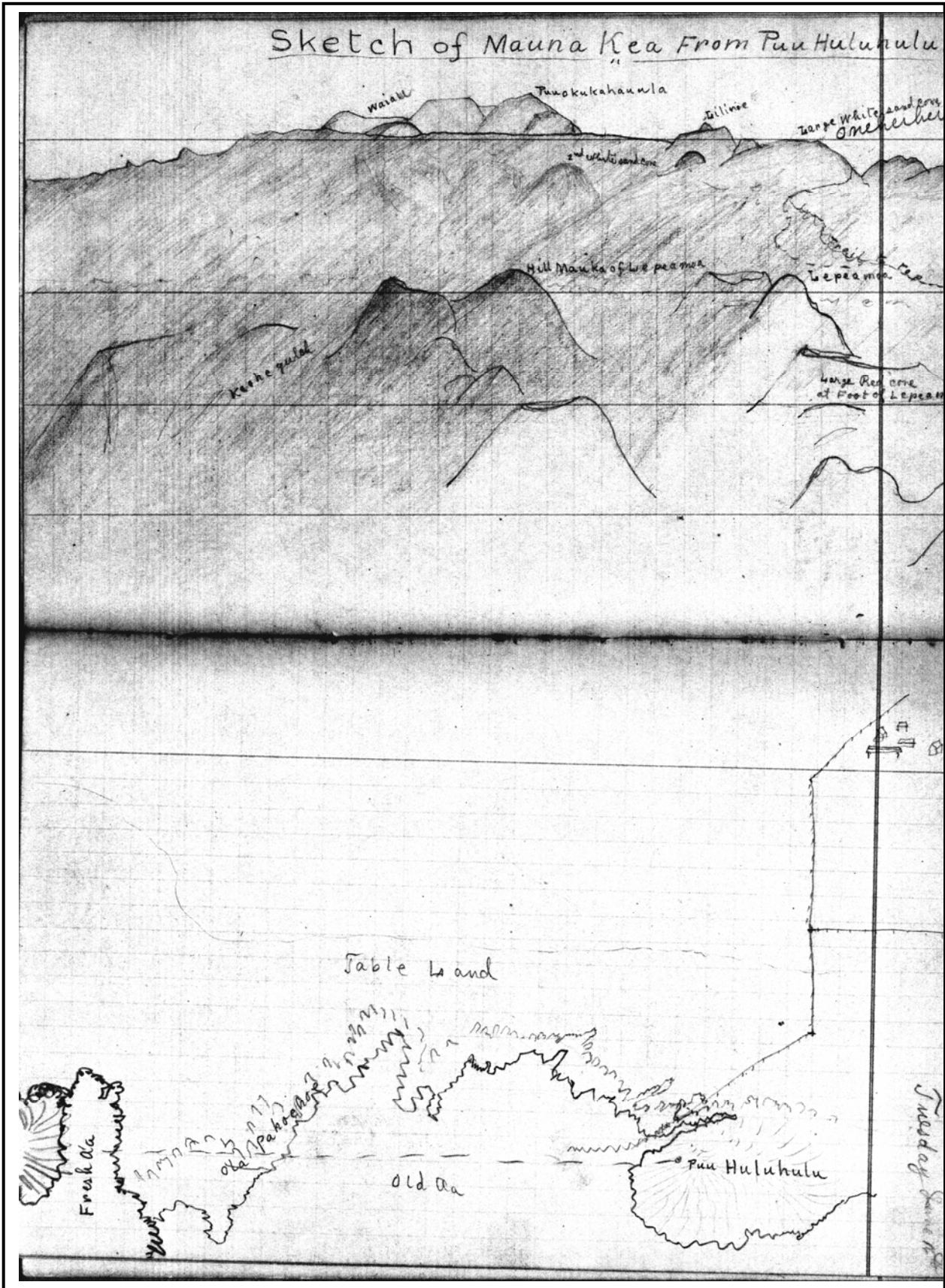


Figure 19. The Kalai'eha Station and Mauna Kea Viewed from Pu'u Huluhulu (E.D. Baldwin, Field Book No. 323:55; June 16th, 1891).

Hilo, Hawaii

July 2, 1891

E.D. Baldwin; to W.D. Alexander

(Reporting on survey trip along Humu'ula slopes of Mauna Kea):

...I returned from **Mauna Kea** yesterday, and this afternoon will go down to Kaloli point and see how Chamberlain is making out with his heliotrope. It was very foggy all the time I was up at **Aahuwela**. We found Lydgates pile of stones at **Lae**, just about as he sketches it on his original map of **Piihonua**. It is an oblong square pile of stones; the base stones being set in the ground and a large stone set on end in the center of the pile. So that we now have all the upper points of Piihonua carefully located, and tied up to Aahuwela.

I paid Purser Beckley \$21.00 for freight on the three government horses, - from Lahaina, so that if Wilder & Co. have sent in a bill for that – it will have to be refunded.

Just before I went to Honolulu, you wrote wishing me to level up to Halai; I had no level here at the time, and as I was going to Honolulu, expected to get one while there, but forgot all about it. Can you please send the level up. Also another heliotrope.

I find my 5000 ft. to the inch, Central Hawaii map is too small a scale to plot in all the topographical work we have done around the base of Mauna Kea; Can you send me a large sized sheet, and I will make a map of either 1000 or 2000 feet to the inch, which I think would take in all our mountain work..

P.S. Richards has taken up some work for Sam Damon, so it is too late for him to come up on the Puna Survey. [HSA – ID Survey, 1891]

Hilo, Hawaii

August 23, 1891

E.D. Baldwin; to Professor W.D. Alexander

(Reporting on survey trip along Humu'ula slopes of Mauna Kea):

...Horace has gone up the mountain with Thrum to help him down with camp. Also I am having Thrum fix a few points along the 1855 flow as he comes down; which will not take long and can be easily done now as we have flags on all the prominent **Mauna Kea** cones which he can sight to...

...The **Humuula** boundary case came up last Thursday and as it will probably be referred to the Boundary Commissioner to settle upon where the line should go, I thought you would probably wish me to wait until we get his decision – before making out notes of survey from **Pohaku o Hanalei to Kaupakuhale**. I am now plotting up my mountain work to a scale of 2000 feet to the inch, which will take in all we have done around the base of **Mauna Kea**. I would like to get Lyon's location of **Kaupakuhale, Puu Hinahina, Kaloalooa**, and some of his boundary points this side of Kaloalooa station, so that I can put them on the map, and finish up the map.

I noticed that the few clear nights that we had at **Aahuwela**, it was also clear during the morning, but I think it will be a good idea to have the large lanterns you speak of ready, so that if necessary we can try them. Our instrument seems to have no lamp to light the cross hairs; also we will want some dark lanterns. [HSA – ID Survey, 1891]

Honolulu, Oahu
August 27, 1891

C.J. Lyons; to W.D. Alexander

(Requests survey of Kaohe, in preparation of issuance of lease):

...The Interior Office will very soon want the notes of survey of Kaohe for lease, and I expect to be called upon for them.

It was with reference to this that I wished the positions of **Kole A; Lepe a Moa, Omaokoili, and Pohaku Hanalei**, as fixed by triangulation by Mr. Baldwin, and requested them of him through yourself about a month since. I should like to respectfully inquire why they have not been finished, as it is now a long time since the measurements were made... [HSA – ID Survey, 1891]

Hilo, Hawaii

September 2, 1891

E.D. Baldwin; to Professor W.D. Alexander:

...Thrum and Chamberlain arrived this evening from the mountain. I wrote to Thrum to give up locating any points below Lydgates **Mawai** [Mawae] on the 1855 flow, so that we might push on to Kulani. We will make a start for Kulani next Monday. In regard to the location of those five points – I understood that you wished the notes of survey from **Kaupakuhale on to Pohaku o Hanalei**, and as I supposed that Lyon's had located Kaupakuhale I did not relocate it again; and after receiving your letter a month ago; wrote by return steamer for Lyon's location of Kaupakuhale, so that I could get the distance and bearing from **Kaupakuhale to Kole** from my map. Lyon's has not as yet sent me the location of Kaupakuhale; but wrote by last steamer that he would like the coordinates of four of the points referred to **Aahuwela**, which I have sent him by this steamer.

We have been making up a lot of oil-skin clothes and bags, also we made a fly and tarpoling for our small tent, which accounts for the large amount of canvas duck we have been buying.

Our large tent and fly are nearly all to pieces. Can you please send us up another large tent and fly. Also I would like a lot of blank vouchers and a large calculation book.

Can you please pass H. Chamberlains pay over to W. Frear \$79.85. And deposit \$300.00 in the Postal savings Bank for me, and please send the balance to me... [HSA – ID Survey, 1891]

Hilo, Hawaii

September 20th, 1894

E.D. Baldwin; to W.D. Alexander

...You will find the elevation of Omaokolili in my calculation book, which I turned over to Lyons. I do not remember calculating the elevation of Huikau, but believe I have some angles of elevations on Huikau, which you can find in my Mauna Kea field book, which has also been turned over to Lyons.

I learn that Pres. Dole and Mr. Iaukea are coming up here next steamer, and can you kindly loan me the little pamphlet on New Zealand lands, as I would like to discuss the matter with Mr. Iaukea... [HSA – ID Survey, 1894]

Surveys and Kama'āina Testimonies **Before the Boundary Commission (1873-1891)**

In 1862, a Commission of Boundaries (the Boundary Commission) was established in the Kingdom of Hawai'i to legally set the boundaries of *ahupua'a* that had been awarded to *Ali'i*, *Konohiki*, and foreigners during the *Māhele*. By the middle 1860s, land owners and their lessees were petitioning to

have the boundaries of their respective lands—which were the foundation of ranching interests on Hawai‘i—settled. The mountain lands on the Island of Hawai‘i, including those completely surrounding Mauna Kea, made up the heart land of the largest ranch in the Hawaiian Kingdom. As a result, Commissioner G.M. Robertson began taking testimonies from native residents early in the Commission’s history. Following Robertson’s death, brothers, Rufus and Fredrick Lyman continued the work and collection of detailed testimonies for the Third Judicial Circuit (Island of Hawai‘i). Those testimonies of *kama‘āina* (native) witnesses and resident foreigners, described the lands of the Hilo District (such as Humu‘ula and Pi‘ihonua, being Crown Lands); Hāmākua (as Ka‘ohe was a Government land, it was described by its’ boundaries with other lands held by private owners, and because of lease-hold interests within it); and South Kohala, in the Waimea and Waikōloa region.

In 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them (W.D. Alexander in Thrum 1891:117-118). The primary informants for the boundary descriptions were old native residents (generally born between the 1780s to 1820s) of the areas being discussed. The native witnesses usually spoke in Hawaiian, and their testimony was translated into English and transcribed as the proceedings occurred.

The narratives cited in this collection have been excerpted from the testimonies given by native residents, or those given by surveyors who recorded the boundaries based on the testimony of native guides. The testimonies include descriptions of the land, extending from ocean fisheries to plateau lands, and mountain peaks. They also describe a wide range of traditional practices, travel, land use, resource collection, and changes in the landscape witnessed during their life time. Of interest to cultural practices and beliefs, the witnesses observed that — numerous *kauhale* (residence-shelters) were made in the forest lands by bird catchers and canoe makers; trails were known across the mountain and extending from the shore, through the forests, and around the mountain; cave shelters and water sources were known; *heiau* and places of worship existed; knowledge of the boundaries of *ahupua‘a* were known and the knowledge used as a means of protecting resources and gathering rights; and many burial sites were used on the mountain slopes, particularly from the forest to upper mountain region. Several historical features in the forests and grass lands of the Humu‘ula mountain lands were also referenced during the proceedings. These features included, but were not limited to areas where bullock hunters camped or resided, and the old cattle pen called “Kulaka,” situated above Pu‘u ‘Ō‘ō, towards Pu‘uloa.

Readers will note that there are significant inconsistencies in spelling of various words, including place- and people-names, and features on the landscape. This is problematic, but with the help of maps produced as a part of the surveys to establish boundaries, and other period maps, many of the locations described can be identified. Unfortunately, not all of the maps associated with the Commission proceedings could be located in public collections. There are several maps which contain place names, and site and feature references made in the testimonies and decisions cited below. Among the maps are — Register Map No. 522 (J. Lydgate, 1874), Register Map No. 528 S.C. Wiltse, 1869), Register Map No. 667 (D.H. Hitchcock, 1875), Register Map 668 (S. Wiltse, 1862); Register Map No. 1080 (C. Lyons, 1885) Register Map No. 1641 (C. Lyons, 1891); Register Map No. 1718 (Baldwin, 1891); and Hawaii Territorial Survey Map No. 613 and Plat 5.0-HH.

We have also observed that in some testimonies, when the original translator-transcriber used two of the same vowels, it indicated that he/she heard a lengthened pronunciation of a particular vowel. This emphasis of pronunciation is now indicated by a macron mark—for example, the word “*neenee*” (for *nēnē*), the native goose hunted in the mountain lands of Humu‘ula and Ka‘ohe; and the place name, “Kaluakaakoi” (for Kaluakāko‘i), where adzes were made on Mauna Kea. While in the modern context of the language, two of the same vowels are generally both pronounced, and broken by an ‘*okina* or glottal mark. In the case of the two samples above, we know that the words are not “*ne‘ene‘e*” for the goose, or “Kaluaka‘ako‘i” for the adze quarry.

Hilo May 1st 1873

R.A. Lyman; to J.O. Dominis, Agt. of Crown Lands

(Regarding hearings for Crown Lands before Boundary Commission):

I have set the 2d of next June for the hearing of testimony for the settlement of the boundaries of Punahoa, **Makahaloa & Pepekeo** in Hilo, Keaau & Keahialaka in Puna, Honuapo & Pakaniiki in Kau. I will have the hearing at Hilo. The Crown Com. are interested in the lands of **Piihonua & Humuula** joining Makahaloa & Pepekeo, Ponahawai joining Punahoa 1st; **Waiakea** & Olaa joining Keaau in Puna.

Please to authorize some one to appear at the hearing and look after your interests...
[HSA – ID Lands]

HUMUULA AHUPUAA

District of Hilo, Island of Hawaii

Boundary Commission, Hawaii, Volume A No. 1:238-240

Honolulu, July 7, 1873
R.A. Lyman, Esquire, Hilo

Dear Sir

Mr. F.H. Harris is authorized by the Commissioners of Crown lands to make application to you as commissioner of Boundaries to have the boundaries of all Crown lands on the Island of Hawaii defined. He has a list of the lands with him.

I have also authorized Mr. F.H. Harris to make application to you for the settlement of boundaries of all lands belonging to Estate of His late Majesty and Her Excellency, R. Keelikolani.

I expect to be in Kona by the trip of the “*Kilauea*” which leaves here on the 28th instant. Can't you make it convenient to come round as the steamer goes to Hilo on that trip.

I wish also to apply for the settlement of the boundaries of Honohina.

I remain, Yours respectfully
Jno. O. Dominis

Honorable R.A. Lyman, Boundary Commissioner for Island of Hawaii, Hawaiian Islands
The undersigned would herewith make application for the settlement of the boundaries of the following named *Ahupuaa* or lands belonging to the Crown, viz.:

Waiakea in the District of Hilo bounded by Keaau, Olaa, Kapapala, Humuula, Piihonua.

Piihonua in the District of Hilo, bounded by Punahoa, Waiakea, Humuula and Puueo, Paukaa & Alae and other lands names not known.

Ponahawai in the District of Hilo bounded by Punahoa, Kukuau & other small lands.

Hakalauike in the District of Hilo, adjoining lands unknown [Volume A No. 1 page 238].

Humuula in the District of Hilo bounded by Kapapala, various lands in Kona and Kohala and Hamakua, and Hakalau, Makahaloa, Papaikou, Paukaa, Piihonua and Waiaka in the District of Hilo...

Kapapala in the District of Kau bounded by Kahuku, G.W.C. Jones, Keauhou, Estate Kamehameha V, Waiakea, Hilo & other lands unknown...

Your Honor will therefore please appoint a day for hearing the evidence in the foregoing named lands and having decided upon the same to grant a certificate to that effect to the undersigned.

(Signed) Jno. O. Dominis
Crown Land Agent.
by F.H. Harris, atty. at law. [page 240]

Humuula Ahupuaa

District of Hilo, Island of Hawaii
Boundary Commission, Hawaii, Volume B:28-59

The *Ahupuaa* of Humuula, District of Hilo, Island of Hawaii, 3d J.C.

On this, the 3d day of November A.D. 1873 by adjournment from the 30th October, the Commission of Boundaries for the Island of Hawaii, 3d J.C. met at the Court House in Hilo, on the application of J.O. Dominis, Agent of Crown Lands for the settlement of the boundaries of Humuula, situated in the District of Hilo, Island of Hawaii.

Notice personally served on owners or Agents of adjoining lands, as far as known. Also served by publication in the Hawaiian Gazette of _____ and *Kuokoa* of _____.

Present, E.G. Hitchcock for applicant, for Mrs. L.K. Dominis, Her Excellency, R. Keelikolani, the Estate of Kamehameha V, C.R. Bishop and self, D. Kamai for Hawaiian Government Lands in Hilo, and D. Alapai.

For Petition see Folio 238, Book A.

Testimony

J.A. Simmons ^K, Sworn:

I have lived on Hawaii for forty two years and in Hilo, District about half of that time. I shot wild cattle on Humuula for eight years. This was soon after I came into the Country, but I have been there since. I used to live with Ned Gurney at Lahohino [**Lahohinu**], a place above the woods on **Humuula**. He had lived there a great many years, and was *kamaaina* of the place. He and others pointed out to me the boundaries between **Humuula** and the lands of **Maulua**, **Hakalau**, **Makahanaloa** and **Piihonua**.

Makaulaula ^K and Opukeike ^K, old bird catchers of Piihonua, also pointed out the boundaries to me, when I lived at **Pahukea**, saw mills on **Piihonua**.

Humuula is bounded on the east side by **Kahoahuna**, the boundary is at the bottom of **Kawalii gulch**, where water sometimes runs; thence up the gulch, through the woods. Kahoahuna only extends a short distance and I do not know the names of the lands above Kahoahuna (Mrs. Halelea's). [Volume B page 28]

The boundary as pointed out to me above the woods runs towards Hilo. The *mamani* &c being on **Humuula** until you come to **Maulua**. I do not know what lands bound it before you come to the land of Maulua. The boundary between Humuula and Maulua (as pointed out to me) is at the edge of the woods *makai* of the *mamani*; the boundary of Maulua on the Hamakua side is at a gulch called **Kaiaike**; Thence along the edge of the woods crossing two or three *awaawa* to an *awaawa* at the junction of Maulua and **Piha**. I can go and point this place out, but I do not remember the name. Thence along the edge of the woods across the head of Piha to **Naohe [**Nauhi**]** gulch, at the junction of Hakalau, with Humuula and Piha (This is what I have always been told); thence along the head of Hakalau to **Palauolelo** gulch, the boundary runs to a pile of stones, on the Hilo side of the gulch, and about two hundred yards above the edge of the woods; thence along the head of **Makahanaloa** to **Nukupahu** gulch, the boundary running on the *makai* side of the *mamani*; thence (I was told) the boundary runs along the *mauka* edge of the woods

along the land of **Piihonua** There may be other lands between Makahanaloa and Piihonua for I do not know how far Piihonua bounds Humuula, but I do know that the boundary of Humuula runs along the mauka edge of the woods. I do not know as **Waiakea** bounds it. I have heard that the land reaches to **Kapapala**, but I do not know it to where. Have heard it reaches to **Pohakuhanalei**, a big stone near the top of **Mauna Loa**, on the slope toward **Mauna Kea**.

Humuula is cut off on the Kona side by **Kaohe** of Hamakua; have never heard that it joins Kaalaala of Kau. Kaohe bounds it on Mauna Kea and I do not know the boundaries of **Mauna Loa**.

On **Mauna Kea Humuula** (was pointed out to me) as extending up the mountain as far as the **mamani** grows. I do not know the names of the points on this boundary but I could point them out if I went there. It comes over towards Hamakua to **Iolehaehae**; thence to **Kaula** gulch, where it enters the **mauka** edge of the forest. I do not know the boundaries through the [Volume B page 29] woods. The land of **Kaala** bounds Humuula just above the woods. The boundary at the Government road **makai** is at a small gulch on the Hamakua side of Kaulii gulch. I do not know the names of the gulch or lands that bounds it there.

CX'd.

The boundary (as pointed out to me) after it runs through the woods, did not run **makai** into the woods again, but took the **mamani** above the woods. The lands **makai** run through the woods to **mamani**, there may be a tree or two of **mamani** in woods. A great deal of the forest has been killed out by the cattle barking the trees and destroying the underbrush. Therefore the woods do not extend so far **mauka** as they did twenty years ago.

Know the place called **Puuoo**, a big hill on the plains of **Humuula** is now called by that name, but the original Puuoo is a hill covered with **ohia**, and was told it was on the land of **Waiakea**. It is **makai** of the hill on Humuula, and I am certain it is not on that land. I now live at Laupahoehoe.

Nainoa^K. Sworn:

I am a **kamaaina** of Hamakua, at the time of Aipala, know a part of the boundaries of Humuula, as they were pointed out to me by people who are now dead. L. Kauwila (his father) and Pali, who were kamaainas of Humuula showed me the boundaries, and told me not to go to certain places.

The boundary at shore is at **Kawalii** gulch and is bounded by **Kahoahuna**, thence **mauka** along the gulch to **Waipunalei**, do not know where Kahoahuna ends. Thence along Waipunalei to **Kihalei**, **Puu Mamake**, a point in the woods on Kawalii gulch; thence along **Maulua** to a place called **Kaiaike**, a **kauhale** on **Humuula**, at the **mauka** edge of the woods. The **mamani** is on Humuula and the woods are on Maulua.

At Kihalei the boundary leaves the Kawalii gulch, and runs to the Hilo side of it along the land of Maulua, leaving [Volume B page 30] the gulch on Humuula. From Kaiaike the boundary runs towards Hilo to **Heenui** a place where we used to catch birds, and the junction of Piha with Maulua and Humuula. Thence along Piha to (**Naohe** [Nauhi]) **Pohohona**, and **awaawa**, at the edge of the woods, **makai** of the **kauhale** of Naohe. Thence along the **mauka** edge of the woods to **Kaloaloo**, the junction of **Hakalau** with Humuula. (The old people did not know what lands were between Piha and Hakalau). **Kaloaloo** is a **kauhale**, and pond of water. Thence along Hakalau; **makai** of the **mamani**, to **Palauolelo** a **kauhale** above the woods, on Humuula. Thence (I have heard) **Papaikou** joins **Humuula** and **Hakalau**; thence crossing the head of Papaikou to the

kahawai Kapuakala which I have heard is a branch of the *Wailuku* gulch. The boundary runs to *Waipahoehoe* gulch, above the woods, the *mamani* being on Humuula. Thence to *Laumaia* along *Piihonua*; thence to *Aama*; thence to *Waikē* gulch. Thence to *Puuoo* a hill above the woods, the boundary on the *makai* side. There are small trees on the hill and there is a pond of water called *Kaelewa* [Kaelewai] this side of it, above the woods, and towards Mauna Loa of *Puuoo*, it belongs to Humuula. Humuula and Piihonua people used to go after water there.

This is as far as I know the boundaries and as far as I went with the *kamaaina*. They told me that Humuula was bounded by Kapapala of Kau, Keauhou of Kona, and *Kaohe* of Hamakua. I have never heard that Kaalaala of Kau or Waiakea of Hilo joined Humuula. The old trail from Humuula towards Piihonua used to run along the mauka edge of the woods, near the boundary, not in the woods.

The Humuula and Piihonua people used to go after water at Kaelewa.

Humuula is bounded by the sea to *Keahuonaai*, bounded by the land of *Kuohaoha* on the Hamakua side; the boundary running in the center of *Poololo gulch*. I do not know the boundaries through to the outside of the woods. Know it is bounded by *Kaala* at *Lahohinu*. The boundary above the woods is at *Kaula gulch*, said gulch runs *makai* but there are several lands between it [Volume B page 31] and Humuula, *makai* of the woods.

Lahohinu is on Humuula near Kaula gulch. Thence *mauka* to *Ahupoopuaa* (an *ahua puu*), along *Kaala*; at this point *Kaohe* joins Humuula and cuts *Kaala* off. This is as far as I know the boundaries.

CX'd – Do not know what lands bound Humuula in woods on Hamakua side. I went after birds on Humuula for seven years and have often been there since. The line of the woods is in the same place now as in olden times. I have always heard that Maulua and other lands run through the woods to the *makai* side of the *mamani*. When I went after birds on Humuula Li told me not to catch the birds in *koa* and *mamani*, as they belong to the *makai* lands, and would be taken away by the people of those lands if I caught them.

J. Parker^K Sworn:

I have lived on Hawaii nearly fifty years, used to live on the mountain, and shoot bullock for Kamehameha III at the time that natives were gathering sandal wood. I have been on *Humuula* after bullock and have heard the natives talking about the boundaries; they said that where ever the *mamani* grew, above the woods was Humuula, and the land below the *mamani* belonged to the *makai* lands. I have heard this from men who were old and gray headed then. In those days the *mamani* did not reach near to the *koa*, there used to be plains between, and I always understood that the tall forests belonged to the *makai* lands and the *pili* and *mamani* to Humuula. Hemahema's father (now dead) and Paakai, who was killed in a pit on the mountain were two of the ones that told me the above. I have always heard that Humuula commences at shore and runs up *mauka*, through the woods but I never heard that it runs back into the woods again. Have been up *Maulua* road and always understood that Maulua did not run through the woods, but I do not know whether *Piha* on Humuula cuts it off.

CX'd. [Volume B page 32]

Kahue^K Sworn:

I was born at Humuula, am seventy three years of age, and a *kamaaina* of the land and know its boundaries. Kalaimaka, Mohaiku, Eekamoku (all dead) were *kamaaina* of Humuula and pointed out the boundaries to me. *Kahoahuna* bounds *Humuula* on the

East side, the boundary beginning at the seashore in **Kawalii** gulch, thence *mauka*, along the center of the gulch to **Mauiana gulch**. At the *mauka* corner of Kahoahuna (said gulch is a branch of the Kawalii and enters it at this place.) Thence along the lands of **Aulilii 2nd** and **Aulilii 1st** across to **Waioape** gulch (another branch of the Kawalii), the boundary running towards Hilo.

Kahoahuna runs into the woods, but where the oo [native honey creepers] are, is **Humuula**. From **Waioape** the boundary runs in the woods to **Waipahoehoe gulch**, where **Waipunalei** joins **Humuula**. Waioape is a large pool of water in the gulch. Waipahoehoe gulch runs clear through the woods and Waipunalei bounds Humuula to **Piha-helei** about three miles below the *mauka* edge of the woods. Thence towards Hilo, to the land of **Laupahoehoe** at **Puukole**, a *kuahu manu* [altar or ceremonial site for bird catchers] and *kauhale* [house or shelter], this place is away in the woods as far *makai* as Pihahelai, it is on Laupahoehoe. Thence to **Puukoa**, a hill covered with *koa*, on **Kaiwilaihilaihi** and **Kapehu** and at the junction of Kaiwilaihilaihi and Humuula. The boundary here runs *mauka*, and I think this point is a mile or more below the *mauka* edge of the woods. Thence along **Kapehu** to **Puulehu** a *kauhale* on Maulua, a mile or more from the edge of the woods. Thence along Maulua towards Hilo, to **Kawelu**, said place is near **Heenui**, and there is a *mamani* grove a short distance off. This place Kawelu is about a mile *makai* of the *mauka* edge of the forest. (**Kaiaiki** is *mauka* of Puulehu) Thence along the land of Piha. **Kaluaalu** *mauka* of the woods on Humuula, and **Kumukawau**, on **Piha**; directly *makai*, and about a mile below the edge of the forest. Thence along the land of Piha to **Kaumuhapu** [Kaumuhapuu], this place is directly *makai* of Naohe [**Nauhi**]. [Volume B page 33] This place is a *kualapa* [ridge], and is where the people of **Naohe** used to go after *hapu* [*hapuu*]. Thence **Hakalau** joins Humuula at Naohe gulch at the *mauka* end of **Umauma** gulch. Kaumuhapu is above this gulch. Thence along Hakalau to **Kupuna**, a water place directly *makai* of **Hopuwai**, outside of the woods. Kupuna is about a mile *makai* of the *mauka* edge of the woods. Thence to **Makewai**, a place where there is no water.

Nawaiatheu is a *kauhale*, outside of the woods near Hakalau gulch. From Makewai, the boundary runs through the woods to **Kapahee**, *he mau wai koloa* [where there are several duck ponds]. **Kaloaloa** is a *kualapa* above the woods. Kapahee is about a mile below the edge of the woods. Thence along Hakalau to a large water place called **Kapohopaele**, *makai* of **Palauolelo**, which is above the woods; thence along **Makahanaloa** to **Waikaloa**, a large pond of water on **Papaikou**. The point above this place is **Kaaimana**, a *kauhale* on Humuula. Waikaloa is about a mile *makai* of the *mauka* edge of the forest. Thence to **Kumukawau**, a *kauhale* on Papaikou. It is *makai* of **Kapuakala**; a *kauhale* on Humuula; and near the boundary of **Paukaa**. Thence to **Kalapapainiu**, a *kauhale* on **Kualapa** on Paukaa land and where **Piihonua** joins Humuula. There is no gulch here. Kapuakala is on the Hamakua side of this place, and the point of *koa* and *ohia* woods running out onto the plains; just *mauka* of these places is **Lai** [¹²]. (I went there a short time since with you and Hitchcock and we placed a marked rock at this point called Lai).

Thence along the land of **Piihonua** to **Paakainui**, a *kauhale* on Piihonua in the woods and *makai* of **Waipahoehoe**, a cave in **Wailuku** gulch, above woods (it is a mile *makai* of the edge of the forest). Thence to **Kumunaio**, *makai* of **Laumaia**, the cave called **Kanuha** is at Laumaia. The boundary runs parallel it with the *mauka* edge of the woods. Kumunaio is where the road runs out of the gulch that runs from the *mauka* edge of the forest. Thence to **Ohiakanio**, this place is directly *makai* of the *kahawai* [stream - gulch]; and cave of **Aama**, thence to **Nahuina**, the junction of the branches of the Wailuku. The boundary is a mile *makai* of this place. I think this place is a mile or more from the *mauka*

¹² The place name Lai is written as Lae on most of the Register Maps, and in surveyor's communications.

edge of the forest, above the same [Volume B page 34] distance as the other places I have mentioned.

Puuoo is a hill *mauka* of **Nahuina** above the woods, thence to **Elekalua**, a *kauhale* in the woods, *makai* of **Kahiliku**, a *lae laau* [a section of forest that extends out from the surrounding forest on to an open area], outside of the woods. Thence to **Mawae**, a crack in the woods that runs from *makai*. I have heard that **Waiakea** joins Humuula here, but I do not know which side of the lava flow of 1854 or 1855, the lands join. Thence the boundary of Humuula runs to **Kawauwauwai** a *kauhale*; the boundary running to this point in scattering bush. The forest ends at Elekalua.

I have never seen the boundaries beyond Kawauwauwai. From thence (I have heard), it runs to **Puuoo**, a hill covered with trees *mauka* of **Hoaa**; thence to **Keanaokauakii**, a cave above the woods. Thence to **Puumanu**, a hill on the aa way above the woods (I have been there). Thence to **Pohakuloa**, an *ahu* [cairn] of stones, now called **Keahu o Kuakini**, as Kuakini built a new *ahu* there. **Kapapala** is said to cut Humuula off to **Pohakuhanalei**. Boundary runs near **Puunioni** on Humuula; the boundary is a little beyond. **Wekahuna** [Uwēkahuna] is a hill on Humuula. Waiakea ends at Pohakuloa, and from there Humuula is bounded by Kapapala to Pohakuhanalei (I do not know whether Kapapala extends to Pohakuhanalei). From Pohakuhanalei to Koahe it is bounded by Kaalaala of Kau. I have been to Koahe after sandalwood, it is a point on the road running over Mauna Loa. Pohakuhanalei is a large rock high up on the side of Mauna Loa towards Kalaieha.

Koahe is on **Mauna Loa**, a *koa* there. **Kahe** joins to **Puualala** a cave. Thence to **Puulaula**, a red hill on the side of Mauna Loa near its base. Thence along the land of Koahe to **Omaokoili**, two hills. The boundary running between them. Thence to **Kaiwaiwa** a hill on Humuula near boundary, near the base of **Mauna Kea**. Thence to **Kahawai Koikapue**, a gulch where *mele* were sung. Thence up the mountain to **Waiau** (half of the water in the gulch belonging to Koahe and half to Humuula). Thence to **Puukukahauula**, the highest peak of Mauna Kea. Said hill is on Humuula and the boundary runs to the foot of said hill on the side towards Waimea. Thence to a large *ahu* called **Makanaka**, said *ahu* is [Volume B page 35] on Humuula and is higher than a man.

The boundary runs very near it. Thence to **Kamakahalau**, a hill on Humuula, from the top of which you can see Waiakea. Thence to **Puukali'ali**, a hill on Humuula, the boundary at the base. Thence *makai* to **Iolehaehae**, a hill on Humuula, boundary at the base. Thence down to **Ahuapoopuaa**, a *kuahu* [altar] and hill on Humuula, the boundary at the base. Thence down to **Kaiwiholi'oli**, an *ahua pohaku* [stone mound] there. Thence to **Ahuamoa**, along the land of Koahe. **Kaala** was surveyed by Lyons and cuts into Humuula, and takes in Iolehaehae, Ahuapuaa and Ahuamoa.

Humuula is bounded by Kaala to where **Kaula** gulch enters the woods. In olden times, Koahe used to bound Humuula to Papaalepo.

Note on the side of the page records that:

The session adjourned, and Kahue was too ill to appear at the next session. Kimo Waiki was deposed, and then Kahue returned to finish his testimony following Waiki's testimony.

Commencing at **Ahuamoa**, the boundary runs *makai* to **Keanalepo** a *puu mamake* [hill of *pipturus* growth] in the woods, in **Kaula** gulch, along the land of Koahe. Thence along the land of Manawaileinui, along the gulch to Kalauonaki, the *mauka* corner of Ookala. There the boundary leaves the gulch and turns towards Hilo, along the head of the land of Ookala to Paiopu which is the junction of Kaohaoha with **Humuula**. Thence the

boundary runs to Nihoamoa where Ulukanu joins Humuula. Ookala bounds Humuula first and then comes Kaohaoha, other lands do not reach the boundary of Humuula. Ookala bounds Humuula from Kalauonaki to Paiopu, a banana grove, and Kaohaoha bounds Humuula from here to shore. From Paiopu the boundary runs to Pukoleamahuna *kauhale*, thence to Kanekiki, an *awaawa* [gulch] where the *kahawai* commences. Thence to Kailama *kahawai* and *mahina aina* [cultivated fields]. The same *kahawai* [stream] as at Kanekiki. Thence down the gulch to shore. The sea bounds Humuula on the *makai* side. The mouth of the gulch is called Kukuiuea. Kapuna is an *ili aina* [land parcel] of Humuula. Pauahi is below Kanekiki.

CX'd.

I went with Wiltse one time when he surveyed the land of Humuula [Register Map 668]. Kimo Waiki and Naaikauna *oopa* and others went also. We went from Humuula to Hapuuai [*Hopuwai*]. Slept, went outside of the woods and then [Volume B page 36] to *Kaelewa* above the woods and slept there, then to *Kaleieha*. The chain was not used. Wiltse asked us where the places were and we pointed them out but he did not go to the boundaries or have flags set on them. He sighted with compass and asked where lands joined Humuula, and we told him. Flags were not set up at any of the places I have mentioned on the boundary of Humuula in the woods. We could not see the points of the boundary from above the woods so as to distinguish them as being in the right places. We told him that the boundary was in the woods and not at the *pili* [place where *pili* grasses grew]. At that time, I was not working for Waimea people. I afterwards went as witness on Waikoloa. The boundaries I have testified to are the ones my *Kupuna* told me. The Waimea Grazing Co. rents Humuula.

Know the hill called *Kole*, it is on Humuula.

Puuulaula is higher on the mountain, on the boundary of Kaohe and Humuula.

Puukalau is way in Humuula.

Lanikapue is a *kahawai* on Humuula near the boundary.

Kaluakaakoi is on Humuula.

The boundary of Kaohe is on *Waiau*.

Poliahu is this side of the mountain on Humuula, near the boundary.

I have never heard that Nanue bounds Humuula.

Have heard that *Kapuakala* gulch runs into the Honolii, and not into Kapue, it is on the Hamakua side of the place pointed out to Hitchcock Brothers as Lai. Not the first, but the second *awaawa*, on the Hamakua side.

I do not know the places called Punaluu (on Mauna Loa), Kaamaumauloa, Puuulaula and Puukulua, Puuonioni and Wekahuna.

I have not seen, but have heard that they are on the boundaries. Humuula does not reach to Kulani.

Puuiiki is by the boundary of Humuula and Waiakea. I have not seen Waipahoehoe at junction of Waiakea and Piihonua.

I have heard that *Mawae Kapahee* is the junction of *Makahanaloa* and *Hakalau*. Thence to between *Pohopaele* and *Palauolelo mauka* there Papaikou commences and bounds it to *Waikoloa*, and *Kaaimana*, outside then to *Kumukawau* and *Puakala* outside. [Volume B page 37] Thence to Paukaa to Kalapapainiu. Lai outside Hakalau bounds Humuula from Kapahee; *Kaloloa mauka* of the woods on Humuula to *Makewai* in the woods and *Nawaiahehu* outside on Humuula. *Nukupahu* is on *Kapuakala* gulch, it is a cave and *kahawai*. Papaaloo joins Humuula, also Kapehu and Kaiwilaihilaihi.

Adjourned to November 1873

Hilo, November 4, 1873 Commission met according to adjournment, Kahue not appearing, and being told he was unable to appear, sent to see and proceeded to

examine. See note Folio 36 of this book.

Waiki^k. Sworn:

I live at **Humuula**, was born there after the battle of Kekuakalani [1819], and know the boundaries of the land. My parents told them to me. Eekamoku was my father and Koapunini my grandfather, they were bird catchers and canoe makers. Kalaimaka, father of my wife pointed out the boundaries and told them to me.

He Ahupuaa [pig altar - *ahupua'a* boundary marker] is the boundary at seashore, bounded by Kahoahuna; a pile of stones on the Hamakua side of the stream in Kawalii gulch, is the boundary. Thence *mauka* along the stream, passing Kahanapehau grove and Piinau, breadfruit on Kahoahuna. Thence up the *kahawai* to Waiolomea, a pool of water in the gulch. Thence to Lapalapa where a gulch of Humuula comes in from that land. Lapalapa is on Humuula by the boundary of Kahoahuna. Thence to Kaleina a large waterfall (Pailihi). Thence up the gulch to Alanaio, thence to Kapualei, in the gulch in the woods. Thence to Mauiana, the *mauka* corner of Kahoahuna. Thence along Aulii 2nd and Aulii 1st, and leaving *kahawai* at Mauiana and going up on the Hilo side of the gulch. At Alanaio, the boundary leaves Kawalii and runs up a branch gulch to Mauiana, from Mauiana the boundary leaves the gulch and runs along Aulii 1st and Aulii 2nd to Kahuahookolo land at Lainakaonohi *kauhale*. Thence to **Waiopae**, a water hole in *Kahawai* of **Waikalooa**, a branch of Kawalii. Kahuahookolo bounds Humuula from Lainakaonohi to Waiopae, the corner of **Na Kapaa**. Thence along the land of Kapaa, following the gulch to **Olohe kahawai**, where the land of Waipunalei cuts Kapaa off and bounds Humuula. [Volume B page 38] Thence along **Waipunalei** running up the gulch to **Waipahoehoe kauhale manu** [a bird catcher's house]. Thence up the *kahawai* and *awaawa* to **Pihahalei**, a *kauhale manu* on Waipunalei. Here Waipunalei ends and the land of **Laupahoehoe** bounds **Humuula**. Thence along Laupahoehoe to **Puukole** a *kauhale manu makai* of **Palipali**.

Puukole is on Laupahoehoe 2nd near the *mauka* edge of the woods. Thence along Laupahoehoe 1st to Puukole a place where there used to be a *kauhale manu* of Laupahoehoe 1st, about one half mile below the *mauka* edge of the woods. Pihahalei is about the same distance. Maulua land joins Laupahoehoe and Humuula at Puukole. (I should have said Papaalooa land joins here at this place.) Thence along **Papaalooa** to **Puulehu**, a *kauhale* at the junction of **Maulua** with Humuula. No other lands join Humuula between Papaalooa and Maulua, to my knowledge. Puulehu is about the same distance from the edge of the woods as Puukole. From Puulehu, the boundary between Humuula and Maulua runs to **Uhakunou**, *makai* of **Heenui** on Humuula about the same distance in the woods as Puulehu.

Thence along the land of **Piha** to **Kawau**, *kauhale manu* on Piha *makai* of **Kalapaohelo**. Thence along Piha to **Kaluaalu**, *makai* of **Nahuaapaakai** on Humuula. Kaluaalu is a cave in the *kahawai*. The boundary runs close to the cave and near to the edge of the woods, about as far from the edge of the woods as from here to the sea shore. Piha ends here and **Nanue** joins Humuula here. Thence along the land of Nanue to **Hopuwai** gulch. The gulch *makai* of the woods is called **Naohe** [Nauhi]. The tall trees are on Nanue, and the trees growing in the *pili* are on Humuula. Thence along Nanue to **Kapunawai**, a swampy place where there is always water. **Kupuna** is the name of the place *mauka* of the woods. *Mauka* of this place, at Kapunawai, the land of **Hakalau** joins Humuula. Thence along Hakalau to **Puwai**, a pond of water. A point of woods [Volume B page 39] extends *mauka* into Humuula. Place on Humuula *mauka* of the woods is called **Nawaiaheu**. Thence along Hakalau to **Kanepu**, and **Palauolelo** *mauka* of woods. Kanepu is a *kauhale* by Palauolelo gulch.

The boundary runs along here, leaving the *pili* with points of woods extending *mauka* on

Humuula, and the dense forest on lands *makai*. **Makahanaloa** joins Humuula at **Palauolelo** gulch. Was told that Palauolelo is the *mauka* end of **Waiama** gulch, or Kanepu in the woods. Thence along the land Makahanaloa to **Puakala** a *kauhale* by gulch of same name. Have heard it is the *mauka* end of **Kapue** gulch.

Pohopaele in the woods is on Makahanaloa. The forest is on *makai* land and the *pili* on Humuula. Kanepu is on Makahanaloa. Tall forest on *makai* lands. The boundary runs on the edge of the woods. Thence along **Papaikou** to **Nukupahu**. **Lai** [point of *Koa* on Humuula. **Paapalepo** *kauhale* is on *makai* lands. There is a *Lae pili* [point of *pili* grass] running way into the woods and *Lae koa* [point of *koa*] running to **Kilohana**. Papaikou extends to Nukupahu gulch, there the land of **Paukaa** joins, and bounds Humuula to **Waipahoehoe** gulch. Kilohana is an *ahua* [mound, hillock] on Humuula, where Paukaa ends and *Piihonua* bounds Humuula. Thence along *Piihonua* to **Laumaia kahawai**, the boundary runs along the *mauka* edge of the forest. Thence along *Piihonua* to Laumaia and a cave on the gulch.

Thence to **Aama** gulch near **Hanamauloa** where Kuakini built a bullock pen. The forest is on *Piihonua* and the *pili* on Humuula. Thence to **Waikee**, a branch of the **Wailuku**. Thence to where the *aa* commences. Thence to **Kahiliku**, *makai* of **Puuoo**, near the woods, Kahiliku *kauhale manu* [a bird catcher's house is at Kahiliku]. Thence to **Kaelewa**, where there is now water. Thence to **Kawauwai** by the edge of the forest. Thence to **Kaieie**; Waiakea and *Piihonua* join Humuula between these two places. Thence along the edge of the forest to **Kalapaohelo**. I have been there with my parents, an old lava ground. Thence to **Pohakuloa**, a large rock where Kaehu Paki laid down on the side of the mountain towards Kau of Kalapaohelo. There I [Volume B page 40] staid with my *kupuna* and they said the boundary runs from here up the mountain to **Pohakuhanalei**, a rock on the slope of the mountain towards **Kaleieha**. Waiakea bounded it to Pohakuloa, but they did not tell me what lands bounded Humuula from there to Pohakuhanalei. We went to **Kaleieha** and to **Omaokoili**, they there pointed out a red hill called **Kole**, below Pohakuhanalei, and they said **Kaohe** bounded Humuula from Pohakuhanalei to this hill. Can see this hill from Omaokoili, hill near Kaleieha. They said the boundary runs from Kole to Omaokoili, the hill *makai* of the cart road to Waimea from Kaleieha. Thence to base of **Mauna Kea**, to **Puuokalau** a hill bounded by Kaohe.

Thence along Kaohe to **Lanikepue**, a *pali*. Thence to **Kaluakaakoi**, a cave where they used to get stone adzes out. Thence to **Poliahu**, a cave where Lilinoi [**Lilinoe**] used to live. Thence to **Kamakahalau**, a hill on the Hamakua side of the mountain. Thence down to **Iolehaehae**, a hill near the base of Mauna Kea. **Puupapa** and **Pukaliali** are on Kaohe. Thence to **Ahua Poopuaa** a hill with *koa* trees growing on it, the boundary runs to a pile of rocks on said hill, on the Hamakua side of the hill. Thence to **Puuloa** where the boundary enters the woods. Puuloa is a hill in the woods which can be seen a short distance below the *mauka* edge of the woods. Thence to **Keanalepo**. **Kaula** gulch and Kaala bounds Humuula from Puuloa to **Kahaleloulou**, where natives used to live, in Palm trees. There, Kaiwiki bounds Humuula to Keanalepo, there the boundary runs *makai* in Kaula gulch, along Kaiwiki to Okolehi. There Manawaileinui joins Humuula, and bounds it to **Puupilau** on Kaula gulch *kauhale kalaiwaa* [canoe maker's house]. Thence *makai* along Kaula gulch to Kaleiike, *kauhale manu*. Thence along the gulch to **Oina**, where Humuula boundary leaves the gulch and runs onto Hilo side of the gulch at a large banana grove. There, the land of Ookala bounds Humuula. Thence along Ookala *makai*, along the land towards the sea, to Kalauonaki, a pool of water in a gulch which is a branch of the [Volume B page 41] Kaula gulch. Thence across the gulch and along the land of Kaohaohanui to Palapu, passing Kaailama banana groves. Thence the boundary runs straight *makai* along Kaohaoha to Kainakiki, an *awaawa*, that as you go *makai* to Pauahi, becomes a gulch. There the boundary between Kaohaohanui and Humuula runs *makai* in the gulch to the sea shore.

Kapuna is the name of the mouth of the gulch. The sea bounds it on the *makai* side.

CX'd.

Kahoahunanui bounds Humuula from shore into the edge of the woods. Kahoahunaiiki does not reach to Humuula. Na Aulilii reach into the edge of the woods to the boundary of Humuula. The lands of Laupahoehoe reach further *mauka* than Waipunalei. Papaaloo used to extend on to the mountain, but in the time of Kamehameha I the boundary was established at the points I have mentioned. Papaaloo joins Maulua.

CX'd.

I went with Wiltse and Blodgett [1863]. We commenced to survey from the seashore. I marked KIV. on a rock at *He Ahu Puaa*, the compass was set on the top of the *pali*. They surveyed up the Hamakua side of the land to Kamakahalau. Blodgett surveyed this line. I went through the woods, Naaikauna then went. I went on the Hilo boundary of the land and Naaikauna went there also. Aipala and Kahunanui (now dead) also went with Blodgett. Wiltse did not go this time.

At *Kalaieha*, went with them, sighted to *Poliahu*, *Pohakuhanalei*, and surveyed across the land. Thence went to *Hopuwai*. There chained to between Kumukawau and Kalualu. Thence to Uhakanou, marked in both places K. IV., thence to Puulehu. Thence along the edge of the woods to Pihalei, passing *mauka* of Puukole etc. At Pihalei, *mauka* corner of Waipunalei, we stopped surveying. From *Kalaieha* we did not chain it, only pointed out places without going to them, and did not set up flags there. A flag was not set up at Pohakuloa. At Kaleieha hill we set up flags and the *Haole* surveyed these. The flags were set up a short distance ahead of the compass and sighted to. Flags not set up on top of hills [Volume B page 42] in woods.

We pointed out boundaries at the edge of the forest on that day, to Piha. The road in olden times, ran from *Lahohinu to Laumaia*, above the woods. No road from *Humuula to Lai*, along through the woods. My *Kupuna* told me the birds on *mamani* and *pili* belonged to Humuula, and the birds in the forest to *makai* lands. I went with Henry and F.S. Lyman when Henry surveyed the land of *Hakalau*. I told him *Makahanaloo* was surveyed too far *mauka* and that the *pili* belonged to Humuula. They chained along the road above the woods. I and a *kamaaina* of Hakalau, pointing out the boundaries to them. A flag was set up at the boundary between Makahanaloo and Hakalau, and on the boundary between Hakalau and *Nanue*. My *kupuna* told me Kapuakala was at the *mauka* end of *Kapue* gulch and *Nukupahu* at *mauka* end of Honolii gulch. I have never followed them down to know.

I went with Wiltse, Naaikauna and Kahue to survey Humuula, we went around, above the woods and sighted to different places. The flags were set up close to the compass and not sent to the different points on the boundary. We pointed out the boundaries on the edge of the forest the same as before; and I did not hear Kahue tell Wiltse that the boundary was in the forest. Kahue did not say that we did not point out the right boundaries. I have testified today as the boundaries were told me by my *Kupuna*, and as he pointed them out to me without being influenced by anyone.

They told me Kaohe bounded Humuula from Pohakuhanalei down Mauna Loa, on the Kona side. I never heard my parents say that Kaalaala joined Humuula. The pond of water called *Waiau* is on *Kaohe* and not on Humuula. My parents told me *Humuula* went to *Kaluakaakoi* and *Poliahu*. We used to go there after adzes for Humuula people.

At close of Waiki's testimony Kahue appearing, he was again put on stand, see folio 36 & 37 & 38.

Commission adjourned until November 6th at 10 o'clock a.m. 1873 at the close of Kahue's examination, see folio 38.

R.A. Lyman, Commissioner of Boundaries, 3d J.C. [Volume B page 43]

Hilo, November 6th 1873

Commission of Boundaries opened according to adjournment.

Present. E.G. Hitchcock, D. Kamai and S. Kipi, for Estate of G.M. Robertson; and D. Alapai.

Kapou^K. Sworn:

I was born at Hakalau and have always lived there. Have always heard that Hakalau nui extends through the woods, and is there cut off by Humuula. Have never been there. Kupuoli (now dead) told me. He was a bird catcher and *kamaaina* of Hakalau. My father came from another place.

I did not hear the names of places on the boundary of Hakalau and Humuula. Did not hear from anyone while he was living that Humuula cut Hakalau off in the woods, did not hear about other lands.

Kupuoli and Auau, his son (now living), went with Henry Lyman when he surveyed Hakalau and were his *kamaaina*.

CX'd.

Hanioa^K. Sworn: (Pretty old man and quite deaf)

I was born on Na Kapaa, at the time of the building of Mailikini [Mailekini *Heiau*, ca. 1791], the *heiau* at Kawaihae. Have always lived in the district of Hilo. Used to go on to Humuula after birds and know a part of the boundaries. My parents told me the boundaries. Kauhihiwa, Pau & Kameai (all dead) were bird catchers and knew the Hamakua, Kona and Kau boundaries. **Humuula** commences at Kawalii *kahawai*, bounded by Kahoahuna at the stream in the gulch, at Kaahupuaa, Kahoahuna. I cannot give the boundaries in the woods, after two Kahoahuna. Papaaloo runs through the woods and joins Humuula. The *mamani* and *pili* are on Humuula, the woods on *makai* lands. One of the Pihās runs through the woods and Laupahoehoe lands at **Puukole**. Heard that Maulua did not run clear through the woods. In olden times Hakalau ran clear through the woods, to the *pili*, and the lands of **Makahanaloo, Papaikou and Alakahi** [Volume B page 44] did the same. I always heard that the *pili* with trees growing on it was Humuula and the forest was *makai* land. I used to go there to catch birds. The road from Humuula to Piihonua runs along on the pili, and not in the woods. The roads in the woods were only bird catchers roads. Papaaloo joined Humuula at Kaiiaki. Kihalani ends in the woods and does not reach through the woods. Kaiiaki is an old *kauhale manu* at the edge of the *pili* and forest and *awaawa*. Papaaloo bounds Humuula to **Heenui, kauhale manu**. If folks from the makai lands came after birds in the mamani, the Humuula people would take them from them, and if we went into the bush after birds, the people of the makai lands would take them away from us.

From Heenui to **Kalapaohelo**, Maulua bounds Humuula. Kalapaohelo is a *kualapa* in *pili*, by the edge of the forest. Hakalau bounds Humuula from **Waikaloo** at **Kanepuu**, to **Palauolelo**. The boundary of Humuula runs along the edge of the forest along Makahanaloo, Papaikou, and **Piihonua** etc., and not in the woods. It did not go to **Nahuina o Wailuku**. The boundary runs to **Kaelewa**, a water place, and *kauhale*, along Piihonua; thence to **Mawai** [Mawae], out to *pili*. **Pohakuhalei** is on Kapapala.

Puuhuluhulu is the place where Kau, Kona and Humuula join; and I was told by my parents that it is the boundary of Humuula. **Omaokoili** is on Humuula. I was told **Puuike** was on **Kaaumana** or Piihonua. Know **Pohakuloa**, it is beyond Puuiki on Kau. I used to go there from Humuula, and steal birds. I do not know of **Wekahuna** and **Puonioni**. Humuula does not reach to the top of **Mauna Kea**, it extends only as far as the **mamani** and **pili** grow (Kaaumana is only a road in the upper edge of the woods) and is cut off by Kaohe at the **mauka** edge of the **mamani**. (I do not know the boundaries between Kaohe and Humuula well)

CX'd. [Volume B page 45]

Kalua^K. Sworn: (Rather an old man)

I was born at Puumoi, at the time of Akahai o Mookuokai and have always lived there. I do not know the boundaries of Humuula and have never been above the woods.

CX'd.

Kuhipono^K. Sworn: (Rather an old man)

I was born at Papaikou and have always lived there. Do not know the boundaries outside of the woods. I have always heard that the **pili** and **mamani** above the woods are on **Humuula**, and the forest on Papaikou and other **makai** lands. I do not know what lands join Humuula. What I have stated, I heard from old bird catchers of Papaikou. (now dead) I have never been through the woods myself.

CX'd.

Paele^K. Sworn:

I was born at Alakahi at the time of building the **Heiau** at Kawaihae [ca. 1791]. I used to go and catch birds in the woods, always heard that the forest is on **makai** lands, and the **pili** and **mamani** above the woods is on Humuula. **Palauolelo** is on **Humuula**, and **Makahanaloa** and **Papaikou** join Humuula near this place. The head of Kolikoli gulch is at the head of Makahanaloa and Hakalau. I have heard Palauolelo is at the head of **Waiama** gulch. **Piihonua**, **Paukaa**, **Papaikou**, **Makahanaloa** and **Hakalau** run through the forest to the **makai** edge of the **pili**. This is what I have always been told. Have heard that **Kaaimana** is the boundary between Humuula, Papaikou and Paukaa. **Kapuakala** gulch is the boundary between Paukaa and Piihonua, on the boundary of Humuula. Alakahi does not run through the woods. Palauolelo is the boundary between Makahanaloa and Papaikou, on the boundary of Humuula.

Cx'd. [Volume B page 46]

Wahamu^K. Sworn:

I was born at Kulaimano, Hilo, and have always lived in Hilo. Have heard from old people where Makahanaloa and Hakalau join Humuula, it is at the **mauka** edge of the forest, and the **pili** and **mamani** are in Humuula. Was told Maulua, Piha and Hakalau join Humuula, and that Hakalau bounded Humuula from **Naohe** [Nauhi] to **Palauolelo**. I have heard that **Papaikou** joins Humuula above the woods, and I have since heard that **Paukaa** reaches through the woods to **Lai**. I have heard this for about thirty years. Have heard that **Piihonua** runs through the woods to the **makai** edge of the **pili**. I lived on the **mauka** part of Piihonua for five years, catching birds. It was when Castle had the saw mill at **Kapahuakea** [from 1831]. At that time Humuula did not claim to Keanalepo, at Wailuku. Papaikou and Makahanaloa join Humuula at Kaaimana 2nd the one towards Hamakua. There Papaikou bounds Humuula to Kahawai Kapuakala Waiole; thence Paukaa bounds it to **Kapuakala** wai, near Lai; it is called **Nukupahu** gulch above the woods.

In olden times I heard from one *kamaaina* that Lai is on Piihonua and from another that it is on Paukaa. The boundary is at Kapuakala, on Nukupahu gulch. I have not heard definitely about the boundaries of Humuula adjoining Waiakea and Kau. Have heard that **Kaohe** cuts **Humuula** off, on the slope of **Mauna Kea**, above the *pili* and *mamani*, leaving the side of Mauna Kea on **Kaohe**. When Palai was shooting bullock; Namakaokaia, a man from Humuula told me this. Li, a bird catcher of Humuula, told me the boundaries of Humuula, Makahanaloa and other lands (they are now dead). They said Piha joins Humuula and Hakalau at Naohe gulch, a little below the edge of this forest. He is now dead. I don not know the other corner of Piha, and Maulua.

CX'd. [Volume B page 47]

Kamohaiulu^K. Sworn.

I was born at **Laupahoehoe** at the time of the building of the *heiau* at Kawaihae, and have always lived there. Know the boundaries of Humuula on the Hilo side at shore, but do not know them on the Hamakua side. The boundary at shore is at Kawalii gulch at Kaahupuaa, bounded on Kahoahuna; thence *mauka* along the gulch to Piinau, *kauhale*; thence to Lapalapa, a cultivating ground. Thence the boundary runs up the *kahawai* to **Mauiana** gulch, a branch of the Kawalii. There **Kahoahuna** is cut off by **Humuula**. Thence along the land of Kahoahuna 1st to **Lainakaunohi**, a spot in the old canoe road of Humuula at **Mauiana**. The boundary leaves the gulch at Lainakaunohi, the boundary runs towards Hilo. At this place Auliliii 2nd and Auliliii 1st join Humuula. Thence to Waiopae a *kahawai*, at the high waterfall, Auliliii ends, and Kahuahokolo bounds Humuula to Olohe Kahawai, a gulch, a place where we used to live and catch birds, and make canoes, [a] canoe road. Pana 2nd and Pana 1st bound it from this point, but the land is very narrow. Then Awaawaiki bounds Humuula to Waipahoehoe a gulch branch of Kawalii, and there Waipunalei bounds Humuula. Thence the boundary runs up an old trail Pihahalei, a *puu mamake* (ground), the *mauka* corner of Waipunalei. This is as far as I know the boundaries.

I have heard that Laupahoehoe bounds it to Pukoa, and there Papaaloa bounds it. Pukoa is just inside of the *mauka* edge of the woods. I have not heard that in older times Kaiwilaihila, Piha on Nanue reached to Humuula. Have heard from old people that in olden times Maulua, Hakalau, Makahanaloa, and Piihonua reached to Humuula. Have not heard about Papaikou and Paukaa joining Humuula. I have heard that in olden times if Humuula people caught birds in the *ohia* woods, Piihonua took them away, and if Piihonua people caught birds on *mamani*, Humuula people took them away from them. [Volume B page 48]

I have heard this from the bird catchers of Humuula and from our place. Have never seen the boundaries on the Kau side of Humuula. Kaohe bounds Humuula on the *mauka* side. Heard in olden times Kaohe cut Humuula off at the upper edge of the *mamani* on Mauna Kea, but I do not know about it.

CX'd.

S. Kipi^K. Sworn.

I was born in Hilo, Hawaii and have always lived there. I have heard about the boundaries of **Humuula** and *makai* lands, from old people. Have always heard that Humuula cuts off *makai* lands at the *mauka* edge of the forest; at *makai* side of *pili* land, (*ku ana iloko*) and that the points of woods running *mauka* are on Humuula. The only road I have heard of from Humuula runs along the *pili* land *mauka*; through the points of woods that run *mauka*.

Kamanu (now dead) an old man who used to live on Honomu, and other places, was one of those that told me this; he was a *kamaaina*, and may have been the one who went

with Henry Lyman. I heard from him that **Hakalaunui, Makahanaloa, Papaikou, Paukaa** and **Piihonua** run through the woods to **Humuula**. When I was picking *pulu* on Humuula in 1868, I sent men after bullock for meat and they said they got them on Maulua. Keola^K (now dead) who went with the party who surveyed Humuula, said Papaaloo, Maulua and Piha went through the woods.

CX'd. When I was living in Hamakua on the 5th of December, Kahue^K piloted myself and twenty others on to the mountain, and he then told me Humuula extended up on the side of **Mauna Kea** as far as the upper edge of the *mamani*, and *pili*, and was there cut off by Kaohe. We went to **Waiau**. Kahue could not find it, but Aikanaka found it. Kahue did not then say that Humuula extended to Waiau. [Volume B page 49]

Naaikauna^K Sworn.

I was born at **Humuula** and have always lived there. Born at the time of Kiholo [ca. 1810] know a part of the boundaries of Humuula. My father Eekamoku and his father Kaapunini told them to me. Humuula is bounded at shore on the Hilo side by Kahoahuna 2nd at Kaahupuaa the *kahawai* is on Kahoahuna, Kawalii gulch. The *ahu* is in front of the houses. Thence up the gulch to Nohoaokaakau, a cave thence up the gulch to Lapalapa; there the gulch branches. Waikoloa on Kahoahuna, thence up the north branch Alanaia to Kapualeiapanana; thence up to Mauiana, a *pali* and waterfall.

Humuula is above the falls, there Kahoahuna is cut off, and the boundary leaving the gulch runs across land towards Hilo to Kahoahuna iki at Lainakaonohi; thence across the head of Kahoahuna to the bank of Waiopae gulch; there is a waterfall there and Waiopae is at the foot of it. Aulilii 2nd and Aulilii 1st corner in this gulch and Kahuakolo and Awaawaiki bound Humuula from Waiopae to Olohekahawai, a branch of Waiopae. From *makai* of the waterfall the boundary runs towards Hilo at Olohekahawai; Waipunalei joins Humuula at the waterfall. Thence up across the land to the Hamakua side of **Waipahoehoe**, a gulch with water in it; thence up the road to Pihahalei a *kauhale* near the *mauka* edge of the woods, and the *mauka* corner of Waipunalei, where it is cut off by Humuula and Laupahoehoe runs toward Hamakua, and bounds Humuula to **Puukole**; *mauka* of hill can be seen the *pili* from the hill. **Palipali** of Humuula is *mauka* of the woods. There Papaaloo bounds Humuula to **Puukoa**, a hill in the woods near the *mauka* edge. There Maulua joins Humuula and bounds it to the *mauka* side of Puulehu, a hill in the woods, *makai* of Kaiiiki, a *kauhale* on Humuula close to the *mauka* edge of the woods (about as far as from the Court House to the shore). The *pili* and *mamani* run an open spot close to this hill. There are points of *ohia* that run a good ways *mauka* there on Humuula. [Volume B page 50]

If we went from Kaiiiki to Puulehu and were caught we had to give the birds to *mauka* people. Maulua extends from Puulehu to Uhakunou a *kualapa* running from the *pili* into the woods. Thence I was told that Piha bounds Humuula to **Kawauwauwai** water holes in and close to the *mauka* edge of the woods; it is also a *kauhale*. **Kalapaohelo** is a point on Humuula above the woods. Thence along Piha to *makai* of Kaluaalu, on Humuula at **Ohiamalumalu**, an *ohia* tree. Was told that Nanue bounds Humuula to Kupunawai, outside of the woods; the boundary is at Waikalooa in the woods. There Hakalooa bounds Humuula. Nanue bounds it to **Naohe** [Nauhi] gulch, and then Hakalooa to **Nawaiahu** gulch. **Kapahee** is on this gulch. **Kaloalooa** is just on Puna side of the gulch. (you cannot follow these *mauka* gulches all the way to the sea shore) There **Makahanaloa** joins Humuula. I have heard it ends at Kaaimana and from there Papaikou bounds it to **Kapuakala** where there is water. I do not know where the land of Paukaa comes. I have heard that it bounds Humuula from Kapuakala to **Nukupahu**. I was told that the tall Woods are on *makai* lands but the points of *pili* running into the woods and the points of trees running *mauka* are on Humuula. Paukaa bounds Humuula from Kapuakala wai to Nukupahu and **Lai**. Nukupahu gulch is the *kahawai* on the Hamakua side of Lai. Thence

along **Piihonua**, along the edge of the forest, crossing a branch of the **Wailuku** to **Kaelewa**, a place on Humuula; thence to **Kahiliku**. **Kalapahapu** is on Piihonua; thence to outside **Mawae**; I have been to Kahiliku but not to Mawae. I have heard it runs to **Puuike, Pohakuloa, Wekahuna, Puonioni and Pohakuhanalei**. Thence down the mountain to **Puukole**; thence to **Puupapa**; thence to **Omaokoili**; thence to **Kanoa**.

I heard from Moolau at the time of the jury (two years ago) that Napu [Napuu] of Kona bounds Humuula at Omaokoili. I do not know what lands bound it towards Kona and Kau. My parents told me **Kaohe** was at **Lanikepu**. Thence the boundary runs to **Poliahu**; thence to **Kamakahalau** hill; thence to **Iolehaehae**; thence to **Ahua Poopuaa** a **heiau**, high hill of stones. [Volume B page 51]

Thence along **Kaohe** to **Kaula** gulch, where the boundary enters the woods; thence down the gulch to Keanalepo a cave in the Hamakua side of the gulch, and along Manowaialee. Thence along the gulch to **Kahauloa** a **kawa** [leaping place] in the side of the woods where the boundary leaves the gulch and runs toward Hilo, across the head of **Ookala** to **Oina**, a banana grove; thence along Ookala to Paiopu a banana grove at the **mauka** corner of Kaohaoha; thence **makai** to Pauahi a **punawai** at the commencement of Poololo gulch (this place is marked). Thence down said gulch to sea shore. Humuula is bounded **makai** by the sea.

CX'd.

Oina is in the woods. Kahoahuna 1st joins Humuula in the edge of the woods; also Auliiiii, Kahuahokolo, Awaawaiki and Waipunalei, and one Laupahoehoe only. I never heard from my parents that **Humuula** cuts **Piihonua** off at Nahuina of Wailuku. I have heard that Kahue says that Humuula cuts it off there. I went with Blodgett and surveyed to **Kamakahalau**, on the mountain, and from **Naohe kahawai** to **Pihahalei**. We surveyed from **Kalaieha** to **Omaokoili** and Blodgett sighted from there to Naohe but as it was foggy it did not show the boundary. When Wiltse went, the second time, Kahue pointed out the boundaries. I did not point them out because he did not ask me. Wiltse sighted without going to the points or setting up signals and he did not use a chain. I did not hear from my parents that the boundary of Humuula runs to **Pohopaele**; heard this from Kahue. I heard from my parents that **Kanepu** and **Puuwai** are on **Makahanaloa** and Hakalau and that the water of **Waikoloa** is on Hakalau. **Kapunawai** is on Humuula, waterholes close to each other. In olden times the road from Humuula to **Laumaia** went along on the **pili** and not through the woods. I used to go into the woods a short distance catching birds, and then go back outside again. [Volume B page 52]

Commission adjourned until 10 o'clock a.m. November 7th 1873.

R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Boundary Commission met according to adjournment. At the Court House at Hilo November 7th 1873

Present: E.G. Hitchcock and D. Alapai.

Waikiliiiii^K. Sworn.

I was born at or near **Humuula**, district of Hilo, and have always lived in said district. I have often been on the mountain catching bullock, and know the boundaries of Humuula at shore. When I was on the mountain I was told that the boundary on **Mauna Kea** between **Kaohe** and Humuula was where the **mamani** ceases to grow, and that the **pukeawe** is on Kaohe. Was told that Humuula extends to **Pohakuhanalei**. I have not heard where Kaohe ceases to join Humuula, as you go towards **Mauna Loa**. Have never heard that Humuula extends to **Waiau**. I have not heard in olden times what land **Poliahu** is on. Have always heard that Humuula takes the **pili** and **mamani**. I have been

told that if our *kupuna* caught birds on *ohia* trees, Piihonua people took them away; and that if Piihonua folks took the birds from the *mamani*, our *kupuna* would take them away from them. In olden times we did not hear of Humuula cutting off Hilo lands in the forest, but at the edge of the forest. Never heard of any road running from Humuula to Piihonua through the woods in olden times.

The old road has never been pointed out to me. I have not been with *kamaaina* along above the woods, and had the lands pointed out to me.

CX'd.

Hemahema^K. Sworn.

I was born in Hamakua at the time of Oku [ca. 1804], moved to Piihonua before I was married and have lived in Hilo ever since. [Volume B page 53] Have been catching birds on Piha and am a *kamaaina* of that land. I heard where the boundaries were from Kulaipahu, Kiliilii and Koie, they were bird catchers, but are now dead. They told me Piha ended at Kawauwauwai, a *kaulahale manu* and *oioina* and swampy place. The place on **Humuula** near here is Naohe gulch. Kawauwauwai is on the gulch about as far *makai* from the edge of the forest, as from Hilo Court House to the beach. I do not know whether Nanue extends through the woods or not. Was told Maulua joins Piha. Kawauwauwai is on Piha and Puulehu is on Maulua.

CX'd.

Kalauloha^K. Sworn.

I was born at Opea, Hilo, at the time of Hulupi and have always lived in Hilo. I am a bird catcher and canoe builder. My brother Koie and Waikane told me boundaries. Hoolualani my *kupuna*, bird catcher told us boundaries. Piha is cut off by **Humuula**. Nanue also at Kawauwauwai. Maulua joins Piha at Kulipalapala, I do not know about its junction with Humuula, have heard it is at Puulehu. Nanue bounds Humuula to Kapunawai, a water place in the woods, in the *awaawa* above Nanue gulch. Commencement of Nanue gulch, I do not know what land bounds Humuula on the Hilo side of Nanue.

CX'd.

Kamaipialii^K. Sworn:

I was born at Maulua, and now live there. Maulua is cut off by Humuula and I have always been told that it joins Piha.

Was told by old people that Maulua is cut off by Humuula at Kapulehu. I have been there once. Do not know how wide Maulua is *mauka*. I do not know where Piha joins Humuula. CX'd. [Volume B page 54]

Kaaua^K. Sworn.

I was born at Waiakea Hilo, at the time of Akakai of Mokuokai. I have always lived there, and know where Waiakea joins Humuula. I was told by Olaa *kamaaina*, Opulua and others (whose names I have forgotten) at the time Webster surveyed Waiakea. I have always heard that Waiakea joins Humuula from Puuhuluhulu to Mawai. Webster set flags on Puuhuluhulu when he surveyed Waiakea.

CX'd.

Kamai,^K, sworn:

I was born at Honolii, Hilo, at the time King Kamehameha I was young; long before the Peleleu. I was a bird catcher and used to go all through the woods. Saw Captain Cook's vessel come into Hilo. I have forgotten where the lands join Humuula, as I am too old to

remember. Kikala runs through the woods on the bank of Honolii. Paukaa is on the Hamakua side of said gulch, and comes out to Palauolelo.

CX'd.

E.G. Hitchcock, declines to examine the witness, as he is so old, that his memory seems to have failed him.

L. W. Kainoa ^K. Sworn:

I was born in Hilo in the year 1820. I used to live in the upper part of the woods at **Waipahoehoe**, and heard from Maa and Makaulaula about the boundaries. They said **Waiakea** and **Piihonua** joined on the **Humuula** boundary. Piihonua joined **Papaikou**, and Papaikou joined **Makahanaloa**. Makahanaloa joined **Hakalau**, and Hakalau joined **Piha** on the boundary of Humuula. They said all these lands run through the woods, and the *pili* and *mamani* are on Humuula. They told me Humuula extended up the side of Mauna Kea as far as the *mamani* grow; and that it was cut off by Kaohe of Hamakua; and that it extended over to Kapapala and Kahuku, but they did not tell me where.

They said Piihonua joined Waiakea at **Mawai** [Volume B page 55] and that the *pahoehoe*, **Kipuka Ahina** are partly on Piihonua and partly on Waiakea. We used to dry hides at this place. It is *pahoehoe* with not many trees on it. They did not say where Paukaa and Piihonua joined. They said there was no road from Humuula to Piihonua running along through the woods. The ancient road runs along outside of the woods.

CX'd.

Note: E.G. Hitchcock admits the evidence of Kamalo given on Piihonua. See Folio 20, 21 and 22.

No more witnesses on hand.

Case continued till further notice to all interested parties.

R.A. Lyman, Commissioner of Boundaries, 3d J.C.

For journal of trip on Humuula boundaries See folios 174, 175, 176 and 177.

Case continued at Hilo Court House, Hilo Hawaii, December 8th 1873, before Honorable R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Notice given to all parties interested in Humuula or adjoining lands.

Present L. McCully and E.G. Hitchcock.

Peleioholani ^K. Sworn:

I was born at **Piihonua**, now live at Puueo. I know the land of Makahanaloa and have lived there. Aalamanu (now dead) was my father. My *kupuna* Puniawa was *konohiki* under Hoapiliwahine, and had charge of the land. I lived at Makahanaloa from the time I was a baby until 1848. I was born at the time Kaahumanu dedicated the churches on Hawaii [ca. 1825], and I was a school boy when I left Makahanaloa.

I do not know what land is on the Puna side of Makahanaloa in the woods, but have heard that Humuula cuts it off on the *mauka* end. I have never been to the upper end of Makahanaloa with my *kupuna*. Have been to the *mamake* patches in the woods.

CX'd.

The **mamake** patches are near Uluku hill. I have not heard about the *mauka* boundaries of Makahanaloa. [Volume B page 56]

Kapua^K. Sworn.

I was born at **Makahanaloa** shortly before the collection of sandalwood [ca. 1812]; I do not know the *mauka* boundaries of said land of Makahanaloa. I do not know, but I have heard that Humuula cuts it off *mauka*. I do not know what bounds it *mauka*, on the Puna side or what bounds it on the Hamakua side. I have been to the mountain to bring down beef, and have seen piles of sawed boards in the woods. No one has ever told me of the boundaries of Makahanaloa.

CX'd.

Case continued until further notice to all interested parties.

R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Hilo, December 9th, 1873

Case opened after due notice was served on all interested parties.

Present: L. McCully and E.G. Hitchcock.

F.S. Lyman, sworn:

I was with Henry Lyman most of the time while he was surveying the land of Hakalau. Was with him while he surveyed the upper part of it. I think it was in 1853 or 1854, I do not remember names of *kamaaina*. He had *kamaaina* at that time. If I remember right old Waiki was the *kamaaina* on part of **Humuula**. I accompanied my brother as he was teaching me surveying. Neither line was cut through the woods.

My brother had already surveyed **Makahanaloa** bounding Humuula on one side. He cut through the woods on that survey. The lands Makahanaloa and Hakalau bound each other most of the way through the woods; do not join at the lower edge. This is the Puna side. The Hamakua side was along the Kamaee gulch. Do not know as it was measured all the way. It was measured below the woods. I was not with him all the time. The line on the Puna side of Hakalau was measured from shore to woods, and the [Volume B page 57] distance from this line to a prominent hill in the woods on Makahanaloa was measured by triangulation. The *kamaaina* said there was a certain point in the woods where **Hakalau** joined Makahanaloa, that he had got on a previous survey of Makahanaloa. Being no natural boundary on that side he made a straight line to that point from the lower edge of the woods. From the other side adjoining **Humuula**, we went to the upper side of the woods, Kapou was the man who had charge of Hakalau at that time. He went with us and took other men who he said were *kamaaina*, as he was not well acquainted himself. Kapou tells me these *kamaaina* were Kupouli and Manu. Waiki went with us from Humuula, we went through the woods. James Castle and two men to carry the chain went along with my brother and myself. We went to a pile of stones on a little hillock above the woods. I should say it was on the *pili* grass about a quarter of a mile from the thick forest, among scattering trees, *mamani*, *koa* and some *ohia*. I was told that that pile of stones was at the western corner of Makahanaloa, *mauka* end, as it had been surveyed by my brother. The *kamaaina* said that was where Hakalau joined Makahanaloa And Humuula. There was no dispute about it among the *kamaaina* at that time. We measured from that pile of stones, along the land of Humuula, towards Hamakua as the *kamaaina* pointed out; keeping just about as far from the thick forest as when we started from Makahanaloa, until we came to a gulch; which the *kamaaina* said was the Kamaee gulch. I do not remember the name they gave to it, they said it was the gulch that went clear to the sea, and that it was the boundary below, between Kamaee and Hakalau. I have with me notes made by brother. It is not a very wide gulch, but it is quite deep. If I remember right, we built a pile of stones on the Puna side of it. The line where we measured was given as the *mauka* boundary of Hakalau, and nothing was said about the boundaries elsewhere. The *kamaaina* took us [Volume B page 58] to the corner of Makahanaloa and said that was the point where the lands joined.

My brother took Castle along, as he wished to be certain, that he found the same pile of stones as he built when surveying Makahanaloa.

At that time Castle was shooting on the mountain, a great deal of the time and said he had seen the pile of stones and could point it out.

Notes read.

"**Hakalau uka** commences at **Puakala**, four courses straightened into one. N. 3° W. 117.10 chains to stream of Waiahu."

I can swear that is the original notes of survey as made by my brother. The survey was made for Haalelea.

Papaikou was surveyed by Henry and David surveyed **Paukaa**. Papaikou corners with **Makahanaloa**; the survey of Paukaa overlaps Papaikou and Makahanaloa.

CX'd.

Case continued until further notice to all interested parties.
R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Continued on Folio 174, [Volume B page 59]

Humuula Ahupuaa
District of Hilo, Island of Hawaii
Boundary Commission, Volume B:174-177

The *Ahupuaa* of Humuula, District of Hilo, Island of Hawaii, 3d J.C.

Continued from Folio 59

Notes from the journal of the Honorable Commissioner of Boundaries taken while visiting the upper boundaries of Humuula.

November 28th 1873.

Left J. Parker's, Mana Hamakua, Island of Hawaii in company with L. McCully, H.B. Montgomery, and R. Folsom, and proceeded to Kalopa, Hamakua. There met with D.H. Hitchcock and E.G. Hitchcock. Found that Peleiolani had gone to Hilo, and that James Castle was too sick to come.

November 29th 1873.

Left Kalopa and proceeded to Kaala, there went through the forest onto the foot of the mountain and went along the road to **Laumaia**, the road runs a short distance above the woods. Above the woods, we passed a good many of the points mentioned by Kahue, Naaikauna, Waiki, and others in their testimony and camped after dark at a place called Hopuwai.

Naaikauna and Kahue joined the party at Kaala. L. McCully and H.B. Montgomery left us at the upper edge of the woods. Heard of James Castle's death when half way through the woods.

November 30th 1873.

Started at daylight and went along the upper edge of the forest, passing **Nawaiuheu** gulch to **Kaloloa**, there left the trail to **Laumaia** and went into the woods for some distance on the *kualapa*; boundary between Hakalau and Makahanaloa, to opposite

Puuwai, a hill on Hakalau. There we left the boundary and went onto Makahanaloa, crossing the **Aama** gulch, and camped on Makahanaloa some distance *makai* of Puuwai.

Kahue says Puuwai is a long distance [Volume B page 174] of the point he claimed as the boundary between Humuula and Hakalau and Makahanaloa.

December 1st 1873.

Left camp and walked up to where we struck the ridge that runs into the woods from *makai* of **Kaloloa**. We went onto the ridge a good way *mauka* of **Puuwai**. Left D.H. Hitchcock at camp.

After a good deal of persuasion Kahue pointed out a hollow on the top of the ridge as **Pohopaele**. At this point the *kualapa* is quite high and slopes off rapidly toward the shore. It is impossible for this point to be seen from Kaloloa as it is lower than the edge of the woods. It took us twenty minutes to walk from this point to what is now the upper edge of the forest. The boundary between **Humuula** and **Makahanaloa** as pointed out by Kahue is a hollow commencing on the ridge between these two lands, this ridge is the one on which the road from the beach, through Makahanaloa lies, thence the hollow runs down the west side of Aama Gulch. (no water in it)

Puuwai is on the next ridge Westward. The upper portion of the forest is full of dry trees, laying all over the ground. We then proceeded to **Palauolelo** gulch. Kahue pointed out to us where the woods used to run, it was close to **Laumaia** Road. We then went to **Kapuakalawaiole**. Kapuakalawaiole is near **Lai**, said to be the **Nukupahu** gulch. Then went to a point of woods called Lai, a long sharp point of woods extending to some distance above the woods. Then went on across **Waipahoehoe** and Laumaia gulches, and the Aama branch of the **Wailuku**. From thence we went to Mr. Kirchoff's house, where L. McCully rejoined the party. We then proceeded to **Kalaieha**.

Kahue states that the **Nahuina** of Wailuku is not where the Laumaia and Waipahoehoe branches unite, but that it is about the same distance *makai* of the *mauka* edge of the woods as Pohopaele; that the gulches Aama, **Waikē** and **Kalapaohelo** unite at **Keanalepo**, and that Keanalepo is not at the *makai* junction of Laumaia. He states that [Volume B page 175] Keanalepo is a place that he dug.

Arrived at Kalaieha a little before dark.

December 2nd 1873. Kalaieha

On asking Kahue to point out **Pohakuohanalei** he pointed out a hill a good ways down the slope of Mauna Loa, below what we had always understood to be Pohakuohanalei. Kahue said other people had always pointed out the upper hill or rock as Pohakuohanalei, but that he corrected them when the survey was made. He then proceeded to point out other points on the Kona and **Kaohe** boundaries of **Humuula**, until he began to point out places near the top of **Mauna Kea**. He then hesitated, and said he could not remember the names of the places on Mauna Kea. Said that he was not well, that he had not slept any the previous night, and that he was ill.

After a while he again pointed out Pohakuohanalei, this time it was the upper hill, and he said he had made a mistake in pointing out the lower one.

Our party left Kalaieha in company with Ashford Spencer and others, and went down across the *pahoehoe* to a point on the *pahoehoe* that was shown us as **Kawauwauwai** and said to be on the boundary of Humuula and **Waiakea**. This point is a long distance *mauka* of **Mawae** and the forest. We then proceeded towards Laumaia to the edge of the forest, to **Kahiliku**, thence to **Puuoo**, meeting with H.B. Montgomery and Kirchoff.

Between **Kahiliku** and the base of **Puuoo** we passed a pond of water called **Kaelewa**, this pond is in a hollow above the woods. At Puuoo we could not get Kahue to point out any places, he said he was *pupule*, and Naaikauna said that at two different times in former years, he had known him to be crazy.

The fog began to set in and so we returned to Laumaia, and there leaving Mess. McCully, Montgomery, and others, we proceeded to camp on the edge of the woods by Kapuakala 2nd. Kahue was raving all afternoon and most of the night. [Volume B page 176]

December 3rd 1873.

Kahue was somewhat better than the night before. We left camp and proceeded to a pile of rocks near the gulch. Mr. McCully rejoined us here and the Hitchcock Bros. remained at Kapuakala. We then proceeded along the road from Laumaia to Waimea, as far as Kaala, when we struck through the woods to shore. Could not get much information from Kahue about different points as he persisted that he was crazy. Naaikauna pointed out the locality of points in the woods., from the hills on Hakalau until you near the boundaries of Maulua and Laupahoehoe, when we could see the hills **Puukoa** and **Puukole** a short distance from the *mauka* edge of the forest.

As we neared the lower edge of the forest, Kahue began to tell about boundaries again and by the time we stopped at Amina's, a place near the boundary of Hilo and Hamakua, he was ready to tell all the boundaries between Humuula and the adjoining lands.

Reached Hilo December 4th 1873.

Continued until further notice to interested parties.
R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Costs:

6 days traveling on mountain 60.-; & 6 days hearing 60.-; 120.-
recording 123 folio 30.50,
advertising hearing 4.-; 34.50
Paid to July 20 1874, 154.50. [Volume B page 177]

**Humuula Ahupuaa
District of Hilo, Island of Hawaii
Boundary Commission, Volume D:52-57**

In Re: Boundary between Humuula, District of Hilo and Kaohe and other lands, District of Hamakua, Island of Hawaii

Hilo, Hawaii, August 20, 1891, Court house, J.F. Brown, appears in behalf of the Hawaiian Government; C.P. Iaukea, Crown Land Agent, for Crown Lands; Armin Hanneberg, Lessee of Humuula; E.D. Baldwin, Government Surveyor [see Register Map No. 1718]; and others, present.

The application of J.F. Brown, in behalf of his Excellency, The Minister of Interior, for the Hawaiian Government, being on file, and notice having been given to interested parties, also filed a map, shewing location of the lands in question.

Hilo, August 14th, 1891
Honorable F.S. Lyman, Boundary Commissioner
for 3rd Judicial Circuit, Hawaiian Islands

Sir:

On behalf of His Excellency, The Minister of Interior, I beg to apply for a settlement of the boundary line between the Crown land of Humuula and the adjoining government tract, extending from Pohaku Hanalei on Mauna Loa, to the head of Kaala in Hamakua, known principally as the Government land of Kaohe.

The boundary as claimed by the government is a long yellow tinted portion of the accompanying map, from Pohakuhalei to head of Kaala.

By settling an early date for the hearing of this case you will greatly oblige your obedient servant,

J.F. Brown. [Volume D page 52]

Evidence

Hoakimoa^K. S. – Name Hoakimoa, 54 years old, am *kamaaina* in mountain lands. I lived there with my father shooting cattle. In 1859 I left that place. I know boundary of **Humuula** and **Kaohe**. Commence at **Puukea**, on **Mauna Kea**, boundary of **Koholalele** and **Kaohe**, Puukea is one corner and **Puu o Kihe** the other, are the corners of Koholalele and Kaohe; and on to **Iolehaehae**, along **Kukaiau** and Kaohe, then to **Keahunaiwi**, many things there. **Iwaiwa**, **Puuhinahina**, &c. then to **Kole**. I know **Kaupakuhale**, on from **Kole**, and to **Kalepe a Moa** near **Kalaieha**. I was very well acquainted there. At Kalepe a Moa, look down to **Omaokoili**, that is as far as I know; along the line I have given, is Humuula below and Kaohe above. I know **Kaula** Gulch. **Waikulukulu** is the name below, and Kaula gulch above.

The boundary up from the Government road to **Puukalepa**, is Humuula on one side and Kaala on other side of the line. From Iolehaehae to Puukalepa the Kaula gulch has always been the boundary between Kaala and Humuula.

I know places called **Keonewakiu** and **Kamakahalau**, on Kaohe, we used to lasso cattle there. Humuula does not go to the top of **Mauna Kea**, in olden times only three men ran after **Uau** on the mountain, along the side, was Kaohe above, Humuula below, and **Piihonua** at foot of mountain.

CX'd. – **Kaala** is the ancient name of the land below **Kanakaleonui** and **Iolehaehae**. The land above line from Iolehaehae to **Puukalepa** is **Kaohe**. The boundary of **Humuula** is the **Kaula** gulch.

Paakaula^K. S. – I was born in 1847, am *kamaaina* on **Mauna Kea**. My father, Nainoa, was *kamaaina* in mountain, and my knowledge came from him when I was young.

Commence at end of **Kaohe** on the mountain [Volume D page 53] "**Puuokihe**," a place called **Keahunaiwi**, between Puuokihe, and it is the boundary to **Iolehaehae**, and to **Kanakaleonui**, a long distance between – several lands and names between, that I do not know. Just below Kanakaleonui is Keahunaiwi, the point where Humuula and Kaohe join, a hill there. **Keonewakiu** ahead of that, and Kahenahena [**Kahinahina**] and **Kaiwaiwa** are just above the hills, the boundary; then to **Puuhuluhulu**, above **Ahuwela**, the boundary is between **Kaupakuhale** and Puuhuluhulu hills; then to **Puuloa**, above it an old cattle pen called "**Kulaka**," above **Puuoo**, then to **Kole**, there sighted by compass to **Kalepe a Moa**, then to **Puuhuluhulu**, that is as far as I know.

I do not know, on one side of gulch is Kaala, and Humuula the other side of Kaula gulch. So my father said. Know **Kamakahalau**, on Kaohe.

CX'd.

The boundary is 1/4 or 1/2 mile perhaps, above **Puuloa**. **Lahohinu** is on **Humuula**, near **Kaula** gulch. Kaula gulch is the boundary between Humuula and **Kaala**. My father, Nainoa, told me so, he was formerly a witness before the Boundary Commissioner and he went with Curtis Lyons in surveying the boundaries of these and other lands.

It was said the *Mamane* belonged to Humuula, but some *mamane* is on Kaohe also. I did not go on Humuula with my father. He belonged to Hamakua. Kahue and Naaikauna are *kamaainas* of Humuula. I went with my father in surveying.

Amina, S.: – Think I am over 50 years old. Know the mountain. **Puukea** and **Puuokihe**, along **Kaohe**, and to **Iolehaehae**, Kaohe above and below **Kukaiau** has some and **Kaala** some, and to **Ahuopopuaa** below, and then to **Puukalepa** by **Kaula** gulch, then gulch runs to **Keahunaiwi** and **Makahalau**, above is Kaohe. [Volume D page 55] “Keahunaiwi” is near “**Kanakaleonui**,” here Kaohe and Humuula join, and Kaala is below this point. Then on sand, “**one o Akiu**” [One o Wakiu] to hill called “**Kaiwaiwa**,” and to “**Kahinahina**.” The *mauka* side of those two hills is Kaohe, and *makai* is Humuula. Then to “**Ahuwela**,” and “**Puuhuluhulu**” hills, and on to **Puuloa**. The boundary is at “**Kaupakuhale**,” above Puuloa. “Kaupakuhale” is on Kaohe. Then to “**Kulaka**” cattle pen, to drive wild cattle; then to “**Kole**” hill, then to another hill “**Huikau**,” then to “**Puuhuluhulu**,” then to “Mokolii” [**Omaokoili**] that is as far as I know. I know Kaula gulch from the sea to the mountain. It runs up large below and small above. From the mountain road to “Puukalepa,” the Kaula gulch is between Humuula and Kaala.

CX'd. – The boundary from Iolehaehae to Poopuaa, a hill below, then to Puukalepa, at Kaula gulch. I know **Lahohinu** on Humuula, near the road, a small road, the Government road is above that. Lahohinu is near Kaula gulch; then up to Puukalepa. Poopuaa is on Kaala. I gave names of the lines of hills.

The testimony of Nakupuna, K., taken before Judge E.W. Barnard, at Laupahoehoe, North Hilo, the witness being too old and feeble to come to town. August 14, 1891, produced by Government agent, and allowed by Crown Agent.

Nakupuna^K being duly sworn, said:

Commencing at **Puukihe**, **Koholalele** joins with **Kaohe**. **Kukaiau makai** Kaohi [Kaohe] *mauka*. **Ahuapuaa**, Kaohi *mauka* Kukaiau *makai*. At **Waikulukulu Kaala** and **Humuula** join; **Kanakaleonui** is the next point. Humuula is *makai* and Kaohi is *mauka*. **Wakiu** sand is on Kaohi. **Puhinahina** next with Humuula *makai* and Kaohi *mauka*. **Puuloa** with Humuula *makai* and Kaohi *mauka*. **Kalepeamo** with Humuula *makai* and Kaohi *mauka*. **Puhuluhulu** next point. Kaohi extends over to Kau and Kona. Kaala joins Humuula at Lahohinu. [Volume D page 56]

I am old and an old resident and went in the mountains with the kamaainas.
(Signed) “na Kupuna”

Subscribed and sworn to before me this 14th day of August 1891
The above witness is a very aged man, said to be 100 years of age.

E.W. Barnard, Notary Public, III Jud. Circuit.
(L.S.)

Witnesses of Crown Agent.

A. Hanneberg, S.:

I am lessee of **Humuula**, residing at Humuula, mostly at **Kalaieha**, about four years. Know the boundaries of Humuula. Had a man in my employ, A.P. Deverill, who had been on the mountain over 22 years. He pointed out the boundaries to me.

Commencing on **Mauna Loa**, at a prominent stone called **Pohaku Hanalei**, runs from there to "**Omaokoili**" hill, then *mauka* to **Kalepeamo**, then to prominent hill called "**Kole**," then following edge of vegetation to **Kaupakuhale**, from there to **Kanakaleonui**, thence to **Iolehaehae**; but from Iolehaehae he was not certain to give the boundary definitely. In his opinion, part of Kaala belonged in reality to Humuula and Humuula boundary adjoins Kaula gulch.

CX'd. – Deverill told me after I went to Humuula; he was then in my employ.

He brought Kaala higher up, but I cannot remember the exact points, as I was not acquainted then, and lived at Kalaeaha.

Crown produces Book A of the Boundary Records, the testimony taken regarding Humuula, page 28, &c.

Crown Rests

J.F. Brown asks to continue the hearing to Honolulu, for further testimony, [Volume D page 56] which request is declined, for want of Jurisdiction out the IIIrd Circuit.

Continued by request of the Government agent and assented to by Crown Agent, until return mail from Honolulu, to file briefs of the testimony.

F.S. Lyman, Commissioner of Boundaries

Briefs filed, and case submitted.

Decision

It is decided that the Boundary between the Crown Land, Humuula, District of Hilo, and Kaohe, and other lands of the Hawaiian Government, District of Hamakua, Island of Hawaii, is as follows:

Commencing at the South corner of **Kaala**, as surveyed, Land Commission Award 9971 at a point in the **Kaula** gulch near "**Lahohinu**," by the upper edge of the forest, and run up the main branch of the Kaula gulch called "**Waikulukulu**," between **Humuula** and Kaala, to a point near "**Puu Kalepa**," thence along the Waikulukulu gulch, between Humuula and **Kaohe**, to "**Kanakaleonui**," thence in direct lines along the boundary between Humuula and Kaohe, to "**Kaupakuhale**," thence to "Kole," thence to "**Lepe a Moa**," thence to the west side of "**Omaokoili**" hills, thence to "**Pohaku Hanalei**," on the North slope of **Mauna Loa**. Surveys to be made and filed before certificates of Boundaries are issued.

F.S. Lyman, Commissioner of Boundaries, 3d Judicial District, Hawaiian Islands
Hilo, Hawaii, October 3, 1891

October 17, C.P. Iaukea, Agent for Crown lands, notes appeal to the Supreme Court
Costs 2 days employed on case \$20.00
16 folio record at .25 c. 4.00
\$24.00

Return of appeal 1.00
Bond filed for Costs on appeal \$25.00 Paid.

MAKAHANALOA AHUPUAA
Volume A No. 1:175-176
District of Hilo, Island of Hawaii

...Petition read as follows:

Honolulu, April 26th 1873.

(copy) R.A. Lyman, Esquire, Commissioner of Boundaries for Hawaii
&c &c., Hilo

Dear Sir:

Your letter of 14th instant was received this morning, and in answer to your suggestion about settlement of the boundaries of His Majesty's lands in Hilo and Puna, I now apply in his behalf to you to settle and define the boundaries of the following named lands, viz.

Makahanaloa and **Pepekeo** in Hilo. They are bounded on the North by Kaupakuea belonging to Afong & Achuck and Hakalau belonging to W.L. Green, on the South by Piihonua belonging to the Crown, Papaiko [Papaikou] belonging to D.H. Hitchcock, E.G. Hitchcock & C.N. Castle. Onomea belonging to S.L. Austin; Kawainui belonging to the Hawn Government. [page 175]; *mauka* by Humuula belonging to the Crown and *makai* by the sea...

...Maps and notes of survey of each of these five lands, are enclosed herewith.

If any of my descriptions of adjoining lands or ownership are incorrect, please correct them.

If you should not have time to give the necessary notices, according to law, so as to have the settlement attended to while Mr. Judd is with you, you will please employ some suitable person to attend and protect the rights of His Majesty. Of course, all must be done according to law, so that it will stand forever.

Very truly Yours,
C.R. Bishop, Acting for the King

Makahanaloa
Volume A, No. 1:182-190
The Ahupuaa of Makahanaloa, District of Hilo,
Island of Hawaii, 3rd J.C.

At the Office of the Boundary Commissioner in Hilo; On this third day of June A.D. 1873 by adjournment from the 2nd instant; the application of Hon. C.R. Bishop for the settlement of the boundaries of Makahanaloa and Pepekeo came on to be heard before the Commissioner of Boundaries for the 3rd J.C., after due notice of the hearing having been given in the Hawaiian Gazette of May 7, 1873 and the *Kuokoa* of May ____ 1873, for the 2nd instant and notice personally served on owners of adjoining lands as far as known.

Present: G.W. Akao Hapai for Hon. C.R. Bishop; W.P. Ragsdale for Crown Commissioner; J.H. Nawahi for Hawaiian Government; D.H. Hitchcock for self. Surveys of Onomea and Hakalau filed.
For Petition see Folio 175.

Testimony

Kahulanui, ^K, Sworn.

I am a *kamaaina* of **Kaupakuea**, was born on that land during Kamehameha I reign; was formerly a canoe builder and used to go up in the woods. I know the place where Kaupakuea joins **Makahanaloa**. It is called Nahuina on *Kahawai* of Aliia; the boundary between Kahua and Makahanaloa follows up the *kahawai* of Aliia to Nahuina junction of Kaupakuea; there the boundary leaves the *kahawai* and runs up the old road; crosses the gulch Nahuina and thence runs up the *pali* to Kaekuapuaa, on the hill of Uku where they used to let canoes down; thence mauka along road to pali Kapoohoohua on Uku hill; thence down along the road; Makahanaloa mauka and Kaupakuea makai, down to the foot of the hill to Mahiakala, old kauhale; Kalawai was on Makahanaloa and Kaupakuea towards Hilo; thence turn mauka and up to kahawai Waiaka; Makahanaloa on this side, Kaupakuea on the other side; thence up the gulch, which belongs to Makahanaloa, mauka to Puhimoku, here [page 182] Honomu road comes in, at the end of Kaupakuea, and Honomu joins the road on Makahanaloa, runs up between this gulch and Waiama; thence the boundary runs mauka along Waihaka gulch to Keopuewa.

This is as far as I have been shown boundaries. Have been told by my parents that the boundary runs up the gulch Waihaka to Kaleilehua; thence to Kahoolana, a place on Waiama gulch; follow said gulch to end thence up along Waiama gulch to Kapuulepo; thence to Kawaiulaula, end of Honomu; thence along Waiama gulch Hakalau on one side and Makahanaloa on the other side to Kaukoa (end of tall *koa* trees); thence to Kapuuakala where Makahanaloa is cut off by Humuula.

The *mamani* grows on **Humuula**, the water is called **Kapuuakala**. I have been up the road on Makahanaloa with John Pilot and saw a place called Kapuuakala; this was before the land was surveyed. Kamanu ^K and Kapoumooakea ^K were his *kamaainas*. Kamanu was an old bird catcher from Kaiwiki near Wailea, and lived on Kahua. Kupouli was a Hakalau man; my Father was a canoe maker.

CX'd.

Kapuuakala is not entirely through the woods, but is above the *koa* trees. There are a few scattering *mamani* below the appendage of *koa*. The place called Kapahu is some _____ Waikoloa, on the *mauka* boundary of Hakalau.

Wahamu, ^K, Sworn.

I belong to Makahanaloa and Pepekeo, and now live on Kawainui. Was born at Makahanaloa before the first missionaries arrived. My Father was a bird catcher and used to go up on these two lands to catch birds. The boundary on the North side is at *kahawai o Aliia*; thence up the *kahawai*, and into the woods, to a short distance below a place called Nahuina, which is the end of Kahua; thence along Kaupakuea along the old road to Uku hill; thence the boundary runs over the side of said hill $\frac{3}{4}$ of it belonging to Makahanaloa and down to Waihaka *kahawai* (branch of the Waiama); thence along said gulch to *makai* of Kaholopohaku; thence follow up Honomu road, Honomu [page 183] joins Makahanaloa, where Waihaka gulch ends; thence follow up the road. I do not know where Honomu ends. Laa, ^K, Father of Hanauna went up mauka with me; he was a Humuula man; we went up the road and camped where they were killing bullock on the mountain. While we were on the mountain we came to a gulch which he said was Kolekole gulch, and the boundary between Makahanaloa and Hakalau. Found bird catchers catching *mamo*. We went up the hill Puuwai, on Hakalau, in the woods, went to Kanepuu on Hakalau. Makahanaloa is very near this place. Slept there. Laa said he was *kamaaina* here. We went on to Waikoloa and to Kapahu, thence we went further up to Kapahunui, a water pond, about as big as Kalepolepo. He said both of these ponds were on Hakalau. Thence we went out of the woods to **Palauolelo**, a water spring in the *kahawai*; *kauhale maluna kualapa* there; he said Palauolelo was on Makahanaloa. We saw the *pili* down below, said to be the end of Makahanaloa. A few days after we saw

Kahue, ^K, at Palauolelo, but he did not say anything about the boundaries. I have been up there about four or five times since, and have always heard that was the boundary. Have been up since the land was surveyed; saw a pile of stones on the *mauka* corner of Palauolelo near a place called **Kaloloa**. Laa said the tall *koa* and *ohia* were on *makai* lands, short *koa* and *mamani* on **Humuula**.

The boundary at shore between Pepekeo and Kulaimano is a *kahawai*, Waimaauau; thence up said gulch to a place called Keanakekea; thence leaving the gulch the boundary runs up an *awaawa* to the Government road; thence *mauka* to a stream (Here Henry M. Lyman surveyed it); thence follow up stream some distance to *awaawa*, up the *awaawa*, between hills to a grove of bamboo. (Wailani is on the Puna side a short distance from the bamboos); Thence up a ridge to the top of small hill called Puupulololuu, between the large hills; thence *mauka* to Waiama gulch, some distance above the hill *mauka* of where water is taken out onto the land, Holoinopii is the name of the place there. Kulaimano ends and Pepekeo reaches to gulch. Kawainui on Puna side of the gulch; thence up [page 184] along Puna side of Waiama gulch to *Pawai* where water was taken out for making a bullock pen. The name of this *pawai* is Waiku; thence *mauka* into a branch of the Waiama on Puna side, called Niau; thence the boundary runs along Kawainui to where Niau joins Waiama again; thence *mauka* to a second water head on Pepekeo called Nau, where water was taken out for a sugar mill on Makahanaloa; thence *mauka* along Puna side to Kukailimu, an old rock that used to be worshipped in the woods opposite Uku; here Pepekeo ends. The woods commence at Nau, where Makahanaloa cuts Pepekeo off; thence the boundary of Makahanaloa runs along Kawainui to Waimana, where two gulches of Kawainui meet and where the water is taken out for Onomea Plantation; thence *mauka* along *kahawai* o Kapukou, on the Puna side, *mauka* to Kumuohia, on Makahanaloa, where bird catchers used to live. There *Kahawai* o Piikai comes in and the boundary runs up this gulch; Onomea on the Puna side of Piikai.

CX'd

My parents showed me the boundaries of the lands. I am one of the lessees of Kulaimano.

J. Ili, ^K, Sworn

I knew Henry M. Lyman; went with him to survey Makahanaloa. He surveyed the land as Kapounooakea and Kamanu pointed out the land. They were both quite old men at that time.

Kamanu went first, about one third way through the woods; then returned, I, Kapela, now dead, Keawehawai and Lua, then went with him. Also two kamaainas and a man whose name I do not remember. We went up on the land to a place above, and Puna side of Uku, where canoes were got out; Went up still further till we came to a gulch; thence went up a road cutting cross lines to places on the boundary, as the *Kamaaina* pointed it out; worked several days and came to *kahawai* of Kolekole and was told Hakalau was on Hamakua side of this gulch. Before we came to this gulch we came to Nahuina, where Hakalau road comes in. Above this we came to a [page 185] water fall, as we went up I did not hear the names of any points on the boundary, about one quarter of the way from the upper edge of the woods we came to bullocks, then we came to a hill, think the name was Puuwai; they said it was on Hakalau; thence we went to what was called out of the woods (*puka iwaho*) where small *koa*, *mamani* and *pili* were growing; we were on Puna side of a place called Kaloloa, where tall and small trees were growing, this place was pointed out to me as the boundary between **Humuula, Hakalau and Makahanaloa**. We put up a pile of stones there. From this pile of stones we surveyed across to old *kauhale* called Palauolelo; Humuula *mauka* and **Piihonua** on the South side of **Palauolelo**. The kamaainas only said Piihonua joined there; the tall trees were said to be on **Makahanaloa** and the small woods on **Humuula**.

We put a pile of stones near the place where Piihonua joins. This is as the kamaainas told us.

CX'd.

I recognized Palauolelo when I went up with the party that surveyed Paukaa. There is a *loko wai* near the Hakalau boundary, but I do not know the name.

Kamalo, ^K, Sworn

I know the *mauka* boundary of Makahanaloo; was born on Punahoa at time of Kanihonui. I am a bird catcher and have lived on Piihonua and on the mountain. Makahiki, a Humuula man pointed out the boundary to myself and others at the time we were catching cattle on the mountain. He said **Palauolelo** was the boundary of **Makahanaloo** and **Piihonua** and **Kaloloa** was on the other corner and **Humuula mauka**. Above these places small *koa* and *mamani*, *makai* of there tall trees and *pili*. Palauolelo is *ano kahawai*. The *koa* and *mamani* are on Humuula; in dry times there was water there in holes about the time of the death of Leleiohoku [Leleiohoku] in 1848 or 1849.

CX'd. [page 186]

Kahue, ^K, Sworn

I was born at Humuula a little before the *Okuu* [ca. 1803]. My parents belonged there, the boundaries of lands joining Humuula have all been pointed out to me. I know the boundaries between Humuula and Makahanaloo. They join at Kapahee, which is on Hakalau; this land joining Makahanaloo at this point also; thence to **Pohopaele**, an old village on **Makahanaloo**, at a swampy place, above this swamp, **Humuula** people had their houses, below here Makahanaloo people took our feathers away; At **Kapahee Hakalau** people took our ducks away; thence along **Humuula** to **Waikoloa**, where **Papaikou** joins Makahanaloo and Humuula.

I met Kamalo, ^K on the mountain where we were killing cattle. Makahiki came from Kau, he is now dead. He used to go with me when I went after bullock. I have lived all over the mountain. Kapahee is on Hakalau, near Makahanaloo; it is in the woods, probably not a mile from the upper edge of the woods. It is not a mile from Kapohokele to the upper edge of the woods.

Waikoloa is a round water hole not a mile from the edge of the woods.

CX'd.

The *mamani* do not grow near these holes, said holes being in the tall woods of *Ohia* and *Koa*; know a place called **Kapuakala**, it is on Humuula out on the *pili*, where our houses used to be. Humuula people used to go and catch birds on *Ohia* trees.

CX'd. By Commissioner.

Wiltse was first shown the boundaries by Waiki *ma* and afterwards by myself. We pointed them out to him from above the woods. Did not go to the *mauka* boundaries of Hakalau and **Makahanaloo**, and we could not see for certain where these localities were from our position above the woods as there were not any flags put up at these places. **Palauolelo** is above the woods, above Makahanaloo; and Hakalau is near the woods and near to Kapahee. It is about as far as from here to Kupahai gulch. Palaualelo is about as far as from here to Waipilopilo (Sam Guess' ____ place) from Pohopaele. [page 187]

It is about as far from Palauolelo to **Kaloaloo** as from Hilo Court House to the church in Puueo; from Palauolelo to **Waikoloa** it is about the distance between Hilo Court House and Wainaku, *Mamani* and *koa* grow at Palauolelo, where the water hole is. I have never told any one that this place is on Hakalau. **Kapuko kahawai** is on the boundary of

Paukaa and Piihonua, and is called **Nukupahu** in the woods.

Note:

Pii, ^K, was allowed to go home yesterday on account of the illness of his wife, other witnesses not here.

Case continued until further notice to all parties.

R.A. Lyman, Boundary Commissioner, 3rd J.C.

Hilo, June 20, 1873

The Commission of Boundaries, after due notice to interested parties, met at the Hilo Court House.

Present: G.W. Akau Hapai, L.W. Kaainoa in place of W.P. Ragsdale.

Nahale, ^K, Sworn

I was born at Onomea, at the time of Namakeha's death [1798], at **Piuhonua**, and the last war of Kamehameha I. I always lived at Onomea till after Austin moved there, when I moved to Paihaloa; know the lands of Makahanaloha and Pepekeo; am a *kamaaina* and know the boundaries. Each one of Hilo lands used to have its *konohiki* and in those days each *konohiki* used to point out the boundaries of their lands.

The Aliia Gulch is the boundary between Kahua and Makahanaloha, from the sea shore into the woods on the *makai* side of Uku hill, at a sort of swamp, which I do not remember the name of. There Kaupakuea joins Makahanaloha, the whole of the gulch belongs to Makahanaloha, and the level land on the North side to Kahua. Thence along Kaupakuea to Waiama gulch, on the South side of Uku.

Do not know about boundaries of Makahanaloha above this point. On the North side, Makahanaloha and Pepekeo lay side by side from sea shore to where Pepekeo ends in the woods. They are bounded *makai* by the sea and had ancient fishing [page 188] rights extending out to sea. Kulaimano bounds Pepekeo on the South side. Waimaanau Gulch is the boundary between these two lands at the sea shore; thence the boundary runs *mauka* in the gulch to a place called Pohoula, a good way *makai* of the Government road (old *kauhale* on Kulaimano); there leaves the gulch and runs up *awaawa* to Government road; thence the boundary runs onto the Northern part of Puuokanoa; The bamboos at a place called Wailani are on Kulaimano. From Puuokanoa, *mauka* to Waiama gulch, a short distance *mauka* of the Kulaimano water head, where Kulaimano ends and Kawainui joins Pepekeo, a large flat rock in the stream, covered with green moss such as grows in the sea, is at this point and is called Pohakupakaiea, said stream belongs to Pepekeo and Kawainui is on the south side of the gulch; the boundary follows up the South side of the gulch into the woods to place called Kukailimu where Pepekeo and Kawainui end, and Makahanaloha runs toward the South, cutting off Kawainui; having left the Waiama at a place called Waimana, where Kapuko gulch empties into it; thence the boundary runs *mauka* on the south side of Kapuko gulch; where the *akolea* (fern) grows in on Onomea; the rock and water is on Makahanaloha; thence *mauka* to Kumuohia, an old village on Onomea; thence *mauka* along the gulch to Kapeke, where running water ends; thence up along the land to Kauwauapoho, a swampy place, where bird catchers and canoe makers used to live. Thence *mauka* to Waimana gulch at a place called Nahuina, where Makahanaloha and Papikou join, and cut Onomea off. From Nahuina the boundary between Makahanaloha and Papaikou runs *mauka* along the old road, in Waimana gulch, to *Mauka* of Popolo, a short distance above Nahuina; there water ends and the *awaawa* runs *mauka* to the end of the tall woods. The small trees, grass and *mamani* are on *Humuula*. I do not know what land Palauolelo is on. Have been to that place. Only the road belongs to Alakahi, not the land.

CX'd.

I used to go bird catching; knew Kapoumoaakea. He was a *kamaaina*, and bird catcher of Maka- [page 189] hanaloa. I knew Kamanohe lived on Pepekeo and Kulaimano, who was also a *kamaaina* and bird catcher. Have not heard if they were the ones who pointed out the boundaries when the land was surveyed.

Commission adjourned until further notice to all parties.

R.A. Lyman, Commissioner of Boundaries, 3d J.C.

Volume B:170-173
The Ahupuaa of Makahanaloa, District of Hilo,
Island of Hawaii, 3rd J.C.

Continued from Folio 190, Book A.

Extract from the Journal, taken while on the upper boundaries of Humuula.

Hopuwai, Hilo, H.I.

November 30th, 1873

Started at daylight and went along the upper edge of forest passing **Nawaiheu** Gulch to **Kaloloa**; there left the trail to **Laumaia**, and went into the woods for some distance on the *Kualapa* boundary between Hakalau and Makahanaloa to opposite Puuwai, a hill on Hakalau; there left the boundary and went onto Makahanaloa crossing the Aama gulch, and camped on Makahanaloa some distance *makai* of **Puuwai**. Kahue says Puuwai is a long distance *makai* of the point he claims as the boundary between **Humuula, Hakalau and Makahanaloa**.

December 1st, 1873

Left camp and walked up to where we struck the ridge that runs into woods from *makai* of Kaloloa. We went onto ridge a good way *mauka* of Puuwai.

After a good deal of persuasion Kahue pointed out a hollow on the top of the ridge as Pohopaele. At this point the *Kualapa* is quite high and slopes off rapidly towards the shore. It is impossible for this point to be seen from Kaloloa as it is below the edge of the woods.

It took us twenty minutes to walk from this point to what is now the upper edge of the forest.

The upper portion of the forest is full of dry trees laying all over the ground. Kahue pointed out to us where the woods used to run, it was close to **Laumaia road**. We then proceeded to the **Palauolelo** gulch. [page 170]

Decision

Given at Hilo, this 19th day of May A.D. 1874

After carefully examining the testimony taken as to boundaries of Makahanaloa at hearings for settlement of boundaries of **Makahanaloa** in June A.D. 1873, and at the hearings for settlement of Boundaries of Humuula the following November, and from going onto the ground with Kahue, December 1st 1873, and waiting from that time for any new evidence, that might be offered in relation to the boundary between **Makahanaloa and Humuula**. There appears to be no dispute as to the boundaries of either side of Makahanaloa, until you come to the boundary of Humuula. There the question comes;

whether **Makahalanaloa** and **Hakalau** corner with **Humuula** at **Kaloloa** or at **Pohokaele**, in the woods?

We have it in evidence that the survey of Hakalau made in 1853 and Makahanaloa in 1852 were made to extend to the upper edge of the forest.

Waiki, a *kamaaina* of Humuula and the Hakalau *kamaaina* pointed the boundaries out to the surveyor at the *mauka* edge of the forest.

And it is admitted by most of the witnesses that Kamanu, and Kapoumoakea^K were bird catchers, and *kamaaina* of these lands, and that the boundary between this land and **Humuula** was surveyed as pointed out by them. And at that time the wild unbranded cattle on the mountain and in the forest, were all the property of the Hawaiian Government, and leased by one party, and the hope of getting a few wild cattle for their land, could not have been an inducement for these men to point out wrong boundaries. The bird catchers and old residents of this District, with one exception, state on their oath, that in olden times the birds caught in the forest were the property of the shore lands and were claimed by the owners of those lands if taken by Humuula people, [page 171] and those captured on the *mamani* were the property of Humuula people.

It is unfortunate that the boundaries were not settled, when these bird catchers were all living, as in olden times, the feathers were more thought of than the wild cattle are now; but in 1852 and 1853, when these surveys were made, there were a good many of them still living and if any of them had attempted at that time to make new boundaries, the others would have very quickly complained to their *konoiki* about it.

The boundary seems to have been quietly accepted until the survey of Humuula was made, when the boundary was pointed out by a Humuula man from the *mauka* edge of the woods, as being some where in the forest, and he states on his oath, that none of them went to the point he considered as the boundary between these two lands, and after going into the woods with this man, he points out with great reluctance **Pohopaele** as the boundary.

I am forced to the conclusion that this point cannot be seen from the upper edge of the woods, and that the survey cannot be correct.

The evidence on Makahanaloa is clear that the survey was made as pointed out by the *kamaaina*, commencing on the north side, at the mouth of Aliia gulch, and following up that gulch, to the edge of the woods, and thence cutting through the forest, cutting lines across the land, to points on the boundary of the land, as pointed out by the *kamaaina*, and so on through the woods to the Puna side of Kaloloa; thence to Palauolelo, the other corner of the land above the forest.

It appears that this survey of 1852 was correctly made, and that at that time Makahanaloa extended to the upper edge of the forest. It also appears that the forest, at that time, extended further up the mountain than now. [page 172]

Anyone going there can see that the upper edge of the forest is dieing off leaving these points further out on clear ground, so that what was the *mauka* edge of the forest in 1852, is now in clear ground.

I therefore decide the boundaries of Makahanaloa, to be as given in notes of survey filed by applicant, and will issue a Certificate of Boundaries accordingly, with costs.

R.A. Lyman, Commissioner of Boundaries, 3rd J.C.

Costs in full including Certificate paid May 27, 1879; 59.-

For Certificate of Boundaries see No. 36, Folios 18 & 19, Liber I

For Costs see Folio 19, Liber I.

Volume 1, No. 3:18-19

For Testimony see Folio 170, Book B.

No. 36

Land Boundary Commission, Hawaii 3rd J.C.

Certificate of the Boundaries of Makahanaloa,
District of Hilo, Island of Hawaii, 3rd J..

Upon the application of C.R. Bishop, and by virtue of the authority vested in me by law, as sole Commissioner of Land Boundaries for the Island of Hawaii, 3rd J.C., I hereby decide and certify the boundaries of the *Ahupuaa* of Makahanaloa, situated in the District of Hilo, Island of Hawaii to be as hereinafter set forth.

Given under my hand at Hilo, Hawaii,
this nineteenth day of May A.D. 1874

R.A. Lyman
Commissioner of Boundaries, 3rd J.C.

Boundaries of Makahanaloa & Pepekeo.

Beginning at the sea shore, on the Northern *makai* corner of the land, at the mouth of the Aliia gulch, and running *mauka* in the gulch along the boundary of Kahuwa South 67 3/4° West 6.31 chains; South 58 1/3° West 10.96 chains; South 68 3/4° West 13.50 chains; South 39 1/2° West 60.90 chains; South 60° West 23.24 chains to a point in the government road. Thence still along the gulch South 58 2/3° West 98.20 chains; Thence South 76° West 181.00 chains along to the South peak of hill (called Uku) in [page 18] the woods; Thence along Kaupakuea and Honomu South 75 3/4° West 512.40 chains to a water fall in the Kolikoli gulch; Thence along boundary of Hakalau South 67 3/4° West 362.00 chains to upper edge of forest to South side of Kaloloa near Kolikoli gulch; Thence along the road from Waimea to Laumaia South 4° West 58.40 chains to "**Kapuko kahawai**" at Palauolelo.

Thence toward the sea North 72 1/4° East 860.40 chains; North 60 3/4° East 60.10 chains to rock called Kukailimu in the Waiaama gulch; Thence down the gulch along boundary between Kawainui and Pepekeo North 78 3/4° East 156.80 chains to a place where the gulch turns to the South East; Thence along gulch South 26° East 8.09 chains; North 82° East 9.41 chains to a pile of rocks at the *mauka* corner of Kulaimano; Thence along boundary of Kulaimano North 56° East 9.39 chains to top of Hill, Puu o Kanoa; Thence across the middle of the hill North 39 1/2° East 6.76 chains; North 51 1/8° East 18.89 chains and North 59 3/4° East 10.74 chains to the "*auwai*" below the hill; North 82 1/2° East 17.60 chains; North 82 3/4° East 22.40 chains; North 71° East 16.80 chains to an *awaawa* at the Government road from Hilo to Hamakua; North 59 1/4° East 29.00 chains; North 75 1/2° East 5.74 chains; South 69° East 29.25 chains; North 56° East 7.46 chains; South 82 1/2° East 2.00 chains to the sea shore at the mouth of the Waimaauu gulch; Thence along the shore North 7 3/4° West 78.20 chains; North 1 3/4° West 18.20 chains; North 9° West 20.48 chains to the point of commencement.

Comprising an area of Seven thousand six hundred Acres, as surveyed by H.M. Lyman, A.D. 1852

Pepekeo is an *ili* of Makahanaloa, and included in the survey of Makahanaloa.

R.A. Lyman
Commissioner of Boundaries, 3rd J.C... [Volume 1, No. 3:19]

PIIHONUA AHUPUAA
Volume A No. 1:238-240
District of Hilo, Island of Hawaii
Boundary Commission, Hawaii

Honolulu, July 7, 1873
R.A. Lyman, Esquire, Hilo

Dear Sir

Mr. F.H. Harris is authorized by the commissioners of Crown lands to make application to you as commissioner of Boundaries to have the boundaries of all Crown lands on the Island of Hawaii defined. He has a list of the lands with him.

I have also authorized Mr. F.H. Harris to make application to you for the settlement of boundaries of all lands belonging to Estate of His late Majesty and Her Excellency, R. Keelikolani.

I expect to be in Kona by the trip of the "Kilauea" which leaves here on the 28th instant...

I remain, Yours respectfully
Jno. O. Dominis

Honorable R.A. Lyman, Boundary Commissioner for Island of Hawaii, Hawaiian Islands
The undersigned would herewith make application for the settlement of the boundaries of the following named *Ahupuaa* or lands belonging to the Crown, viz.:

Waiakea in the District of Hilo bounded by Keaau, Olaa, Kapapala, Humuula, Piihonua.
Piihonua in the District of Hilo, bounded by Punahoa, Waiakea, Humuula and Pueo, Paukaa & Alae and other lands names not known.
Ponahawai in the District of Hilo bounded by Punahoa, Kukuau & other small lands.
Hakalauike in the District of Hilo, adjoining lands unknown. [page 239]
Humuula in the District of Hilo bounded by Kapapala, various lands in Kona and Kohala and Hamakua, and Hakalau, Makahanaloa, Papaikou, Paukaa, Piihonua and Waiaka in the District of Hilo.

Your Honor will therefore please appoint a day for the hearing the evidence in the foregoing named lands and having decided upon the same to grant a certificate to that effect to the undersigned.

(Signed) Jno. O. Dominis
Crown Land Agent.
by F.H. Harris, atty. at law. [page 240]

**Piihonua Ahupuaa
District of Hilo, Island of Hawaii
Boundary Commission Volume B:20-27**

The Ahupuaa of Piihonua 1st, District of Hilo, Island of Hawaii, 3d J.C.

On this the 8th day of October A.D. 1873, the Commission of Boundaries for the Island of Hawaii, 3d J.C. met at the Court House, Hilo, for the hearing of the application of J.O. Dominis, Agent of Crown Lands, for the settlement of the boundaries of Piihonua Situated in the District of Hilo, Island of Hawaii. Notice personally served on owners or Agents of adjoining lands, as far as known.

Present: E.G. Hitchcock for applicant. Notice served by publication in the Hawaiian Gazette of _____ and Kuokoa of _____.

For Petition see Folio 238, Book A.

Testimony

Kamalo^K. Sworn. (same witness as on Ponahawai)

Ponahawai joins Piihonua at a place called Nahuina. Punahoa ends at Puuiki, and from there to Nahuina Ponahawai bounds Piihonua (Punahoa 2nd is owned and Patented by Mess. T. Cone, D.B. Lyman and C.H. Hitchcock)

Kaaumana joins Piihonua at Kawauwai where bird catchers used to live, said place was destroyed by the lava flow of 1855. Thence the boundary between these two lands runs *mauka* to Kalapalapanui; thence to Kalapalapaiki, on the lava flow; thence to Naumuapaakea, a small island in the lava flow covered by trees; thence to **Kilohana** an *ahu* in the center of the lava flow from which you can see to the shore; thence to **Piliwaleokahalu**, an *ahua* in the flow which is in sight of Kilohana; thence to Kapilinui, an island in the flow covered with trees, this is the *mauka* end of Kaaumana and where **Piihonua** and **Waiakea** join. (You come to Kapiliiki before you come to Kapilinui) Thence the boundary between Piihonua and Waiakea runs *mauka* to Halehaleakalani, an *ahua* on the lava flow where bird catchers [Volume B page 20] used to meet the ones who carried up the food; thence to **Mawae**, a small island in the lava flow covered with trees, this is where **Humuula** cuts off Piihonua and Waiakea. There is an old pile of stones there and when Wiltse surveyed for a road, Keakaokawai and myself built another pile close to it. The first pile was built previous to 1859. Thence the boundary runs along the land of Humuula turning towards the right to **Kaelekalua**, an old *kauhale*, where trees are growing. The boundary runs *makai* of the old *kauhale*, and the tall trees belong to Piihonua. Thence to **Kalaikahiliku** a grove of *koa* and *ohia* trees, the boundary runs along the edge of the woods. The tall trees being on Piihonua and the short ones on Humuula. Thence to **Nakalokiolaola** the boundary running on the *mauka* edge of the woods on the *makai* side of this place. Thence to **Kaelewa** a large pond of water and *kauhale* on Humuula. Thence along the edge of the woods to **Puuoo** a hill larger than Halai. The boundary runs about as far from said hill as from the Court House in Hilo to the sea shore; on the edge of the bush. Thence along the edge of the bush to **Waikēeiki**, and thence to **Waikēenui**, to small *kahawai* branches of the **Wailuku**; thence to **Aama** a cave where people used to sleep. This is in the Wailuku stream and belongs to Humuula. The boundary is in the edge of the woods *makai* of this place. Thence to **Laumaiaiki**, the boundary running to a *kahawai* *makai* of it; thence to **Laumaianui** a *kahawai*; all these *kahawai* are branches of the Wailuku. Thence along the edge of the woods to **Waipahoehoe**, a cave in the *kahawai*; thence to **Lai** a point of the woods, covered with *koa* and *ohia*, *makai* of **Ahuwela**, a hill at the foot of the mountain, which you can see from Waiakea. At this point the large trees have been marked and a stone buried by

Hitchcock bearing September 1873. **Kalapapainiu** is directly below Lai; thence to **Kapuakala**, *kahawai* at the junction of **Piihonua** and **Paukaa** on the boundary of Humuula; this place is at the *mauka* end of Honolii gulch, and is the true boundary between these two lands, [Volume B page 21] as told me by my *kupuna* Eleele, Manoawahua, Paliupu, Pumine and Makole. I went with them catching birds from the time I was small till I grew up. Their *kupuna* told them in olden times, these men are all dead.

It is a short distance from Kapuakala to Lai. From Kapuakala the boundary of Piihonua runs up to Kalapapainiu, following the gulch; the water in the gulch belongs to Paukaa. Thence to **Kapuulehu**, a hill on the edge of the gulch; thence to **Puuhaohailele**, *kauhale kaawili manu*; thence to **Kamokuloulu**, a *kauhale*, among the palm trees; thence to Kawala, the *mauka* corner of Alae; thence along the gulch across the head of Alae to the corner of Puueo. I know this gulch is on the boundary between Piihonua, Alae and Puueo. I do not know how wide Alae is at the *mauka* end nor do I know the points on the boundary till you come to Waihiloa, a waterfall on Awehe, but I know the gulch is the boundary between Puueo and Piihonua. Thence the boundary between these lands runs along the center of the gulch to the junction of the Waiele, with the Wailuku; thence along the Wailuku gulch to the shore. The sea water belonged to Wailuku but the tide water at the mouth of the gulch belonged to Piihonua; also the shallow water at the foot of the land, deep sea belongs to Waiakea.

CX'd.

Kahue in a conversation with me told me that the boundary of Piihonua and Humuula was at Nahuina, on the Wailuku river. This conversation took place just before our giving testimony on the boundaries of Makahanaloa.

He made offer to me (which I understood as endeavors to bribe me) to give evidence the same as his, whereby he and I could make money.

CX'd.

I used to go bird catching on Piihonua with Malo and others. Humuula people catching birds outside of the woods, and Piihonua people catching them, to the *mauka* edge of the woods. That was the boundary and my *kupuna* told me fights used to occur when the Humuula men went below the [Volume B page 22] edge of the woods, or if the Piihonua people went above them. From the time I was young to the present day, I have caught birds without hindrance from the Humuula people, within the boundaries I have defined.

Manuia^K. Sworn:

I was born at **Piihonua** during the time of Kamehameha I and have always lived there until a short time since. Know a part of the boundaries, was shown them by Kaumu (my Father), Puukia Mano and Awakua my *kahu hanai*, these men are all dead. They were bird catchers, and I used to go into the woods with them. I have been a bird catcher from my youth to the present time. Know junction of Ponahawai and Piihonua. The junction of Ponahawai and Piihonua is in the woods at a place called Puuiki, at the *mauka* corner of Punahoa 1st and Punahoa 2nd, thence the boundary runs to Nahuina, junction of the old roads. Know the place called Nahaleoelele, it is a hill *mauka* of Nahuina, on the boundary between Kaaumana and Piihonua. Ponohawai [Ponahawai] leaves Piihonua at Nahuina and Kaaumana joins it. From Nahaleoelele the boundary runs *mauka* to **Kawauwai**, on the lava flow of 1855, know where it is now. Thence to **Kapiliiki** and thence to **Kapilinui**, these places are Islands in the flow covered so thickly with trees and *uluhi* that it is impossible to go through them (thence their names). Thence to **Kalapalapaiki** and from thence to **Kalapalapanui**. My parents told me the land of Kaaumana runs very narrow about two chains wide to **Mawae**.

Kilohana is on Piihonua and the boundary is on the Puna side of it. **Naunuapaakea** is on **Piihonua** it is partly covered by the lava flow. **Mawae** is where **Waiakea** and **Piihonua** cut off **Kaaumana**, and the Mawae was covered up by the lava flow of 1855. I saw a pile of rocks there before the flow of 1852, said to have been put up by a foreigner who was engaged in surveying lands. This pile of stones was on the boundary between Piihonua and Waiakea. The boundary used to run up old road in a straight line from Kalapalapanui to Mawae; thence the boundary between Waiakea [Volume B page 23] and Piihonua runs to **Kaelekalua**, small *ohia* trees where we used to catch birds; thence to **Luaoanapapa** a cave where people used to sleep on the Hilo side of the lava flow; here **Humuula** cuts these other lands off. This is as my *makua* told me.

I have always been told that Humuula took the *mamani* and *pili* outside of the forest and *makai* to other lands.

This is as far as I learned the boundaries from my parents. I learned the mountain boundaries from Kamalo and Naa, when I was working for Mr. Castle (James Castle's father).

Thence along **Humuula** to **Aama**, thence to **Laumaia**, thence to **Waipahoehoe**, below **Aahuwela**; thence to **Kapuakala**, the *mauka* end of Honoli. The *mauka* boundary of **Piihonua** runs along the edge of the forest, the *pili* and *mamani* outside are on Humuula.

Thence follow down **Kapuakala** gulch. I have never been along there in woods. The boundary between Puueo and Piihonua follows up the Wailuku gulch from the sea shore to a branch gulch called Awehe; thence it runs up this gulch to the junction of Kawala with Awehe gulch, *mauka* of Waihiloa; thence along that gulch to Namahana; thence across land to Nahuina, the *mauka* corner of Alae and where the Puueo and Alae roads join close to Honolii gulch. Thence to Honolii gulch the boundary running towards Hamakua from Namahana and Honolii, and the land of Paukaa is on the Hamakua side of the gulch. I have been as far as this after birds but no further, have always heard that the boundary between Piihonua and Paukaa follows up Honoli gulch to Kapuakala. I think Kalapalapanui belongs to Piihonua. I never heard of a place called Lai.

I have always heard that all the water in the Wailuku belongs to Piihonua and that the water in Awehe belongs to both lands of Piihonua and Puueo, and the water in the Kawala gulch belongs to both lands, also.

Have heard that the water of Kapuakala belonged to Piihonua and Paukaa. Piihonua had fishing rights at the seashore from Puuau to Piilani.

CX'd.

I know a place called **Halehaleakalani**, it is near **Kapilinui** near the boundary, [Volume B page 24] **Kaaumana** and Piihonua run through it. **Kapiliwaleokahalu** is on the boundary between **Kaaumana** and Piihonua *mauka* of **Kilohana**. Kilohana is not on the boundary. Waiakea and Piihonua are not cut-off by the land of Humuula at Mawae. I am certain that I was told by my parents that these lands extended to Kaelekalua, and from thence to Luaoanapapapa at which place they were cut-off by Humuula. Know a place called **Kalaekahiliku**, *makai* of **Kauluhaku** on the lava flow of 1855, a rock point. It is on Waiakea and is *mauka* of a rocky point called Nakalakiolaola. **Kaelewa** is the name of a pond of water in the woods on Piihonua.

Kamalo^K knows the boundaries outside of the woods where he used to kill bullocks; and I know the boundaries where we used to catch birds. Kaaumana runs from Nahuina to Mawae, but the land is very narrow. Kukuau ends at Nahuina.

Kamoku*^K *Sworn.

I was born and have always lived on Puueo. I am a bird catcher, and have been bullock catching and know some of the boundaries of ***Piihonua***. I do not know the boundaries on the Waiakea side, only on the Hamakua side. The boundary at shore between Puueo and Piihonua is in the Wailuku river; thence the boundary runs *mauka* to the junction of Awehe gulch with Wailuku gulch; thence up said gulch to *mauka* of Waihiloa, and to the junction of Kawala and Awehe gulches; this is as far as I know the boundaries on this side. I have always heard that Piihonua extends through the woods, to the *pili* grass. And that the *mamani* and *pili* are on Humuula. This is all I know about the boundaries.

CX'd.

Piimoku*^K *Sworn.

I was born at Piihonua before the ***moku aa*** came into Hilo and have always lived on said land and Punahoa, know the boundaries of Piihonua as far *mauka* as where Puueo cuts Alae off. [Volume B page 25] Punahoa ends *mauka* of Puuiki. Know Waiakea and Piihonua join at Mawae, I do not know any points on the boundary below Mawae, on that side. Have always heard that the tall woods are on Piihonua, and the *mamani* and *pili* are on Humuula.

The boundary between Puueo and Piihonua is in the Wailuku river; thence up the gulch to the junction of Awehe gulch with the Wailuku; thence up said gulch to *mauka* of Waihiloa, to the junction of *Kahawai o kahakai o Kawala*; thence along this gulch to the Alae road; where Puueo cuts Alae off. I have heard that Paukaa and Piihonua join in the woods.

CX'd.

Hoikaikaelele*^K *Sworn.

I was born on Punahoa at the time of Ainoa, at the time Kaahumanu came to Hilo [ca. 1824], *olelo o ke Akua*; know the boundaries of Piihonua on the South East side and on the mountain. When I was young I went with Kamalo, bird catching and killing bullock. Punahoa 2nd bounds Piihonua from the shore to a place in the woods called Puuiki; thence Ponohawai [Ponahawai] bounds it to Kilohana. This information I got from Kamalo. I went on the mountain with Eleele, and he said ***Piihonua*** runs to ***Kaelekalua***, from ***Mawae*** along Waiakea; thence to ***Anapapapa***, at the edge of the *pili* where ***Humuula*** cuts Piihonua off and ***Waiakea*** off. Thence the line runs to ***Kaelewa***, thence to ***Puuoo***, said place being on Piihonua and the *mamani mauka* on Humuula; thence to ***Aama*** on ***Wailuku*** gulch; thence to ***Laumaia*** gulch (the place of that name is on Humuula). Thence along the *mauka* edge of the woods, to ***Waipahoehoe***, thence to ***Lai***, thence to ***Kapuakala***. ***Paukaa*** is on the Hamakua of this place at the *mauka* end of Honoli gulch. Eleele said that Paukaa was the other side of the gulch, that Lai is on Piihonua and *Aahuwela*, is *mauka* of it. ***Kapuakala*** is *mauka* end of Honolii gulch. [Volume B page 26]

Case continued till further notice to all interested parties.

R.A. Lyman
Commissioner of Boundaries

Case opened according to adjournment on this fifth day of September, A.D. 1874 at the office of E.G. Hitchcock. Hilo Island of Hawaii.

Present D. Kamai for Hawaiian Government; E.G. Hitchcock for Crown.

Kanaloa^K Sworn.

I was born at Alae after the time of Peleleu [ca. 1795], and have always lived there. My parents lived there. Know the boundaries between Alae and Piihonua. Alae joins Piihonua at Waihiloa on the Awehe gulch. Thence up this gulch to Waiakaulapaha gulch, that comes in from the North side. Thence up that gulch across the head of Alae to the corner of Kaiwiki and from thence straight to Honoli gulch, Piihonua cutting off Kaiwiki and Alae.

A place on Honoli gulch called **Waikē** is the *mauka* corner of Kaiwiki.

CX'd.

**Piihonua Ahupuaa
[Ahupuaa Parcel, Excluding Hilo Town Parcels]
Volume B:286-287
District of Hilo, Island of Hawaii
Boundary Commission**

The *Ahupuaa* of Piihonua, District of Hilo, Island of Hawaii, 3d J.C.

Decision

Continued from Folio 27, September 5, 1874...

...No. 2

Commencing at a rock marked P & + on the edge of Waikapu gulch; thence according to Notes of survey to D.H. Hitchcock's lot. Thence along said lot and the Catholic lot and Royal Patent No. _____ to D.B. Lyman's, to the *makai* corner of T. Coan's lot No. _____.

Thence along said Patent to *mauka* end; Thence across the head of Punahoa 1st to Kaaumana as given in evidence to a little below **Kilohana**. Thence along **Waiakea** to lower **Mawae**. Thence passing **Elekalua** to **Kahiliku** to a pile of stones on small hill or *ahua*. Thence *mauka* to a pile of stones on a small hill at the edge of the woods. Thence along the land of **Humuula** following the *mauka* edge of the woods to a large *koa* tree, marked + on the *makai* slope of **Puuoo**. Thence along the *mauka* edge of the woods to point known as **Lai** crossing the branches of **Wailuku**. From **Lai** along *mauka* edge of woods to the **Kapuakala** gulch; the first gulch on the Hamakua side of **Lai**, to the South corner of **Paukaa**.

Thence *makai* along Honoli gulch to *mauka* end of Kaiwiki (at Waikē a gulch running in from Puna side); Thence towards Puna to Waiakaulupala gulch 20.00 chains from its junction with Awehe gulch. Thence across the head of Alae and down the Awehe gulch to Waihilioa falls, on Awehe.

Thence *makai* along Awehe gulch the center of which is the boundary between this land and to junction of this gulch with Wailuku gulch at Waiele. Thence *makai* along Wailuku gulch to the *mauka* end of W.H. Reed's purchase on the Island, Thence along Puna side of said Island to place of commencement on Waikapu gulch.

See Certificate of Boundaries No. 53 for Notes of Survey, Folio 87, Liber I, or No. 3 [Volume B page 286]

Volume C No. 3:87-91
Piihonua Ahupuaa Portions
District of Hilo, Island of Hawaii
Boundary Commission, Hawaii
(For Testimony see Folio 20 Book B)

No. 53

Certificate of the Boundaries of portions of Piihonua, District of Hilo, Island of Hawaii, 3d J.C.

Upon the application of J.O. Dominis, Agent of Crown Lands and by virtue of the authority vested in me by law as sole Commissioner of land Boundaries for the Island of Hawaii, 3d Judicial Circuit, I hereby decide and certify the boundaries of portions of the *Ahupuaa* of Piihonua, situated in the District of Hilo, Island of Hawaii, to be as hereinafter set forth.

Given under my hand at Hilo, Hawaii, this Eighth day of September A.D. 1874

R.A. Lyman, Commissioner of Boundaries, 3d J.C. [Volume C No. 3 page 87]

...Second Piece [*Ahupuaa*]

Commencing at a rock marked P & + on the edge of the Waikapu gulch at the North end of Reed's stone wall near the lower end of this land and running along Waikapu gulch; North 33° 00' East 420 feet; Thence in accordance with survey of lease to W.H. Reed; South 40° 00' East 99 feet; North 48° 00' East 119 feet; South 3° 00' West 122 feet; South 44° 00' East 79 feet; South 36° 00' East 41 feet; North 72° 00' East 35 feet; South 27° 00' East 92 feet; South 62° 00' West 175 feet; South 54° 00' East 90 feet; South 86° 00' West 99 feet; South 55° 00' West 172 feet; South 40° 00' West 230 feet to a lilac tree on the edge of the street at the North West corner of Hitchcock's lot; Thence South 47° 41' West 600 feet along lot owned by Catholic Mission; Thence along Hilo Boarding School lot; South 47° 00' West 603 feet; South 34° 00' West 726 feet [Volume C No. 3 page 88]

South 37° 00' East 142 feet; Thence along D.B. Lyman's land; South 46° 45' west 1550 feet; South 67° 3' West 444 feet; South 59° 45' West 1906 feet; South 66° 30' West 1003 feet to *kukui* marked B; Thence South 86° 15' West 424 feet along T. Coan's land in accordance with Royal Patent No. 1949; North 87° 30' West 797 feet; South 87° 30' West 1372 feet to stone on Puna side of small stream; Thence South 73° 08' West 1278 feet to pile of stones just above *Kukui* grove; Thence South 82° 22' west 2059 feet to flat rock marked P ++; South 63° 00' West 3844 feet to pile of stones on elevation; Thence running up into the woods; South 70° 30' West 43556 feet to the North west corner of Said Royal Patent; Thence along the top of the Royal Patent; South 26° 42' East 7000 feet to Kaumana; Thence along **Kaumana** South 83° 27' West 5230 feet to a pile of stones on the lava flow of 1855; Thence along the land of **Waiakea**; South 78° 15' west 29740 feet to a pile of stones at lower **Mawae** near a small Island in the lava flow; Thence North 82° 82' West 14420 feet to a pile of stones on a small hill or *ahua* at place named **Kahiliku**, thence North 56° 00' West 3215 feet to a pile of stones on a little hill; Thence along the land of **Humuula** following the edge of the woods, which is the boundary; North 4° 38' West 13720 feet to a large *koa* tree standing on the hill known as **Puu Oo**; This tree is marked + and is 1650 feet from a pile of stones on the summit of the hill. Thence North 38° 20' East 24220 feet along edge of the woods to a pile of stones at **Lae** [Volume C No. 3 page 89] Thence North 35° 00' East 1650 feet to a pile of stones in a little hollow, a branch of the Honoli at the North West corner of this land, and 2300 feet South of the main **Nukupahu** or **Puakala** gulch. Thence down this gulch into the Honoli and along the land of Paukaa; to which the water in the gulch belongs; North 80° 50' East 53020 feet to a place in the Honoli gulch called Waike, at the head of the Government

Land of Kaiwiki; Thence South 15° 00' East 2200 feet to the head of Alae in Wailepua gulch; Thence South 31° 30' East 1320 feet along Alae to the Awehi gulch; Thence along this gulch, the center of which is the boundary; South 75° 00' East 2244 feet; South 85° 00' East 2574 feet to Waihiloa falls; Thence along the land of Puueo; South 78° 30' East 12750 feet to Papakolea, the Amaulu Plantation water head; Thence South 45° 30' East 8550 feet to Kalelekawai Falls at the lower edge of the woods; Thence still following the Awehi gulch; North 65° 31' East 1765 feet; South 76° 05' East 2305 feet; South 72° 57' East 673 feet to gingers; South 58° 10' East 688 feet to gingers at the junction of the Awehi and Wailuku; Thence South 89° 00' East 2360 feet to pile of stones at the Chinaman's gardens; Thence North 73° 50' East 1692 feet to pile of stones and gingers on the top of Lonokaehu bluff near rainbow falls; Thence North 73° 15' East 2346 feet to P and + cut in a rock; North 67° 05' East 1189 feet along Waikapu gulch to pile of stones; Thence along said gulch North 12° 48' East 420 feet [Volume C No. 3 page 90] to pile of stones; North 57° 44' East 1522 feet to the point of commencement. Containing an Area of 57,280 Acres. As surveyed by J.M. Lydgate... [Volume C No. 3:91]

THE HILO AND MAUNA KEA FOREST RESERVES: RANGE LANDS WITHDRAWN FROM GRAZING USES

As noted in preceding sections of the study, by the early 1800s, concerns regarding the retreat of forest lands before the increasing populations of livestock were being voiced. On Hawai'i, lands around Mauna Kea and the Kohala Mountains were of particular concern. Though leases on Crown and Government lands included provisions for fencing and protection of forests, the destruction continued. So significant was the threat of wild animals to the Hawaiian landscape, that on September 19, 1876, King David Kalākaua signed into law an "*Act for the Protection and Preservation of Woods and Forests.*" By that Act, the Minister of the Interior was authorized to set apart and protect from "damage by trespass of animals or otherwise, such woods and forest lands, the property of government...best suited for the protection of water resources..." (Hawaii Laws Chapter XXX:39). The Minister of the Interior was authorized to appoint a superintendent of woods and forests:

...who shall, under the direction of said Minister, enforce such rules and regulations as may be established to protect and preserve such reserved woods and forest lands from trespass. Said superintendent shall have charge of the construction of fences and barriers required to protect the said woods and forest lands, and shall be responsible for their being kept in good condition... (ibid.).

The above Act was further defined by an Act of the Legislature of the Hawaiian Kingdom, approved by Queen Lili'uokalani on January 4, 1893, which established the Bureau of Agriculture and Forestry. Among the Bureau's goals was the "preservation of forests" (Hawaii State Archives – Com 2, Box 11). In 1893, J. Marsden, Commissioner of Forestry, wrote to J.A. King, President of the Bureau of Forestry and Agriculture, regarding the deforestation of Ka'ohe and the larger Hāmākua-Waimea lands:

...Within the past (20) twenty years, the land of the Hamakua District extending from Ookala to Waipio gulch, along the sea coast, and inland as far back as Waimea were covered with a dense forest impassible except by trails out through the brush and undergrowth. While in this condition the district had an abundant rainfall, some of the roads being known for their perpetual muddy condition. Within the same period of twenty years, the lands adjoining the sea coast have been gradually cleared for cane, and Agricultural purposes without seriously affecting the rainfall. Also during this same period of time the Ranching industry in the neighborhood of Waimea has been largely increased. The cattle in grazing around Waimea, and in the adjoining mountains have gradually caused the destruction of the underbrush and finally the large trees throughout that section of the District.

The areas of land affected was at first small, but year by year it has steadily increased until now there are probably 100,000 acres entirely cleared, except for an occasional dead stump still standing. As the above area has increased so the rainfall has diminished, so that now there are two causes, lack of moisture, and the damaging effects of the cattle, for the rapid denudation of all the Forest land in this District... The ranching industry extensively carried on between the Hamakua and Kohala Districts, is also seriously threatened from the reduced feed and water supplies... [HSA – Interior Department Box 2 Agriculture & Forestry; May 29, 1893]

On June 14, 1900, the members and functions of the Bureau were absorbed by the Board of Commissioners of Agriculture and Forestry (Hawaii State Archives – Com 2, Box 11). The Board set about the task of establishing forest reserves on all the islands. In 1904, the Board of Agriculture and Forestry proposed development of the Hilo Forest Reserve, which was needed to "protect the headwaters of the streams, which play so important a part in the success of the various plantations"

(Wm. Hall 1904:277). On August 9, 1904, the Commissioners approved the recommendation that “all government and other lands in the district of Hilo, Island of Hawaii, lying above a line approximately 1750 feet above the sea, be set apart as a forestry reservation” (Hall 1904:282). The lands extended from Laupāhoehoe to Pi‘ihonua.

Leasehold interests in the Government land of Ka‘ohe, which in 1891 had been divided into several parcels, and included the entire summit region of Mauna Kea, were modified during this time. The lands generally above the 7,500 to 9,500 foot elevation were removed from the leases. Parker Ranch, Kukaiau Ranch and the Humu‘ula Sheep Station Company had also been required to fence their boundaries between pasture lands and mountain lands. This was done in part, to keep ranch herds separate from the remaining wild herds on the mountain. Among the interesting features associated with fencing and boundaries on the mountain lands are the stone walls north of ‘Ōma‘okoili and ‘Ōma‘okanihae Hills and the Humu‘ula Sheep Station Company, and those walls and fences along the Waiākea-Pi‘ihonua-Humu‘ula boundaries. As documented in Haneberg’s journals, the walls were constructed primarily by Japanese laborers between 1891 to 1892. The Pu‘u Huluhulu section walls were under construction by October 5, 1891, and the boundary between Ka‘ohe and Humu‘ula was being laid out on June 29, 1892 (Haneberg Journals, 1891:122 – 1892:201).

By 1909, the summit of Mauna Kea had been removed from the leases, and Territorial Governor, W.F. Frear, approved the boundaries for the proposed Mauna Kea Forest Reserve. The following communications describe the thoughts behind the Hilo and Mauna Kea Forest Reserves, and some of the early actions on lands adjoining them (Register Map No. 2682, depicts the Hilo Forest Reserve Lands; HTS Plat No. 613, depicts the Mauna Kea Forest Reserve Boundaries and Fence Line).

In 1904, the Board of Commissioners of Agriculture and Forestry, met on several occasions to discuss proposals to establish the Hilo Forest Reserve. The proposed reserve would extend from Kaūmana-Pi‘ihonua (the 1881 lava flow) to Humu‘ula, taking in the important forests and watershed lands. In 1904, the *Hawaiian Forester and Agriculturalist* (HFA) reported that the Board of Commissioners had formalized its’ proposal, and identified considerations for establishment of the reserve; the reports also deliberated on the lower boundary line of the reserve:

Proposal and Description of Lands in the Hilo Forest Reserve

At the meeting of the Board of Agriculture and Forestry held on August 17, 1904, the following reports and recommendations were made public:

REPORT OF THE COMMITTEE ON FORESTRY.

Honolulu, August 16, 1904.

To The Board of Agriculture and Forestry.

Gentlemen: Your Committee on Forestry have had under consideration the subject of a permanent forestry reserve line in [page 275] the Hilo district, and also the petition of certain persons for homesteading certain Government land in Honomu, Hilo, Hawaii, now in forest.

The members of the committee are personally familiar with the general conditions existing in the Hilo district and the Superintendent of Forestry has visited and examined the localities in question, in detail, and presented to the committee full reports and recommendations.

These reports accompany this report, and we recommend their adoption.

In brief, the report of the Superintendent of Forestry is in favor of establishing a forest reserve line at approximately the 1750 foot level above the sea, varying to meet local conditions, as set forth in detail in his report. All above this line to be made a forestry reserve under the law of 1903. The upper boundary to be fixed later.

As to the **Honomu** homestead proposition, your committee is in doubt as to whether the establishment of homesteads in this locality is economically practicable or not. The land is over three miles from the government road. The only road to it is a dirt one constructed by the Honomu plantation. In the normal rainy weather of Hilo, teaming is impracticable over such roads, and packing on animals is difficult and expensive. A macadamized road only is of use. This is costly to construct, and by reason of the steep grades, costly to keep in repair.

The available road funds have heretofore been scarcely sufficient to keep the one main road through the district in repair. It is questionable whether under existing financial conditions a macadamized road can be built or kept in repair, if built. A further consideration is, that the Hilo district is cut at such frequent intervals by ravines of such extreme depth that is impracticable to build an upper road above the plantations and parallel to the coast, as has been done in Kona.

A separate road must be built *mauka* on every ridge, or approximately every half mile or so. By reason of this fact the area opened by each road would be comparatively small—so small as not to warrant the cost of the road.

There are questions which, to some extent, lap over into the consideration which this Board must give every proposition to take forest land for homestead purposes. The main points upon which the committee bases its approval of the homesteading of [page 276] this land are: First, that the land itself is fair arable land, and, second, that deforestation under the restrictions recommended by the Superintendent, will not radically injure the purposes for which the forest reserve is sought to be established. The Board is not the responsible authority to decide upon the economical availability of the land for homesteads, or concerning roads to get to them. That rests with the Land Department and the Legislature. The sole scope of this report is therefore, that so far as this Board is concerned, it does not object to utilization of the land in question for homestead purposes.

Respectfully submitted,

L.A. THURSTON,
A.W. CARTER,
W.M. GIFFARD.

REPORT OF THE SUPERINTENDENT OF FORESTRY.

Honolulu, T.H., August 9, 1904.

The Committee on Forestry, Board of Agriculture and Forestry.

Gentlemen:

I have the honor to submit herewith a report with recommendations on the proposed forest reserve, in the Hilo district, on the Island of Hawaii.

This report deals with the lower line of the proposed reserve and is the result of a visit to the district, covering the period from July 6th to July 23rd, 1904. During this time I, personally, went over the ground, following as closely as possible the lower edge of the existing forest, from the Laupahoehoe gulch to the 1881 lava flow, back of Hilo town. The examination was made in company with the managers of the several sugar plantations along the way; each manager accompanying me over his own land. Other gentlemen, also, were interviewed and much information in regard to local conditions, throughout the district, was obtained.

OBJECT OF HILO RESERVE

The reserve in the Hilo district is needed primarily to protect the headwaters of the streams, which play so important a part in the success of the various plantations. From Laupahoehoe to Hilo are many running streams, which thanks to the heavy and nearly continuous rainfall in the forests above, may be regarded as permanent, although of course subject to fluctuation. On these streams the plantations depend for water with which to flume their cane to the mill. Their importance is consequently [page 277] very great and the necessity of safeguarding them is apparent.

From its location and topography, the Hilo district is fortunately situated to receive an ample supply of water. The trade winds bring the moisture-laden clouds and pile them up against the slope of **Mauna Kea**, in a great bank, from which the precipitation is heavy and very nearly continuous. This cloud stratum covers a belt, extending from an elevation of approximately 2000 feet to one of about 6000 feet; these limits, of course, varying on different days and with the slight changes in the direction of the trade winds. The lower edge probably fluctuates more than the upper, as the cloud mass frequently creeps down the slope, causing heavy precipitation as far as the sea. But the greater part of the moisture from the clouds is dropped higher up—somewhere between the elevations of 2500 and 4000 feet.

The precipitation is heaviest at the eastern end of the district and gradually diminishes to the westward, until in the Hamakua district, permanently running streams are no longer found. The Hilo-Hamakua boundary is in this way a natural as well as an artificial line. The reason for this change of conditions is that beyond the northern end of the Hilo district, the bulk of Mauna Kea no longer stands in the path of the trade winds, which accordingly go over the shoulder of the mountain carrying their clouds to the lands beyond.

From quite another cause the 1881 lava flow marks the limit of flowing streams to the eastward, for beyond this point toward Puna, the porous character of the rock and soil allows all the water to sink immediately into the ground, to appear again only near the coast.

At the western end of the Hilo district, the land rises much more abruptly from the sea than at the eastern—the same elevation being reached about four miles back of Laupahoehoe, which, back of Hilo, lies ten miles from the shore.

Whatever may be the influence of the forest on precipitation elsewhere in the islands, the question in the Hilo district is solely one of the conservation and utilization of the water, which reaches the ground. There is naturally great fluctuation in the size of the streams, and during times of drought, the beds of many of them are almost, if not entirely, dry. The presence of the forest tends to regulate and maintain the flow, and to make available for later use, the water which would quickly run away from denuded slopes. [page 278]

While the heaviest precipitation, as has been said, occurs somewhere above the 2000 foot contour line, the beneficial effect of the forest extends much lower down the slope. But after a time, other factors come into the case, making it necessary to establish a limit above which the land should remain in forest and below which it may be cleared for the various industries, without detriment to the general welfare of all concerned.

In deciding upon the location of the lines of a permanent forest reserve it is necessary to consider future as well as present needs. A number of considerations have thus to be taken into account, among which are the benefits to be derived and the uses to which the land would be put if cleared. The former have already been discussed. Of the latter, in the Hilo district there are practically only two; the further extension of the cane fields and the opening of tracts for settlement.

At present, with the exception of what is raised on the homestead clearings, cane is the only crop grown systematically at the higher elevations. The upper line of the cane fields varies with each plantation. At the western end of the district, owing to the steeper grade, the cane runs up to about 1800 feet. On the plantations in the center of the district the highest cane ranges from 1300 to 1600 feet. While back of Hilo on the more gently sloping lands of ***Kaumana and Piihonua*** it runs up to 1800 and 2000 feet. The following table compiled from aneroid measurements, checked in part by known elevations, gives approximately the highest points on each plantation in the district. These points are, as well, the lower edge of the existing forest.

EVALUATIONS OF THE HIGHEST CANE FIELDS, HILO DISTRICT, HAWAII.

| <u>Plantation Name</u> | <u>Approximate Elevation Feet</u> |
|------------------------|-----------------------------------|
| Laupahoehoe | 1800 |
| Hakalau | 1500 |
| Honomu | 1400 |
| Pepeekeo | 1600 |
| Onomea | 1500 |
| Hilo Sugar Co— | |
| Fee lands | 1500 |
| Homestead lands | 1800 |
| Hawaiian Mill Company | 2000 [page 279] |

The elevation at which the highest cane now stands practically marks in each case the limit of profitable cultivation under present prices and conditions. Some of the managers expressed the opinion that with a higher price for sugar it would pay to go farther up, while others felt that the full limit had, for them, already been reached. Most of the managers, however, wanted a strip left above their present fields, on their fee lands, so that if later it were found advisable to extend the cane further *mauka*, there would be room to do so. Seventeen hundred and fifty feet was considered by all of them as being sufficiently high, and this elevation was agreed to by practically all as the best line for the permanent forest boundary.

The other main factor in the case is the demand for land for settlement and homestead purposes which will inevitably follow the development of the Island of Hawaii, through the building of the projected Kohala-Hilo Railroad and the improvement of Hilo harbor—both of which must eventually come. Indeed, because of its location and natural advantages, there are already applicants for all the land now available in the Hilo district.

As a basis on which to work in determining the location of the line, the report to Ex-Governor Dole, made by Mr. George Ross, consulting forester for the North Hilo district, was used. In this report, which embodied the consensus [sic] of opinion of the managers of the various plantations in the district, it is recommended that the lower boundary of the reserve be drawn approximately on the seventeen hundred and fifty foot contour line. In this recommendation I am ready, on the whole, to concur, because I believe that a line so drawn would sufficiently protect the forest and safeguard the water supply of the district, while at the same time making available all the land which it can reasonably be expected will be utilized within a considerable period of years.

RESERVE LINE RECOMMENDED.

In the absence of a good topographic map, it is difficult to discuss the location of this line except in a general way. For this reason the seventeen hundred and fifty foot contour has

been adopted, although the line as actually laid out will vary more or less from it. At either end of the district, owing to the fact that the land has already been cleared, or partitioned off into homestead tracts, it will be necessary to go somewhat higher. When the time comes for running the line out on the ground it [page 280] should be drawn between prominent points—such as hills, junctions of ridges or ravines, pronounced angles in streams, etc.—and such points should be permanently marked.

Based upon the topographic data now in hand, I therefore recommend as the lower boundary of the proposed forest reserve in the Hilo district, the following line. Starting at the **Laupahoehoe** homestead tract, and following the upper boundary of the same to its eastern *mauka* corner, thence across to, and along the upper boundary of the **Maulua** homestead tract, thence to the top of the **Kamaee** tract, thence across the lands of **Hakalau** and **Kaiwiki** to the upper line of the proposed **Honomu** homestead tracts, as recommended in my report upon that land; thence through the *mauka* corners of the lands of **Kawainui** and **Puumoi** to the upper corner of the land of **Kikala**, on the boundary of the Kaiwiki homesteads; thence from the eastern boundary of this tract, at about the same elevation, the line should cross to the **Awehi** stream, above the cane fields of the Hilo Sugar Company; and thence across the land of **Piihonua**, around the top of the existing cane, to the 1881 lava flow.

Such a line would, I believe, meet the requirements of future growth and be above practically all the land best suited for agriculture.

Above seventeen hundred feet the land rises more steeply than at lower elevations and the soil is thinner. This fact combined with the greater rainfall and the consequently greater erosion makes these upper lands less desirable for agriculture. Furthermore, as many of the gulches split up at this elevation into ravines and gullies, the fields in themselves are smaller and less easily managed.

It is an axiom on Hawaii that success in the matter of homesteads is very largely a question of transportation. In a wet district like Hilo it is next to impossible to get the crop grown on the land to market without roads—unless like cane, it can be flumed. This is not the place to discuss the road question, nor whether homestead roads should be built by the government or by the settlers themselves. It is enough to say that even under the most favorable conditions, it will be a long time before there will be money enough to build roads to the higher elevations in the Hilo district, or before such roads can be considered as a paying investment. [page 281]

The foregoing observations apply, of course, only to the Government lands, but on the privately owned lands the line chosen has the advantage of allowing the plantations the leeway which many of them desire for possible future growth.

It is not the intention of this report to convey the idea that the land up to the proposed line should at once be cleared. On the contrary, the forest because of its beneficial influence, should be allowed to remain intact as long as possible, but if the time does come when the land is more needed for other purposes than for forest, it is believed that the forest below the line may then be cleared without detriment to the best interests of all concerned.

If these recommendations be approved by the Board I recommend that the Governor be requested to set aside, as soon as practicable, all the government lands lying above the proposed line and extending up to an upper line, the location of which is to be determined in the near future.

I further recommend that the owners of private lands within this reserve be encouraged to turn them over to the Government under the terms of Act 44...

Ralph S. Hosmer,
Superintendent of Forestry.

HILO FOREST RESERVE.

The following resolution was adopted by the Commissioners of the Board of Agriculture and Forestry:

Resolved, That the Board of Agriculture and Forestry approves and recommends that all government and other lands in the district of Hilo, Island of Hawaii, lying above a line approximately 1750 feet above the sea, be set apart as a forestry reservation, subject to such change in detail of said location as is recommended by the Superintendent of Forestry in his report upon this subject, dated August 9, 1904, and on file in the records of the Board;

Resolved, That the Superintendent of Forestry be, and he hereby is instructed and directed to secure as speedily as practicable a detailed description and map of the said boundary line of said forest reservation; in order that the same may be referred to the Governor for his approval in accordance with the terms of section 6 or Act 44 of the Session Laws of 1903... [HFA, 1904:282]

In October 1904, R. Hosmer, Superintendent of Forestry reported back to the Commissioners on the recommendations for the upper boundary of the Hilo Forest Reserve. As a part of the research, field visits through Humu'ula, Pi'ihonua and other affected lands, and interviews with individuals knowledgeable about the landscape were conducted. Hosmers' report described the main plants of the forest, and lay of the land:

October 14th, 1904.

Committee on Forestry

...I have the honor to submit herewith a report, with recommendations, on the upper boundary of the proposed forest reserve in the Hilo District, Island of Hawaii.

During the last week of August I made a careful examination of the upper edge of the forest from the 1881 lava flow to the Hamakua boundary, going over the ground in person and supplementing the information so gained by interviews with various persons familiar with the locality, and the conditions existing therein.

In this connection I would acknowledge my obligation to the managers of the several plantations in the Hilo District, to Mr. A.B. Lobenstein of Hilo, and especially to Mr. W.H. Shipman, for information in regard to this question and for other assistance given me.

The general reasons which underlie the establishment of the Hilo Forest Reserve have already been discussed in my report on the lower boundary. In brief they are, that this reserve is needed to protect the water sheds of the streams throughout the district, on which the plantations, and to some extent the other industries, present and prospective, along the coast, depend for their most satisfactory development. This protection can be best afforded by the setting apart of the belt of forest along the slope of Mauna Kea, which receives the heavy rainfall, and in which the streams head. The object of the reserve is to prevent [page 313] excessive run-off, equalize the flow in the streams and protect the slopes against erosion.

It was pointed out in my former report that the trade winds bring in a bank of moisture-laden clouds, which pile up against the side of Mauna Kea between the elevations of approximately 2000 and 6000 feet. From the evidence available it appears that the

precipitation is heaviest between the elevations of 3000 and 4500 feet, and that from the latter point up to an elevation of about 6500 feet there are only light rains and scattering showers. Higher than this on the slope and in the saddle between Mauna Loa and Mauna Kea, the trade winds die out, much as they do in Kau, just beyond the Volcano House. The point is somewhere between **Puu Oo and Kalaieha**—the latter place seldom having rain from trade wind clouds, while conversely, during the times of Kona winds, the rains that fall at Kalaieha do not reach Puu Oo.

On the main slope of **Mauna Kea**, above approximately the 6500 foot level, the rains are said to come principally with northerly winds. The storms are usually short ones, but precipitation is very heavy while it lasts, rapidly filling the ordinarily dry stream beds so that the fords become impassable. When the rain is over, however, the streams fall just as quickly, the water rushing down the mountain and swelling the volume of the permanent streams below. When more rainfall and stream-flow records come to be kept it will be interesting to see how much and for how long the lower parts of the streams are influenced by these sudden down pours far up on the mountain.

Under existing conditions little can be done to regulate the flow of the torrents resulting from the storms just described. The open *Mamane* (*Sophora chrysophylla*) forest now growing on the steep, upper slopes, has no appreciable effect on the run-off, while the establishment of a cover of vegetation sufficiently dense to make any material difference in the discharge of the streams is practically out of the question. The chief interest in water conservation thus centers in the lower forest.

The upper line of permanent running water in the streams seems to be near the upper edge of the belt of heavy precipitation, although the dense forest above must exercise a considerable influence in absorbing the light rains and helping to feed the springs from which the upper brooks come.

The dense forest now extends up to an elevation of a little [page 314] over 6000 feet. *Koa* (*Acacia koa*) and *Ohia Lehua* (*Metrosideros polymorpha*) are the predominating trees. With them are associated *Koolea* (*Myrsine lessertiana*), *Pilo* (*Coprosma cymosa*), *Olapa* (*Cheirodendron gaudichaudii*), *Naio* (*Myoporum sandwicense*), and some other trees of minor importance, and the dense mass of ferns, bracken, and other undergrowth characteristic of the Hawaiian forest.

Between the upper edge of the dense forest and the boundary of the land of **Humuula** there is, on the lands from **Piihonua to Honohina**, a strip of land on which the forest has been wholly or in part destroyed, through fire, grazing, and insect injuries. While most of this damage has occurred in recent years, it is probable that the dense forest never extended much above the boundary of Humuula. At this point the *Koa* and *Ohia* are replaced by *Mamane*, which, forming an open stand, extends practically to the upper boundary of Humuula, and all along the slope of Mauna Kea.

Beyond Honohina the dense forest of *Ohia* and *Koa* comes up to the Humuula line. From here on to the Hamakua boundary, the proportion of *Koa* is larger and the forest is of greater potential commercial value.

The lands within the limits of the proposed Hilo Forest Reserve, which extend through the forest, are from south to north as follows: **Piihonua, Paukaa, Papaikou, Makahanaloa, Hakalau, Honohina, Piha, Maulua, Laupahoehoe, Waipunalei, and a part of Humuula**. Of these lands Piihonua, Piha, Humuula and Laupahoehoe are owned by the Government and are, with the exception of the last named, under lease for various terms.

A portion of Laupahoehoe is under lease also, but a large part of the land bearing this name on the official maps is included in the tract known as Papaaloo Forest, which is still in the hands of the Government. The remaining lands in the list are owned in fee by plantations or individuals.

The upper part of Piihonua is sublet to Mr. W.H. Shipman, the boundary being a line run across the land from the center of Reed's Island, in the 1855 lava flow. Mr. Shipman has just completed a fence across **Piihonua** somewhat over a mile *mauka* * [page 315] of his lower boundary. Hereafter all of his cattle will be kept above this line. The fence starts on the rough *aa* of the 1855 flow above **Halealoha**, runs north to the trail, then eastward to the opening in the woods about north of Halealoha, and thence in a fairly straight line across Piihonua to a point on the **Paukaa** boundary, two miles from the Humuula line. There are one or two jogs in the fence line which may later be eliminated, but this straightening would not materially alter the direction of the line.

Through an arrangement with Brewer & Co., Mr. Shipman has continued the fence across the lands of **Paukaa, Papaikou and Makahanaloo**, at a slightly higher elevation than that across Piihonua. The fence corners on these lands are one and one-half, instead of two miles *makai* of the Humuula boundary. The average elevation of the fence across these lands is little over 6000 feet. Its location is practically at the upper edge of the dense forest.

Below the line of the fence is a considerable band of wild cattle, which has been estimated to consist of over 500 head. Formerly these cattle ranged all the way from Laupahoehoe to the 1855 flow, but constant hunting at the northern end of the district has now driven the greater part towards **Piihonua**. By the terms of his agreement with Brewer & Co., Mr. Shipman leases the land, builds and keeps in repair the fence, and agrees to exterminate the wild cattle in the forest below. This work is now going on with systematic driving and shooting, which will be continued as long as there are any wild cattle left.

If a similar arrangement could be made with Irwin and Company, Mr. Shipman would be glad to continue the fence across the lands of Hakalau and Honohina.

There exist division fences between Humuula and the lower lying lands as far north as Hakalau. Beyond this the lands are unfenced and are open to cattle or sheep from above. As a matter of fact the sheep are not allowed to get far into the forest, because of the difficulty in herding them in the underbrush. Wild pigs abound in the forest. No estimate can be made of their number.

The fence erected by Mr. Shipman meets so many of the requirements of the upper boundary of the proposed Hilo Forest Reserve, that it seems to me wise to adopt it, from the 1855 flow to the land of Hakalau, and the line desired. From there on, I recommend that the boundary follow the edge of the forest across Hakalau and Honohina. (This coincides with the location de- [page 316] sired by Mr. Shipman for the extension of his fence.) From the corner of Honohina, Piha and Humuula, the reserve line should follow the lower boundary of Humuula, as far as the north *mauka* corner of Waipunalei, thence across Humuula to a point on the Hilo-Hamakua boundary, to be determined later in connection with the Hamakua reserve.

My reasons for recommending this line are as follows: A belt of at least two miles of forest above the upper limit of the heavy rain belt and the head of the permanently running streams is thus reserved.

* The convenient Hawaiian terms *mauka*, signifying "inland," hence "toward the mountain," and *makai*, "toward the sea," represent the two leading directions throughout the Territory, and are in general use among all classes.

The line is far enough *mauka* to include practically all of the area subject to the showers and light rains occurring above the belt of heavy precipitation.

The reservation as recommended will, I believe, insure the objects for which it is made. While the forest could undoubtedly be extended further *mauka*, I think the land above the proposed line can be used for other purposes than forest, without detriment to the best interests of the reserve.

By adopting the line recommended, the question of fencing a considerable portion of the boundary is obviated. As the objects of the plantations in their agreement with Mr. Shipman are identical with those of the reserve, in so far as they relate to fencing and to the extermination of wild cattle, they can well be taken advantage of, by co-operating with the parties to the agreement.

There remains one more point to be considered; the southern boundary of the reserve. This seems to be naturally fixed by the lava flows of 1855 and 1881, beyond which to the south and east, the whole character of the country changes. But it is urged by some that there is agricultural land on Piihonua between the 1855 flow and the Wailuku river, which under certain conditions, could be opened to settlement without detriment to the reserve. This is a question for future study. At present the section is unexplored. No trails penetrate the forest and its outer edge only is accessible.

Should the projected road from Hilo, known as the "One County Road," be built, the area in question would be brought into touch with markets. If it were then found that land suitable for agriculture existed, and that it could be opened for settlement without endangering the sources of the *Wailuku*, I should be in favor of so doing. But until there is a more definite prospect [page 317] of the road being built, I believe the land is better in a forest reserve. I therefore recommend that the southern boundary of the Hilo Forest Reserve be the lava flow of 1855.

If the recommendations in this report are approved by the Board, I suggest that the Governor be requested to set aside, as soon as practicable, all the Government land not now under lease within the limits of the Hilo Forest Reserve. I further suggest that the Board make known its willingness to consider propositions looking to the turning over to the Government, under the terms of Act 44 of the Session of 1903, of privately owned lands within this reserve... [HFA, 1904:313-318]

The Board of Commissioners subsequently met, to further discuss the boundaries and elevational range of the forest lands, being considered as a part of the Hilo Forest Reserve. A.B. Loebenstein was authorized to survey the boundaries of the reserve. The Board focused on the upper boundary of the reserve, with discussion as to whether or not Humu'ula—lands leased as a part of the Sheep Station Company—should be included in the reserve. Excerpts from the minutes of the meeting on November 23rd, 1904, provide the following documentation:

November 23, 1904

Discussion on the Upper Boundary of the Hilo Forest Reserve:

...Mr. Brown moved that Mr. Loebenstein place the lower line of the proposed Hilo Forest Reserve on the map, and furnish as close a description of such line as can, at the present time, be given. Motion seconded by Mr. Carter and carried...

...Mr. Hosmer said that there was one more point to be considered in regard to the Hilo Forest Reserve; that of getting a description made of the upper line. He said that Mr. Loebenstein had been requested to make a map and prepare a description of this line, and that he now has the matter under consideration. This map would be much smaller than that of the lower boundary.

Mr. Loebenstein suggested that the **Kalaieha** section be included in the map. He said that this could be put in from data now on file in his office and that it would be as well to include it.

Mr. Thurston asked if **Kalaieha** was included in the reserve, to which the Superintendent of Forestry replied that the reserve does not touch Kalaieha. The upper line (pointing to the map) and Kalaieha are several miles apart.

Mr. Thurston asked if **Piihonua** runs over as far as **Kalaieha**, to which Mr. Brown replied that it does, adjoining the land of **Waiakea**.

Mr. Loebenstein stated that Waiakea was on the Mauna Loa side.

Mr. Loebenstein said that he would like to give the Board a map which would be complete in every detail.

Mr. Thurston asked the name of the forest that is below and near **Kalaieha**, to which Mr. Hosmer replied that it is the upper extension of the **Waiakea** forest.

Mr. Loebenstein stated that he did not know just how far up the forest extended, but would like to have the map show some of the Mauna Kea slope. He suggested an elevation of about 8000 feet, as the vegetation extends up to about that point.

Mr. Hosmer said that this line would take in practically all of the existing in forest, as the **Mamani** does not go much above the upper Humuula boundary. The upper Humuula boundary above **Papaikou** and **Hakalau** (Pointing to the Government map) is about 9500 feet. The contour lines are approximately correct.

Mr. Hosmer said that there is a section above the present **Mamani** forest which he thought might profitably be planted with spruces and pines, between the elevations of 8000 and 10,000 feet. This area is practically all on the land of **Kaohe**. Most of the land hereabout is good grazing land.

Mr. Hosmer said that he thought that the only government land which is not now under lease within the limits of the proposed reserve, is the upper section of **Laupahoehoe**. The names are somewhat uncertain but on the list of leases which Mr. Pratt has made up this section is known as **Papaaloa** Forest. This is the only land which the Board can ask the Governor to set aside. Asked if he was referring to the lower line, replied to both lines. Mr. Thurston said that the Governor could set aside other than government lands by the consent of the owners.

Mr. Hosmer said that the upper line was concerned in the Papaaloa Forest.

Mr. Loebenstein was asked when he could furnish a map and description of the upper line, to which he replied that he could not have it ready before the beginning of January.

Mr. Hosmer asked Mr. Loebenstein if he could furnish a general description of the upper line, to be followed later by an exact description, to which Mr. Loebenstein replied that a general description could be given.

Mr. Thurston stated that the two propositions could be acted upon entirely independently, one of the other.

Mr. Carter asked how reserves were going to be set apart, before the boundary lines were determined upon.

Mr. Brown also said that the reserves could not be set aside until an upper line is made. Then all the land located within the reserve can be set apart.

Mr. Loebenstein said that there are very few government lands remaining unleased.

Mr. Giffard said that private owners could not make any propositions until the boundaries are fixed, he also said he did not think this matter could be placed before the Governor until both of the boundaries could be given him.

Mr. Carter said that the Board could not deal with private owners until a line had been fixed.

Mr. Hosmer said that the boundary on the north side is the Hamakua District line and on the south side the 1855 lava flow.

Mr. Brown asked if it was the intention of the Board to make the land of **Humuula** a forest reserve, to which Mr. Hosmer replied in the negative.

Mr. Holloway asked what the objections were of following the lower line of Humuula to which Mr. Hosmer replied that there is a strip of land here which could be used for grazing without detriment to the forest below. There is a sufficient extent of forest reserve below to safe guard all the streams. The upper land is good for grazing. Further north the dense forest comes up much closer to the Humuula line, and there is also a great deal of Koa timber which the Government should reserve, and later utilize.

Mr. Thurston stated that it seemed that the Board was not in a position to make recommendation to the Governor until the upper line was fixed, and shown on the map. He asked Mr. Loebenstein how long it would take to make such a map and prepare a description.

Mr. Loebenstein replied that he would prefer to return to Hilo and prepare a map and description in his own office. By so doing he could furnish information that would stand any reasonable test. He thought that he could give this to the Board about the end of the year.

The president then called for any other forestry matters which were to be presented...
[HSA, Com 2-8, Minutes]

Land and Resources of Ka'ohē IV and Mauna Kea Described (1905)

Further deliberations by the Board of Commissioners pertaining to the mountain lands of Mauna Kea and Mauna Loa occurred. In 1905, the Hawaiian Forester and Agriculturalist published the proceedings of meetings conducted in late 1904. The deliberations set the foundation for the removal of the upper regions of Mauna Kea—the lands of Ka'ohē and Humu'ula—from leases to ranchers:

New Points in The Forest Policy of the Territory.

The adoption by the Board of Commissioners of Agriculture and Forestry of the following four reports establishes certain points in its forest policy. As the action taken on the recommendations of the Superintendent of Forestry in these reports will probably serve as precedents in other cases where the conditions are similar and as the points involved are of general interest, the reports are given in full.

The report on the land of **Kaohē 4, Hamakua**, Hawaii, brings out the position of the Board on the question of the disposition of the so-called "waste land" above the area of good grazing country on the higher mountains in the Territory. The Board believes that land of this character should not be included with the better land as has been the custom

in the past, but that it should be retained by the Government against such time as it may be utilized for some now unforeseen industry, or until it can be planted with forest trees from the temperate zone... [HFA, 1905:124]

During the meeting of December 3rd, 1904, R.S. Hosmer presented a detailed report on the Ka'ohe IV Tract, covering Pōhakuloa and vicinity. The communication was considered as a part of the Hilo Forest Reserve proceedings, though not included, though later, in 1909, a portion of the parcel was incorporated into the Mauna Kea Forest Reserve. The communication includes several important references to the nature and uses of the land, the make up of the forest, and development of the springs (though not named) at Houpo Kāne (Hopukani) and Waihū. Hosmer wrote:

...I beg to hand you herewith a written statement of my opinion in regard to that portion of the land of **Kaohe**, Hawaii, which come under discussion at the meeting of the Board on Wednesday last.

What is said below refers only to that part of the great land of Kaohe, known as Kaohe 4, which lies on the southwest side of **Mauna Kea**, above the lava flows of 1843 and of **Keamuku**, and between the lands of **Humuula**, on the east, and **Waikalua** and **Kaohe 3** on the west. The remainder of Kaohe will be reported upon later.

The section in question is now used by the Humuula Sheep Station as grazing land for stock other than sheep. The eastern part is fenced in and used as a horse paddock. The lease on the land runs out in about two years.

Applications have been received for the lease of the land above described, up to a *mauka* line drawn at about the 7500 foot contour, as shown on the government map of Hawaii; or to be more exact, between the bases of puus (Unnamed on the map) near the intersections of the 7500 foot contour line, as shown, with respectively, the **Humuula** line and a straight line drawn from the base of **Puu ka Pele** to the summit of **Mauna Kea** – the latter being the boundary between **Kaohe 3 and 4**.

The land in question is essentially grazing land. It is said by those who know the section, to be much better adapted for cattle and horses than for sheep. Springs on the slope above yield a [page 125] rather limited supply of water which is piped down to troughs near the road. With the lease of the grazing land goes the right to further develop this water.

Over a considerable part of the land, especially on that *mauka* of the road, there is a fairly dense growth of **Mamani** (*Sophr a chrysophylla*). Making a practically pure stand, which extends up the mountain to above the point when the good grasses are no longer found.

On the trip around Mauna Kea, made last winter in company with Governor Carter, I crossed *Koa*. During the summer I again had an opportunity to see something of the tract from hills on adjoining lands, so that while I have not gone over the area in detail, I have a good general idea of the conditions thereon.

In common with a belt on the eastern slope of Mauna Kea, above the level of the *Koa* and *Ohia* forest, this part of Kaohe is primarily valuable for grazing. Although there is a considerable stand of **Mamani** on Kaohe 4, this in itself does not make it necessary that the land be set apart as a forest reserve. On the contrary, on this particular land, the value of the **Mamani** lies, to my mind, chiefly in the fact that it increases the worth of the land for grazing.

My reasons for this are:

(1) The main use of the *Mamani* forest at this elevation, on the leeward side of Mauna Kea, is from its being a source of posts and fuel and because it affords protection for stock, on a dry and exposed range. This value is sufficiently great to cause any intelligent stockman to take a lively interest in perpetuating the forest.

(2) The porous nature of this soil on this slope of Mauna Kea makes running streams out of the question. There is, therefore, no call for a protected forest.

(3) Unless land on which the *Mamani* grows is subjected to heavy over-stocking with cattle, the trees appear not to be affected, nor is the reproduction seriously interfered with. With sheep the damage is greater. On the land in question the limited water supply practically insures against over-stocking. If therefore, only cattle and horses are grazed there is little to fear for the *Mamani*. And, as has been stated above, the land is said not to be suited for sheep grazing.

The possible influence on precipitation of the *Mamani* [page 126] forest on this land may, I think, be neglected, especially as the existing cover is not likely to be much altered.

Higher up on the slope of **Mauna Kea**, above the existing forest and far above any good grazing land is a region which is now of no real value to any one, but which I believe could some time be profitably planted with pines, spruces, firs, or other temperate zone timber trees. Before such work is undertaken many experiments as to kinds of trees and as to methods, must be tried, so that it will be some time before any extensive planting could be done. But this high lying land both on Mauna Kea and on Mauna Loa should, I think, be held out from all new leases, as waste land. And if, in later years, it is found that it can be made to grow forests, it should then be so used. To exclude land of this sort will work no hardship on any one now and in may, later, be of distinct advantage to the government.

In keeping with the general forest policy of the administration and in view of the possible future use of the upper slopes for forest, I advise that a fencing clause be inserted in the lease of Kaohe 4, providing that a fence be built and maintained across the *mauka* portion of the area leased. I further suggest that it be stipulated that this fence be completed within five years from the date of the lease. As the lessee would in any event probably fence on or below his *mauka* boundary, such a clause could not be considered a hardship.

In view of the above, I recommend that the Committee report favorably to the Board on the question of leasing for grazing the part of Kaohe 4 desired, with the suggestion that a fencing clause be included... [HFA 1905:127]

Proclamation of the Hilo Forest Reserve (1905)

On July 24th, 1905, Acting Governor A.L. Atkinson issued the proclamation establishing the Hilo Forest Reserve. The description of the lands and notes of survey are given below:

THE HILO FOREST RESERVE.

It is with a feeling of no small satisfaction that we are able this month to chronicle the creation of the Hilo Forest Reserve on the Island of Hawaii.

Based upon reports and recommendations made by the Superintendent of Forestry and approved by the Committee on Forestry,* the Board of Commissioners of Agriculture and Forestry, at a meeting held on June 30, 1905, unanimously adopted the following resolution:

* These reports appeared in the October and November (1904) issues of the Forester, Vol. 1, pp. 275 to 282 and 313 to 318.

“RESOLVED, that the Forest Reserve in the Hilo District, lying between the 1881 Lava Flow, back of Hilo Town, and the Hamakua District line, in the Hilo District, Island of Hawaii, as recommended by the Committee on Forestry, based upon the reports of the Superintendent of Forestry, dated August 9th, 1904, October 14th, 1904, and June 28th, 1905, and on maps and a description of the boundary prepared by Mr. A.B. Loebenstein and by the Survey Office, now on file in the office of this Board, a copy of which description is hereto attached and forms a part of this resolution, be approved.

RESOLVED, that the Board recommends to the Governor that the Government lands within the boundaries of the Proposed Forest Reserve, be set apart by him after the hearing required by Law. [page 181]

RESOLVED FURTHER, that the Board recommends to the Governor, that all the land within the said described boundaries be set apart as a Forest Reserve, subject to all private rights and titles, and that all owners of private lands lying within said boundaries be requested to co-operate with the Board of Agriculture and Forestry in reserving all of said lands for forestry purposes, in accordance with the terms of Chapter 28 of the Revised Laws of Hawaii.”

On July 19, Acting Governor Atkinson and the Board of Commissioners of Agriculture and Forestry held the Public Hearing required by Law. No opposition to the Reserve developing, Acting Governor Atkinson declared the Hilo Forest Reserve to be created, and on July 24th, signed the formal proclamation, describing the boundaries and setting apart the unleased Government lands lying within them. The total area of the Reserve is 110,000 acres, more or less; the Government lands actually set apart 12,771 acres, more or less. The proclamation issued by Acting Governor Atkinson will appear in the August issue of the Forester.

It may perhaps be well to explain the relation of the lands set apart to the remainder of the area embraced within the limits of the Reserve. By officially recognizing the larger area the Governor and the Board of Agriculture and Forestry go on record as to the section which they believe it is to the advantage of the Territory to devote to forest purposes. The Government then shows its good faith by setting apart the unleased Government lands lying within the limits of the Reserve and requests private owners to follow its example and co-operate under the Law to carry out the plan and secure the objects for which the Reserve is made.

In the case of the Hilo Forest Reserve, from one-third to one-half of the land within the boundaries is owned by private individuals or corporations. The remainder is Government land, for the most part leased. The Government sets aside at this time the two Government lands not now under lease, viz: the mauka portion of **Honomu**, 926 acres, more or less, and the section above **Laupahoehoe**, known as the Papaaloo Forest, 11,845 acres, more or less. As the leases on other Government lands run out the Board of Agriculture and Forestry will recommend that the portions within the Reserve be also set apart. [page 182]

Except as the owners of private land or the lessees of Government land co-operate with the Board of Agriculture and Forestry as provided by Law, the Government can exercise no authority over the other lands within the Reserve boundary.

But, as the Reserve is established primarily to maintain favorable conditions of watershed protection on which the plantations and the other large owners so much depend, it is clearly in the interest of these corporations to co-operate with the Government by setting apart the lands belonging to them until all of the area within the boundaries of the Reserve is devoted to the purposes of forestry.

As an example of the interest of the private owners within its boundaries in the creation of the Hilo Forest Reserve, the action of the Bishop Estate is significant. At the Public Hearing Mr. F.S. Dodge, Superintendent of the Bishop Estate, stated that the Estate was heartily in favor of the Reserve and proposed to co-operate with the Government in making it effective. The Estate has for some years maintained certain of its lands in the Hilo District as Forest Reserve, both within and extending *makai* of the boundaries adopted. It is expected that other large interests will follow the lead of the Bishop Estate. [page 183]

BY AUTHORITY.

PROCLAMATION OF FOREST RESERVE, HILO DISTRICT, ISLAND OF HAWAII.

Under and by virtue of the authority vested in me by the provisions of Chapter 28 of the Revised Laws of the Territory of Hawaii, enacted April 25, 1903, and amended by Act 65 of the Session Laws of the Legislature of 1905, and of every other power me hereunto enabling, I, A.L. C. ATKINSON, Acting Governor of the Territory of Hawaii, having duly given the notice and held the hearing as in said Acts provided, do hereby approve as a Forest Reserve the lands lying between the 1881 Lava Flow back of Hilo Town and the Hilo-Hamakua District line, and between a line drawn approximately parallel to the coast (having an elevation of about 1750 ft. at the South end and an elevation of about 2000 ft. at the North end) and a line approximately along the top of the woods, in the District of Hilo, Island of Hawaii, Territory of Hawaii, more particularly described as follows, viz:

LOWER LINE.

“Beginning at a point on the extreme lower end of the Laumaia Branch of the Lava Flow of 1881, this point being on the boundary line between the lands of Punahoa 1st and 2nd. Its co-ordinates referred to the Halai Survey Reference Station, being 8669 feet South, 24,934 feet West, the boundary runs by the true meridian:

1. N. one degree 41 minutes E. 4555 ft. crossing the various subdivisions of the land of **Punahoa** and to a point on the boundary line of Punahoa and with the land of **Piihonua** (Government), the co-ordinates of the said point referred to the Halai Survey Reference Station, being 4432 ft. South, 24,809 ft. West; thence crossing the land of Piihonua;

2. N. 21 degrees 32 minutes E. 4247 ft. to junction of the **Hookelekele Stream** with a branch from the North, the co-ordinates referred to the Halai Survey Reference Station, being 480 ft. South, 23,250 ft. W.; thence following up the middle of said branch which forms the present South boundary of the Hawaii Mill Company’s Plantation to the South-west angle of the same, the direct bearing and distance to said point being

3. N. 62 degrees 9 minutes W. 6165 ft., the co-ordinates referred to the Halai Survey Reference Station, being 2400 ft. North, 28,700 ft. West, thence across the lands of **Piihonua and Waiau** (Government)

4. N. 27 degrees 47 minutes E. 8538 ft. to a point in the **Awehi Stream**, the co-ordinates referred to the Halai Survey Reference Station, being 9950 ft. North, 24,720 ft. West, thence down the middle of the **Awehi**, also called the **Waiau Stream**, to the junction of same with the **Alae Stream**, the direct bearing and distance being

5. S. 59 degrees 08 minutes E. 5964 ft., the co-ordinates referred to the Halai Survey Reference Station, being 6890 ft. North, 19,600 ft. West, thence across the lands of Pueo [**Pueo**] (Hilo Sugar Co.), **Kalalau and Alae** (Estate B. Pauahi Bishop). [page 245]

6. N. 4 degrees 36 minutes E. 6545 ft. to the Southwest angle of **Kawaiki** Homestead, Lot No. 40, at the junction of the **Maili and Pahoa Streams**, the co-ordinates

referred to the Halai Survey Reference Station, being 13,405 ft. North, 19,075 ft. West, thence following up the middle of the Maili Stream and gulley forming the South boundary of the Kaiwiki Homestead Tract, the direct bearing and distance being

7. N. 81 degree 10 minutes W. 18,130 ft. to the Southwest angle of Kaiwiki Homestead, Lot No. 73, the co-ordinates referred to the Halai Survey Reference Station, being 16,189 ft. West, thence along West boundary of Kaiwiki Homestead, Lot No. 73

8. N. 5 degrees 58 minutes W. 2168 ft. to Northwest angle of Kaiwiki Homestead, lot No. 73, at a point on the South *Pali* of the **Honolii Stream** called **Waikēe** the co-ordinates referred to the Halai Survey Reference Station, being 18,345 ft. North, 37,226 ft. West, thence along North line of Kaiwiki Homestead Tract to the Northeast angle of Kaiwiki Homestead Lot No. 51, the direct bearing and distance being

9. S. 34 degrees 10 minutes E 15,166 ft. to said Northeast angle the co-ordinates being referred to the Halai Survey Reference Station being 16,768 ft. North, 22,125 ft. West, thence across the land of **Kikala** (Estate B.P. Bishop).

10. N. 18 degrees 58 minutes E. 986 ft. to junction of the **Honolii** and the **Pohakupaa** Streams, thence across the land of **Paukaa** (Onomea Sugar Company)

11. N. 1 degree 10 minutes 30 seconds 3145 ft. to a point on the boundary line between **Paukaa** and **Pahoehoe** (Estate B.P. Bishop), thence across the land of Pahoehoe

12. N 1 degree 10 minutes 30 seconds 3605 ft. to a point in the middle of the Pahoehoe stream the co-ordinates referred to the Halai Survey Reference Station being 24,460 ft. North, 21,671 ft. West, thence to and across the land of **Papaikou** (Onomea Sugar Co).

13. N. 2 degrees 29 minutes E. 6615 ft. to a point in the **Alakahi Stream** marking the West angle of the land of **Puumoi** (Onomea Sugar Co), this point being distant 1964 ft., bearing South 86 degrees 43 minutes E (True) from an x cut in the rock at the Waiemi Falls, the co-ordinates referred to the **Kauku** Survey Reference Station being 11,271 ft. North, 1080 ft. West, thence across the lands of Alakahi, **Mokuoneki** and **Kahalii** (Onomea Sugar Co.)

14. North 4491 ft. to a point on the boundary of **Kahalii** and **Onomea** (Onomea Sugar Co.) the co-ordinates referred to the Kauku Survey Reference Station being 6780 ft. South, 1085 ft. West, thence across the land of Onomea.

15. N. 14 degrees 23 minutes W. 3251 ft. to head of the land of **Kawainui** (Government) the co-ordinates referred to the Kauku Survey Reference Station, 3632 ft. South, 1893 ft. West, thence across the land of **Makahanaloa** (Pepeekeo Sugar Co.) to and along the upper limits of the **Honomu** Homestead Lots as shown on Government Survey Registered Map No. 2296 to the South *Pali* of **Kolekole Stream** and up said *Pali* to a point, the co-ordinates of which referred to the Kauku Trig. Station [page 246] are 5250 ft. North and 5000 ft. West, the direct bearing and distance between the initial and final points, being N. 19 degrees 17 minutes W. 9409 ft, thence across the lands of **Kaiwiki** and **Hakalauiki** (Government), **Hakalaunui** (Hakalau Sugar Co.) **Kamaee** (Government), **Umauma** (Estate B.P. Bishop), **Opea** (Government), **Honohina** (Liliuokalani) and **Nanue** (Hakalau Sugar Co.)

16. N. 22 degrees 14 minutes W. 22,361 ft. to the South angle of the **Kahuku** Homestead Lot No. 16 the co-ordinates referred to the Puuohai Survey Reference

Station being 13,710 ft. South, 1884 ft. West, thence across the land of **Piha** (Government)

17. N. 58 degrees 19 minutes W. 1519 ft to a point in the **Waikaumalu Stream** the co-ordinates referred to the Puuohai Survey Reference Station being 12,912 ft. South, 3177 ft. West, thence up the Waikaumalu Stream which forms the East boundary of the **Maulua** Gehr Settlement Association Tract to the Southeast angle of Lot No. 67 of said Tract, the direct bearing and distance being

18. S. 67 degrees 58 minutes W. 10,260 ft. to aforesaid point, the co-ordinates referred to the Puuohai Survey Reference Station being 16,761 ft. South, 12,687 ft. West, thence along top of Gehr Settlement Association Lots No. 67, 68, 69 and 70

19. N. 34 degrees 55 minutes W. 2233 ft to Southwest angle of Lot No. 70 the co-ordinates referred to the Puuohai Survey Reference Station being 14,931 ft. South, 13,965 ft. West, thence along the boundary of **Mauluanui** (Mrs. Robertson)

20. N. 37 degrees 37 minutes E. 5852 ft. to a natural divide or fork in the **Pohakupuka Stream** called **Kepaniwai** the co-ordinates referred to the Puuohai Survey Reference Station being 10,306 ft. South, 10,403 ft. West, thence along the boundary of Maulua and Gehr Settlement Association Lots.

21. N. 2 degrees 20 minutes W. 3062 ft. to a point in the Makaliiloa Stream 150 ft. above the **Hauwanawana Falls**, the co-ordinates referred to the Puuohai Survey Reference Station being 6347 ft. South, 10,564 ft. West, thence across **Maulua**

22. N. 29 degrees 14 minutes W. 4632 ft. to a point on boundary of **Mauluanui** and **Weloka** (Government), this point being distant 700 ft. and bearing South 39 degrees 16 minutes West (True) from an **Ohia** tree marked

ΔL

at edge of old water ditch, the co-ordinates referred to the Puuohai Survey Reference Station being 2306 ft. South, 12,826 ft. West, thence across the lands of **Weloka**, **Keaalau**, and **Kapehu** (Government)

23. N. 64 degrees 35 minutes W. 3371 ft. to Southeast angle of **Laupahoehoe** Homestead, Lot No. 39, the co-ordinates referred to the Papalooa Survey Reference Station being 10,155 ft. South, 2480 ft. West, thence along South line of Laupahoehoe Homestead Tract [page 247]

24. N. 61 degrees 25 minutes W. 11,631 ft. to Southwest angle of Laupahoehoe Homestead, Lot No. 7, the co-ordinates referred to the Papalooa Survey Reference Station being 4413 ft. South, 13,019 ft. West, thence across the lands of **Puualaea**, **Kiilau** and **Laupahoehoe 1st and 2nd** (Government)

25. N. 58 degrees 00 minutes W. 5097 ft. to a point on the boundary of **Waipunalei** (S. Parker), the co-ordinates referred to the Papalooa Survey Reference Station, being 1712 ft. South, 17,335 ft. West, thence across the land of Waipunalei.

26. N. 86 degrees 16 minutes W. 1997 ft. to the Southeast angle of Section 13 **Kahooahuna**, the co-ordinates referred to the Papalooa Survey Reference Station being 1582 ft. South, 19,331 ft. West, thence across top of Section 13 Kahooahuna to point in middle of Mauiana gulch on boundary of Humuula

27. N. 46 degrees 24 minutes W. 1786 ft. to the Southwest angle of Section 13, thence down middle of the **Mauiana gulch** and boundary of **Humuula** (Government)

28. N. 27 degrees 25 minutes E. 2986 ft. to a point in the Mauiana gulch, the co-ordinates referred to the Humuula Survey Reference Station, being 8777 ft. South, 2470 ft. West, thence across the lands of **Humuula and Ookala**.

29. N. 61 degrees 35 minutes W. 4661 ft. to a pool at foot of Falls in the **Kaula gulch** called **Paeooppu**, said point forming the Southwest angle of the land of Ookala and on the boundary between the Hilo and the Hamakua Districts, the co-ordinates referred to the Humuula Survey Reference Station being 6559 ft. South, 6507 ft. West, thence up along said boundary between the Hilo and Hamakua Districts to an X cut in the rock ledge near the middle of the Kaula gulch at the old **Keanakolu-Waimea trail** crossing, the said gulch at this point being the boundary of the Hilo and Hamakua Districts, the co-ordinates of the said point being North 13,204.9 ft., East 3,301.4 ft., referred to the "Puukalepa" Terr. Survey Station.

UPPER LINE.

30. Beginning again at the initial point the boundary runs in a general westerly direction up and along the northern edge of the various lava flows to the point described in Bd. Cert. No. 53, **Piihonua**, as **Mawae**, the mark being a large monument of stones erected on the top of bank of the main **Aa** lava channel of the 1855 Lava Flow, situated a little above the bend of the trail over the lava, where it leaves the **Pahoehoe** crossing the **Aa** channel, and about 700 ft. South of the entrance of the trail into the **Halealoha** opening the co-ordinates being South 40,908 ft., East 6350.0 ft. referred to the "Aahuwela" Survey Reference Station, thence by true azimuths.

31. 195 degrees 42 minutes 40,366 across the land of **Piihonua** (Territory of Hawaii) to a point on the South boundary line of **Paukaa** (Onomea Sugar Co.), the co-ordinates being South 2040 ft., East 17,273.2 ft. referred to the "Aahuwela" Survey Reference Station. [page 248]

32. 215 degrees 55 minutes 30 seconds 3436.7 ft. across the land of **Paukaa**, to a point of the South boundary of **Papaikou** (Onomea Sugar Co.), the co-ordinates being North 742.2 ft., East 19,289.7 ft. referred to the "Aahuwela" Terr. Survey Station.

33. 178 degrees 03 minutes 43 seconds 4791.0 ft. across the land of Papaikou to a point on the South boundary of **Makahanaloa** (Onomea Sugar Co), the co-ordinates being North 5983.3 ft., East, 19,135.0 ft. referred to the "Aahuwela" Terr. Survey Station.

34. 168 degrees 01 minutes 55 seconds 4783 ft. across the land of Makahanaloa to a point on the South boundary of **Hakalaunui** (Hakalau Sugar Co.), the co-ordinates being 250.7 ft. South, 7278.2 ft. East referred to the "**Kaloaloa**" Terr, Survey Station;

35. 179 degrees 26 minutes 56 seconds 9294.0 ft. across the land of Hakalau to a point on the South boundary of **Honohina** (Liliuokalani), the co-ordinates being North 9032.3 ft., East 7188.8 ft. referred to the "Kaloaloa" Terr. Survey Station;

36. 114 degrees 09 minutes 02 second 8695.7 ft. across the land of Honohina to Northwest angle of same, a **Koa** tree blazed **H** (old mark) re-marked

L
Δ

standing on the north bank of the Nahui [**Nauhi**] gully, about 50 ft. East or *makai* of the **Hopuwai-Keanakolu trail** where it leaves the gully, the co-ordinates being North 12,590.4 ft., West 745.5 ft., referred to the “Kaloaloa” Terr. Survey Station;

37. 183 degrees 19 minutes 4580 ft. along West or *mauka* line of **Piha** (Territory of Hawaii) bordering **Humuula** (Territory of Hawaii) to Northwest angle of Piha, at a point on the Hopuwai-Keanakolu trail where it leaves the brush and enters an open flat covered with black sand, in the middle of which has been erected a large mound of stones, called Kahuwai, the co-ordinates of the aforesaid Northwest angle of Piha being South 7867.3 ft., East 10,415.5 ft. referred to the “Puukalepa” Terr. Survey Station;

38. 109 degrees 23 minutes 6208 ft. along West or *mauka* line of **Mauluanui** (Mrs. Sara Robertson) bordering the land of **Humuula** to Northwest angle of Maulua Nui at a Koa tree

L
Δ

surrounded by a mound of stones, a little East of the **Hopuwai-Keanakolu trail**, and at bend of the same into the **Kaiaki gully**, the co-ordinates [page 249] being South 1765.3 ft., East 9271.5 ft. referred to the “Puukalepa” Terr. Survey Station.

39. 172 degrees 02 minutes 12 seconds 4125 ft. along West or *mauka* boundary of **Laupahoehoe** (Territory of Hawaii) bordering the land of **Humuula**, to the Northwest angle of **Laupahoehoe** at the crossing of the **Hopuwai-Keanakolu trail**, over the **“Keahuaai”** or **“Douglas Pits”** gully, the co-ordinates being North 2320.0 ft., East 3700.0 ft. referred to the “Puukalepa” Terr. Survey Station.

40. 229 degrees 55 minutes 4638 ft. along the North boundary of Laupahoehoe bordering Humuula to a mound of stones by a Koa tree marked “Poloka” at West brink or edge of a pool of water called **“Kalaukahoi”** this forming the Southwest angle of the land of **Waipunalei** (Samuel Parker), the co-ordinates being North 5306.4 ft., East 12,248.6 ft., referred to the “Puu Kalepa” Terr. Survey Station.

41. 163 degrees 03 minutes 03 seconds 4502.0 ft. along West or *mauka* line of **Waipunalei** bordering **Humuula** to Northwest angle of Waipunalei at a point in the middle between three Koa trees marked **H**, **X** and **W** respectively, re-marked,

L
Δ

distant 1241 ft., bearing 282 degrees 00 minutes from the post set as a Survey Reference Station on the top of the **Lahohinu Puu**, the co-ordinates being North 9613.4 ft., East 10,936.0 ft. referred to the “Puu Kalepa” Terr. Survey Station;

42. 142 degrees 57 minutes 45 seconds 4374.0 ft. across the land of **Humuula** to an **X** cut in the rock ledge near the middle of the **Kaula gulch** at the old **“Keanakolu-Waimea” trail crossing**, the said gulch at this point, being the boundary of the Hilo and Hamakua Districts, the co-ordinates of the said point being North 13,204.9 ft., East 3301.4 ft. referred to the “Puu Kalepa” Terr. Survey Station.

Total area 110,000 acres, more or less.”

And I do hereby set apart as a Forest Reserve those portions of the Government lands known as the *Ahupuaa* of **Honomu** and **Papaalooa** Forest section (embracing the Government lands between Maulua and Waipunalei), lying within the said metes and bounds... [HFA, 1905:250]

Leasehold Interests Modified on the Lands of Ka'oho and Mauna Kea (1906-1908)

The Commissioners again visited the discussion on the lands of Ka'oho, in the Hāmākua District, including the summit region of Mauna Kea, thus, the lands lying along the *mauka* boundary of Humu'ula, in 1906 and 1907. The following reports describing the lands, their usage, and resources was published in the Hawaiian Forester and Agriculturalist for 1907:

GOVERNMENT WASTE LAND.

At a meeting of the Board of Agriculture and Forestry, held on December 21, 1906, there was passed a resolution, based on reports submitted by the Superintendent for Forestry and by the Committee on Forestry, that further defines the policy of the Board in regard to the disposition of waste land belonging to the Territorial Government.

Another report on the land of Kaohe, similar in tenor and purport to those given below, was approved by the Board in December, 1904, and appeared in this magazine in the issue of May, 1905, Vol. II, pp. 124-127.

Following are the resolution and reports first mentioned:

RESOLUTION IN REGARD TO THE LAND OF KAOHE, HAMAKUA, HAWAII.

(Adopted by the Board of Agriculture and Forestry on December 21, 1906.)

Resolved, that the Board of Commissioners of Agriculture and Forestry approves the recommendation of the Committee on Forestry in regard to the retention by the Government from sale or lease of the *mauka* part of the land of Kaohe, District of Hamakua, Island of Hawaii, contained in a report dated Nov. 1st, 1906, based on a report of the Superintendent of Forestry dated Oct. 13th, 1906.

Resolved, that the Board recommends to the Governor that the portion of **Kaohe** lying above a line roughly described as beginning on the boundary between **Kaohe 4 and 5** at the end of the *mauka* fence required to be built across **Kaohe 4** by a lease sold to Mr. A.M. Brown in December, 1904, and running in a general northwesterly direction, *mauka* of **Puu Ahumoa to Puu Laau**, thence northeasterly along the *mauka* boundary of **Paauhau to Puu Kemole**, thence *mauka* of **Puu Kaluamakani** to a point on the division line between **Kaohe 3** and **Kaohe 5**, thence along said division line to the northwest end of the existing fence across **Kaohe 5**, built by the Kukaiau Plantation Company, thence in a general southeasterly direction across **Kaohe 5**, following said fence, to the **Humuula** boundary, thence following said Humuula boundary to the south and west around **Mauna Kea** to the southeast line of **Kaohe 4**, thence across **Kaohe 4**, following the above described fence to the point of beginning, and also the portion of the land of Kaohe that lies above the **Keamuku and the 1843 lava** flows on the north slope of **Mauna Loa**, be for the present, reserved by the Government from sale or lease and retained by the Land Office as waste land. [HFA, 1907:429]

REPORT OF THE COMMITTEE ON FORESTRY.

Nov. 1, 1906...

...Your Committee has had under consideration the report of the Superintendent of Forestry, dated Oct. 13th, 1906, concerning the land of **Kaohe**, District of Hamakua, Island of Hawaii.

The upper portion of the said land should, in the judgment of your Committee, be classed as waste land, being unsuited for any economic use now known.

But in order that it may be available in future when it is possible that some use may be found for it, your Committee are in favor of its retention from sale or lease by the Government.

Your Committee therefore recommends that the Board approve the suggestions of the Superintendent of Forestry and that a recommendation embodying them be adopted by the Board and transmitted to the Governor and to the Commissioner of Public Lands... [HFA, 1907:430]

REPORT OF THE SUPERINTENDENT OF FORESTRY.

October 13, 1906...

...I have to submit the following report upon the land of **Kaohe**, District of Hamakua, Island and County of Hawaii, with the recommendation that certain portions of this tract be reserved from sale or lease, as waste land.

Kaohe is the largest single land in the Territory, its area being given in the last Land Office List as 218,257 acres. It includes practically all of the upper slopes of **Mauna Kea** and a good share of the northern slope of **Mauna Loa**. For purposes of classification in the Land Office, Kaohe is divided into six parts. **Kaohe 1** is cane land under a five-year lease, expiring in 1909. **Kaohe 6** is open grazing land not under lease. All of the remainder of Kaohe consists of grazing, open forest and waste land. A portion of **Kaohe 2** (1,035.6 acres) is under lease until January 10, 1909. The lease on the remainder of Kaohe 2, with those on **Kaohe 3, 4 and 5** expired on September 9, 1906, but a new 21-year lease [page 430] for a portion of Kaohe 4 went into effect the next day. This lease was sold to Mr. A.M. Brown during the winter of 1904.

Kaohe 2 and the lower portion of the other three tracts are primarily of value for grazing and should in my judgment be so used, except as hereinafter noted. Above an elevation of about 5,000 feet there is a fairly dense growth of **Mamani** (*Sophora chrysophylla*) making a practically pure stand, which extends up the mountain to an elevation of about 8,000 feet. Within the last ten years the belt of **Mamani** has, through natural reproduction, been extended both up and down the mountain and the process is still going on. Just why the **Mamani** should have taken this sudden start is not clearly understood, the usually excepted theory being that prior to about 10 years ago some insect or other pest held the reproduction in check. Unless a paddock is heavily overstocked cattle do not interfere with the growth or reproduction of **Mamani**. In fact over a considerable part of the **Mamani** belt the trees are coming up so thickly as almost to preclude grazing. Obviously no artificial protection is required for this type of forest.

The **Mamani** forest extends some distance above the area of good grazing land, which is marked by the upper limit of the valuable native and introduced grasses. The section above the **Mamani** belt being without valuable vegetation is of little account for grazing. It is for the most part now used only by wild cattle and horses. There seems at present no economic use to which it can be put.

In the leases that have just expired this area of waste land was included with the good land below, thrown in as it were as a sort of "manuahi," thereby greatly swelling the acreage under lease, but being of little value to the lessee. In my opinion this arrangement serves no good end and should in future be discontinued; the land of value for grazing being leased as such and the remainder held by the Government as waste land.

In a report upon the land of Kaohe 4 made to the Board under the date of Dec. 3rd, 1904, I made similar recommendations in regard to the *mauka* part of that tract. These were adopted and when the lease was made to Mr. Brown only the good grazing land was included, thus establishing a precedent in regard to waste land. I now recommend that when Kaohe 3 and 5 are re-leased the portion above the following roughly described line be excluded and retained by the Land Office as waste land:

Beginning on the boundary between **Kaohe 4 and 5** at the end of the fence required to be built across Kaohe 4, the line should run *mauka* of **Puu Ahuamoa to Puu Laau**, thence along the *mauka* boundary of **Paauhau to Puu Kemole**, thence *mauka* of **Puu Kaluamakani** to a point on the division line between **Kaohe 3 and Kaohe 5**, thence along said division line to [page 431] the northwest end of the existing fence across Kaohe 5, built by the Kukaiau Plantation Company, thence across Kaohe 5 following said fence to the **Humuula** boundary, thence following said Humuula boundary to the south and west around **Mauna Kea** to the southeast end of the fence required to be built across **Kaohe 4** and along the same to the initial point.

Mr. A.W. Carter, representing the Parker Ranch, has proposed to lease the grazing land in Kaohe 3, with a proviso in the lease that a fence be built and maintained across Kaohe 3 following the line just described. Across Kaohe 5 a fence built sometime ago by the Kukaiau Plantation Company (the one mentioned in the above description) marks the division between the good grazing and the waste land.

With the building of the fences on Kaohe 3 and 4 and the gradual capture of the wild cattle on the mountain, facilitated thereby, stock will be kept off this upper section.

The retention by the Land Office of this area of waste land is directly in line with the policy of the administration to put the government land to its best use and furthermore it leaves what is now an unavailable tract in such shape that if a use is found for it in later years it will then be available for lease or sale. With the introduction of new grasses it is quite possible that the area of good grazing land may in time be extended *mauka*, while there seems to me no good reason why much of the area on the sides of Mauna Kea, between the elevation of 8,000 and 10,000 feet could not be made to grow forest trees from the temperate zones, such as Pines, Firs and Spruces, that in time could be looked to to supply construction timber. The establishment of such a forest belt would, of course, entail a considerable expense, even though the method of scattered seed spots were adopted, but experiments have been begun to determine what species are best adapted for use in this locality. Funds for more extended work are not now in sight.

Kaohe 2.

On the part of Kaohe 2, between the mountain road and the upper line of the upper Pohakea homesteads, the forest has been destroyed by one cause and another, the chief among them being fire, until with the exception of a few groves of Koa and a section of the Mamani belt, practically the whole area is open country which could only be reforested by artificial means. Except for the Koa groves already mentioned there are not enough trees left to furnish seed, even were the other factors governing natural reproduction favorable, which is distinctly not the case.

Realizing the importance of the protection which an open [page 432] forest affords stock the Kukaiau Plantation has proposed to Mr. Pratt that he put up Kaohe 2 for lease with the requirement that a certain part of the land be planted with Blue gum (*Eucalyptus globulus*) trees; the stock to be kept out until the trees grow large enough to care for themselves. I heartily approve of this plan and am now having prepared by Mr. Haughs a planting plan under which the work could be done.

If natural reproduction of Blue gum takes place in Hamakua as it has in certain other upland districts of the Territory this section may in time come under a forest cover of this Eucalypt...

Ralph S. Hosmer... [HFA, 1907:433]

In 1908, Commissioner, L.A. Thurston reported on the lands of Ka'ohē and Humu'ula, and a proposal to set aside such lands for a new reserve, to the Board of Commissioners. This proposal would become the Mauna Kea Forest Reserve, and implement a fencing project across Humu'ula and Ka'ohē, around most of Mauna Kea. The resulting reserve, established in 1909, would become one of the major projects undertaken by the Civilian Conservation Corps (CCC) program in the 1920s-1930s, and one in which several participants in oral history interviews had a hand. The report of the committee, approved January 11th, 1908 reads—

***Forestry Reserve on Lands of
Kaohe And Humuula, District of Hamakua and Hilo, Hawaii.***

On Wednesday, December 2nd, instant, there was referred to this committee a communication from Land Commissioner Pratt, dated Nov. 29th, in which he states in substance, that the leasing of the lands of Kaohe and Humuula, Hamakua, Hawaii, is in contemplation, and asks for the views of this Board upon the subject of forest reserves upon said lands.

Kaohe IV contains approximately 137,000 acres and includes the top of ***Mauna Kea***, the southern slope of that mountain toward ***Mauna Loa***, the table land between the two mountains and a large portion of the northern slope of upper Mauna Loa.

The greater portion of the Mauna Loa portion consists of barren lava flows, with a sparse growth of shrubs and grass.

The tableland between the mountains, at an elevation of about 6,000 feet is dry and sandy, with scattered *mamani*, *naio* and other trees which grow on such soil and in such a climate. There is a fair amount of grass, making good grazing for a limited amount of stock.

The steep southern slope of ***Mauna Kea*** up to the 7,500 foot level has a thick growth of the same kinds of trees, and somewhat less grass. Above the 7,500 foot contour there is practically no grass, and the trees though thick are scrubby.

Above about the 8,000 foot level there is little vegetation, while the land is rocky and sandy.

The committee is not informed as to the exact conditions on Kaohe at the north end of Mauna Kea.

Humuula is the land lying below Kaohe on the east slope of Mauna Kea, and above the forest lands which run to the sea in the Hilo District. It contains 110,000 acres and is largely appropriate for grazing land.

It will be necessary to take more time and study to formulate a definite plan concerning the whole of ***Kaohe and Humuula***. Your committee is informed, however, that the only proposition immediately pending for leasing either of said lands, is an application for a lease of 18,000 acres situate on the table land between Mauna Kea and Mauna Loa, and extending up to the 7,500 foot level on the south slope of Mauna Kea.

Your Committee are of the opinion that as to this particular area, it is proper land for grazing purposes. There are no running streams. The water available is so limited in

amount that but comparatively few animals can run on it at once, obviating the danger of stocking out what trees there are.

Without at present having any definite plans for development of a forest growth on the waste lands of Mauna Kea, as they are valueless for pasturing purposes, it is recommended that they be kept under the control of the Government instead of being included in the leases of the lower grazing lands as has heretofore usually been done.

In order to protect the forest growth already there, we suggest that a proper condition of any lease given of said land should be that the lessee should fence and keep fenced, the upper boundary of the leased land.

We recommend to the Board for adoption the following resolution:

“Resolved that the Board of Commissioners of Agriculture and Forestry are of the opinion that it is not necessary to reserve for forestry purposes that portion of the land of Kaohe, District of Hamakua, Island of Hawaii, lying on the southerly slope of Mauna Kea, below the 7,500 foot contour line; and that portion lying on the table land between Mauna Kea and Mauna Loa.

That if the Land Commissioner sees fit to lease or otherwise dispose of the indicated portion of Kaohe, this Board respectfully recommends to him that a condition of such disposition be that the lessee or purchaser fence and keep fenced the upper boundary of said land.”

Your committee requests further time in which to consider the subject of forest reserves in connection with the remainder of Kaohe and the land of Humuula.

Your committee transmit herewith the report of Forester Hosmer upon this subject... ..L. A. Thurston... ..The above resolution was adopted by the Board of Agriculture and Forestry, at the meeting held Jan. 11th, 1908.

Ralph S. Hosmer, Superintendent of Forestry...

The Pi'ihonua Forest and Watershed (1907)

During 1907, the Commissioners also discussed the Pi'ihonua Watershed. The reports in the Hawaiian Forester and Agriculturalist provide us with descriptions of the forest; the leasehold interests of J.T. Baker and W.H. Shipman—Pu'u 'Ō'ō Ranch; and ranching and forestry issues. The reports were in part generated by an investigation into the possibility of developing a lumbering venture on Pi'ihonua; an idea which superintendent of Forestry, R.S. Hosmer, considered inappropriate—

Honolulu, Hawaii

July 18, 1907

(The land of Pi'ihonua):

...I have the honor to submit the following report on the question of permitting lumbering on the land of **Pi'ihonua**, District of Hilo, Island of Hawaii:

This report is made in reply to a request received from the Commissioner of Public Lands on June 18, 1907. It is based: (1) on an examination of the land made at the end of June, 1907, during which I saw as much of Pi'ihonua as can be seen without the cutting of a considerable number of trails through heavy undergrowth and across swamps: (2) on all the other evidence in regard to the character of the land that I could obtain, and I believe I have practically all that is available. I have given the matter most careful consideration from every point of view and I conscientiously believe that I am acting for the best interests of the Territory in making the recommendations that follow.

DESCRIPTION.

Piihonua is a government land, under a crown lease to the Hon. John T. Baker of Hilo. The lease (No. 531) expires on March 21, 1921. The upper part of the tract is sublet to Mr. W.H. Shipman and constitutes the Puu Oo Ranch. The lower line of Mr. Shipman's lease extends almost due north across the tract from the point on the 1855 lava flow, known as Reed's Island, at an elevation of approximately 5,000 feet. The lower portion of the tract is covered by the fields of the Hawaii Mill Company's sugar plantation. The cane lands reach up to an elevation of about 2,000 feet. [page 253]

The section between the cane fields and a forest fence constructed by Mr. Shipman at some distance above the line of his lease, constitutes a part of the Hilo Forest Reserve, established in July, 1905.

Between the limits named the land is heavily wooded. On the lower and middle sections the forest consists of a mixed stand of *Ohia Lehua* and *Koa* trees, mainly of large size. At an elevation of approximately 4,500 feet is a belt of pure *Ohia* forest. Above this and extending to and above the Shipman fence the forest is again composed of *Koa* and *Ohia*, in mixture. Throughout the forest is a heavy undergrowth consisting of tree-ferns, low shrubs and small trees, and high growing ferns and brakes. In places are tangles of *ie-ie* vine and *uluhi* [*uluhe*]. The soil where exposed is a reddish clay, a foot to eighteen inches or more in depth.

The belt of pure *Ohia* is evidently the point of greatest precipitation from the trade wind clouds; though throughout the forest, from the plantation clearing to the Shipman line, the rainfall is heavy. All over the area are springs, pools and swamps that feed the numerous small tributaries to the **Wailuku River** and its several branches. Practically the whole drainage basin of this stream is on **Piihonua**, for the water that comes from higher up than the section watered by the trade wind clouds is limited to the flow resulting from Kona and other local storms.

Very little is known accurately of the actual sources of the water in the streams, or from which part of the forest they are most largely fed. But the indications are that from one-third to one-half of the water comes from the area of pure *Ohia* forest, above described, while the remainder is the result of springs and swamps lower down. These springs are dependent for their sustained and equalized flow on the protection afforded by the forest cover.

At present the water from the Wailuku river is used for fluming cane and for turning the power wheels of the Hilo Electric Light Company. For these purposes it is diverted at points near or below the 2,000 foot level.

RECOMMENDATIONS.

Having given the problem thorough and careful study, both on the ground and in its various relations, I cannot report favorably on the proposition to lumber this tract. My principal reasons for this decision are three in number.

First: I believe the greatest value of the forest on Piihonua to be in the influence which it has on the drainage of the Wailuku River and its branches, i.e. on the affect the forest exerts on the water after it reaches the surface, by equalizing the flow and preventing excessive run off. In view of its present use and possible further development for water power, irrigation and even for domestic supply—especially in connection with the growth of [page 254] Hilo town—I regard the Wailuku as one of, if not the, most important stream protected by a forest reserve in the Territory.

It might be possible, if the work were done under careful restrictions, to remove some of the mature trees from the Piihonua forest without detriment to its water conserving qualities. But to make lumbering profitable the operations would have to be conducted on a large scale. This would inevitably involve the opening up of considerable areas in sections where a complete forest cover is most needed. Such a policy on this particular water shed would be fraught with danger. It is a risk which I do not believe the Territory should take. For the money to be obtained as stumpage would in no way compensate for the injury that would result were the regular flow of the Wailuku River seriously interfered with.

For this reason I am opposed to lumbering the forest on Piihonua.

Second: The forest policy of the Territory has been and is to create a chain of forest reserves that are essentially "protection forests." On the leeward side of the island, where because of the absence of running streams watershed protection does not figure, I am in favor of utilizing the merchantable timber. But on the windward side of Hawaii I believe that the forest in the several established forest reserves should for the most part be kept intact, at any rate for the present.

If this is so in general it is particularly true of the Hilo Forest Reserve; for with the growing importance of Hilo town and the Hilo District, through the construction of the breakwater and the building of the Hilo-Kohala Railroad, the streams coming from the reserve will be needed more than at any time in the past.

Considering the large area of privately owned land in the Hawaiian forest reserves it is essential that a uniform and consistent policy of forest protection be maintained, in order that the owners of this land may be brought to cooperate with the Government in its management. The granting of logging rights on such a land as Piihonua would, I fear, tend to weaken the public sentiment that supports the reserve work, if indeed it did not react unfavorably on the whole forest policy of the Territory.

Therefore, on this count also, I believe the logging of Piihonua to be inexpedient.

Third: My third reason is from a professional standpoint. Forestry rests on a business as well as on a scientific basis. In the consideration of such a problem as the lumbering of the Piihonua forest, the factor of whether or not it would pay is an essential one.

Even were it desirable that lumbering should be permitted, it would in my judgment be necessary, in order to safeguard the favorable conditions of stream flow that now exist, to load the con- [page 255] tract with stringent regulations as to the area to be logged, the methods to be used and the subsequent treatment of the tract. From the situation of Piihonua in relation to transportation, the cost of logging would at best be high. When to this were added the necessary restrictions and stumpage at the price which I believe the Territory should demand, I cannot see how there would remain any margin of profit for the contractor undertaking the work.

Looking at the matter in this light I should not be justified from the standpoint of professional ethics, in tacitly recommending the project by approving conditions under which logging might be carried on.

On this third count, then, I cannot recommend lumbering on Piihonua.

I recommend, if the Board approves this report, that copies be sent to the Governor and to the Commissioner of Public Lands...

Ralph S. Hosmer... [HFA, 1907:256]

The Mauna Kea Forest Reserve (1909)

In 1909, the summit of Mauna Kea was removed from the leases, and Territorial Governor, W.F. Frear, approved the boundaries for the proposed Mauna Kea Forest Reserve (*Figure 20*). The following communications describe the thinking behind the reserve, and some of the early actions on lands adjoining it (see HTS Plat No. 613, for final boundaries of the reserve and location of fence lines):

Honolulu, Hawaii, March 30, 1909.

...The subject of this report is the proposed setting apart of the upper slopes of Mauna Kea as a forest reserve.

Unlike most of the Hawaiian forest reserves, this project is not concerned with watershed protection. Its purpose is to facilitate the systematic management of an area that can be used to better advantage for growing forest trees than for any other economic purpose. There is now on Mauna Kea a considerable stand of *Mamani* [*māmāne*] forest. At the higher elevations there is much land, now unproductive, that could well be planted with commercially valuable exotic trees. By setting apart the area as a forest reserve the existing forest can be made to be of greater service to the people of the Territory, while the afforestation of the upper slopes of the mountain will be facilitated.

Description of the Area.

Mauna Kea, the highest mountain in the Territory of Hawaii, is situated in the District of Hamakua, Island and County of Hawaii. The elevation above the sea of its highest peak is 13,825 feet. The summit and the greater part of the sides of the mountain above the 7,500 foot contour line are included in the government land of Kaohe, an *ahupuaa* containing an immense area of waste land, in that besides the summit and upper slopes of Mauna Kea it also takes in a considerable portion of the north side of Mauna Loa.

Above a line encircling the mountain at the elevation of approximately 7,500 feet, the slopes of Mauna Kea may be classed as waste land. The herbage is too poor and uncertain to justify grazing and the land has now no other use. This fact, together with the desire to prevent their stock from straying up the mountain to join the bands of wild cattle, led the several ranches controlling the better portions of Kaohe and the other adjoining lands to build fences separating their upper paddocks from the area of low value above. Several such fences were built before the old leases expired. In 1907 when the leases on the govern- [page 229] ment land of Humuula and the better portions of Kaohe ran out and came to be renewed, provision was made for the extension of these mountain fences and for their up-keep during the term of the new leases. At the present time, with the exception of a stretch on the southwestern side of Mauna Kea, across the portion of Kaohe known as Kaohe 4, the mountain is wholly fenced off. It is expected that this stretch also will soon be leased, with a provision that the fence be completed. Further, negotiations are now in progress with the ranches abutting on Mauna Kea looking to a systematic campaign for the rounding up and capture and extermination of the wild cattle on the mountain.

When the new leases of *Kaohe* were made the waste land was retained by the Government, instead of being included as formerly with the productive areas below. This usage has now become a regular part of the land policy of the Territory. It is a step toward putting all the land to the use for which each tract is best adapted. For it leaves the control of land for which there is now no use in the hands of the Government against the time when some, now unforeseen, use may be found.

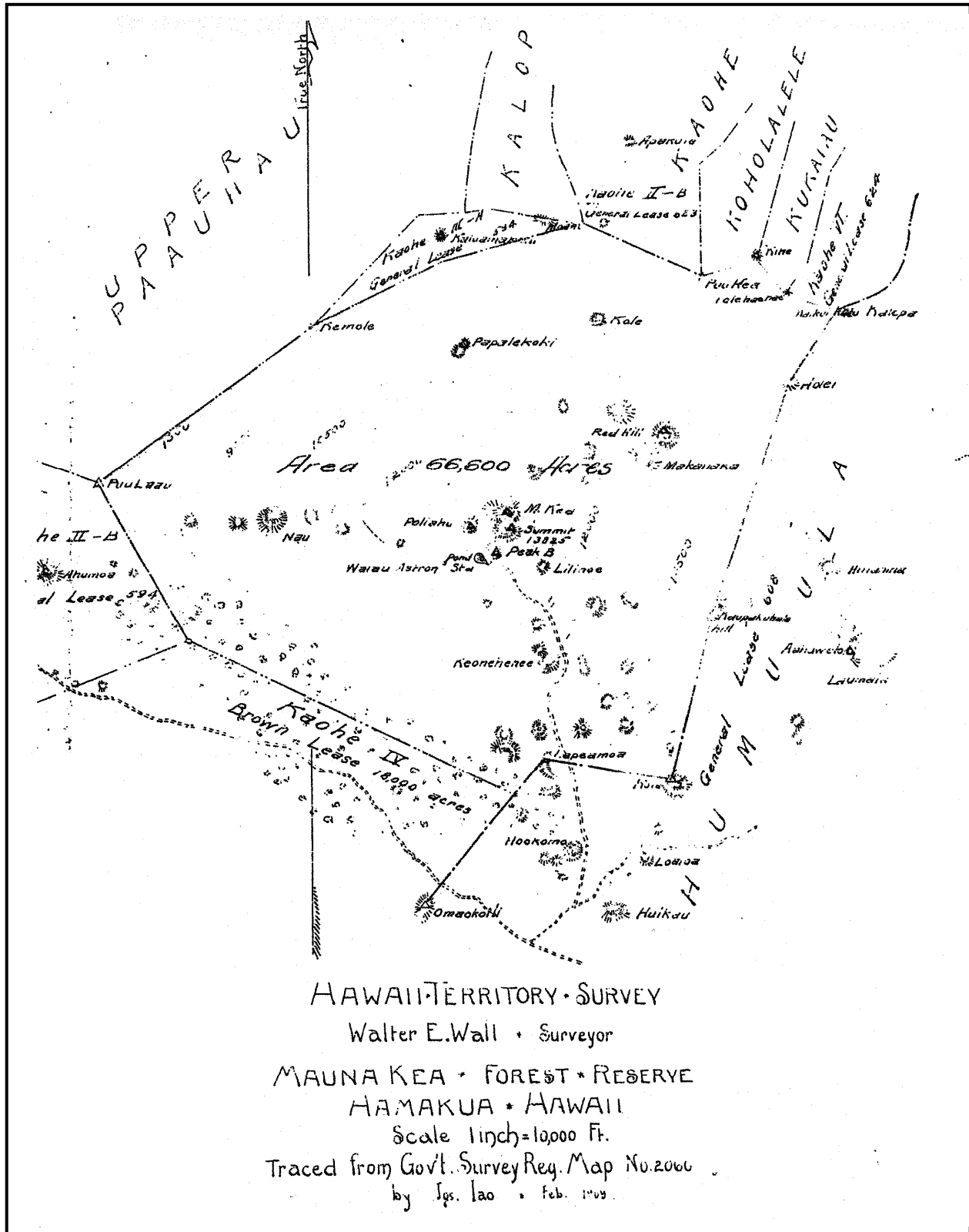


Figure 20. Boundaries of the Mauna Kea Forest Reserve (1909 – traced from Reg. Map No. 2060).

In the case of **Kaohe** it is now proposed that the land be devoted to the purpose of raising trees. The object of this report is to state the reasons that make this use advisable and to show how the setting apart of the area as a forest reserve will help bring about the desired results.

The section included in the proposed reserve may roughly be described as the upper slopes of **Mauna Kea** above an elevation of approximately 7,500 feet. The area is 66,600 acres.

Use of Kaohe for Forest Purposes.

The question of using the land of Kaohe for wood and timber production may be considered under two heads—the existing and the prospective forest.

The Mamane Forest.

Between the good grazing land and the elevation of about 9,000 feet, especially on the northern and western slopes of Mauna Kea, there is a fairly heavy stand of Mamane (*Sophora chrysophylla*). This forest is increasing through natural reproduction. The reason for the rapid spread of Mamane—which is a matter of the last decade—is not clear, but the fact remains to the advantage of the Territory. Mamane is a wood valuable for posts. Rightly managed there is likelihood that in time this forest can be made a source of revenue. One of the reasons for the setting apart of Kaohe as a forest reserve is that it will facilitate the proper handling of this forest. [page 230]

Above the *Mamane* belt, between the elevations of from eight to eleven thousand feet, and in sections lower down where the *Mamani* forest is open and broken, there exists an excellent opportunity for the planting of commercially valuable exotic trees. The general conditions of soil, situation and climate at this elevation are sufficiently comparable to those on the mountains of Southern California to make it appear reasonable to expect that the kinds of trees that do well there can also be made to grow and thrive on *Mauna Kea*.

The planting of pines, spruces and firs on the upper slopes of Mauna Kea has been recommended by each of the professional foresters who have visited the islands: Mr. E. M. Griffiths, now State Forester of Wisconsin; Mr. W. L. Hall, of the U. S. Forest Service, and by me. Favorable conditions for tree planting are also obtained on the upper slopes of Mount Haleakala on Maui, and on Mount Hualalai on Hawaii.

The U. S. Forest Service has shown its belief in the feasibility of the plan by allotting the sum of \$2,000 for experimental planting on Mauna Kea and Haleakala, during the present fiscal period. This money is now being expended under my direction as Collaborator in the Forest Service, in the inclosure and planting up of a number of experimental plots on these two mountains, located at varying elevations and having different conditions of aspect and exposure.

It is the intention at the start to plant in each inclosure a sufficient number of seedling trees—say 100 of each—of some eight kinds of coniferous trees (pines, spruces and firs) likely to do well. Later, it is expected that additional allotments will be secured from the Forest Service to continue the work. Eventually those trees that prove to be adapted to the situation can be more extensively planted, being then set out in such a way that in the end a belt of forest will be secured. Such a result is, of course, only to be expected after a considerable time. This makes the experiment one that is only likely to be undertaken by the Government. That it appears practical and practicable to the Forest Service is evidenced by the allotment already made.

At first it was felt that it would be sufficient if only the areas actually needed for the experimental plots were turned over by the Land Department for this use. But on consultation with the Land Commissioner it appeared that from an administrative standpoint it would be more satisfactory if all of this portion of Kaohe were transferred to this Board. This proposal met with the approval of the Governor. The present report is the next step in the matter. [page 231]

Recommendation.

For the reasons above outlined—which may be summarized by the statement that the purpose of the reserve is to facilitate the management of the forest, present and prospective, on the upper slopes of Mauna Kea—I do now recommend that the Board of Agriculture and Forestry request the Governor to set apart, in accordance with law, as the “**Mauna Kea Forest Reserve,**” that portion of the non-agricultural, unleased government land of Kaohe, in the district of Hamakua, Island and County of Hawaii, within and above the boundary hereinafter described.

Official Description.

Following is the technical description of the boundary of the proposed Mauna Kea Forest Reserve, prepared by the Government Survey Department as C. S. F. NO. 2001, and accompanied by Registered Map No. 2060...

Ralph S. Hosmer, Superintendent of Forestry. [HFA, 1909:232]

By Authority

Mauna Kea Forest Reserve.

Proclamation of Forest Reserve in the District of Hamakua, Island and County of Hawaii.

Under and by virtue of the authority vested in me by the provisions of Chapter 28 of the Revised Laws of Hawaii, as amended by Act 65 of the Session Laws of 1905, and by Act 4 of the Session Laws of 1907, and of every other power me hereunto enabling, I, WALTER F. FREAR, Governor of Hawaii, having held the hearing of which notice has been duly given as in said acts provided, do hereby SET APART as a Forest Reserve, to be called the “**MAUNA KEA FOREST RESERVE,**” that portion of government land in the District of Hamakua, Island of Hawaii, known as Kaohe, embracing and including the upper slopes and summit of Mauna Kea, above the elevation of approximately 7,500 feet, and containing an area of 66,600 acres, more or less, in the District of Hamakua, Island and County of Hawaii, Territory of Hawaii, more particularly described by and on a map made in February, 1909, by the Government Survey Department, of the Territory of Hawaii, which said map is now on file in the said Survey Department, marked “Registered Map Number 2060” and “Mauna Kea Forest Reserve,” and a description accompanying the same, numbered C.S.F. 2001, which said description now on file in the said Survey Department, is as follows:

MAUNA KEA FOREST RESERVE.

Including Portion of the Government Land of **Kaohe V**, Kaohe, Hamakua, Hawaii. Beginning at Government Survey Trig. Station “**Kole South**” (marked by _____ on set stone and *ahu*) on hill of that name on the South side of **Mauna Kea** and on the boundary of **Humuula** and **Kaohe**, the true azimuth and distance to “Aahuwela” Trig. Station being 234° 44’ 30” 22851.8 feet and to “**Puu Oo**” Trig. Station being 307° 04’ 13” 111139 feet, as shown on Government Survey Registered Map No. 2060, and running by true azimuths:—

1. 99° 56’ 58” 13798.5 feet along land of **Humuula** to “**Lepeamo**” Trig. Station (marked by a † on set stone and *ahu*);

2. 39° 58' 42" 4875.8 feet along land of Humuula to the East corner of **Kaohe IV** (Brown Lease, 18,000 acres), from which the true azimuth and distance to "**Omaokoili**" Trig. Station (marked by on solid imbedded bomb) is 39° 58' 42" 15,000.0 feet;
3. 115° 10' 37,700.0 feet along Kaohe IV (Brown Lease) to the East corner of **Kaohe III-B** (General Lease 594 to A. W. Carter, Guardian);
4. 161° 10' 19380.0 feet along Kaohe III-B (General Lease 594 to A. W. Carter, Guardian) to "**Puu Laau**" Trig. Station on the boundary of **Paauhau**, from which the true azimuth and distance to "Nohonaohae" Trig. Station is 135° 24' 50" 43544.0 feet;
5. 234° 10' 27900.0 feet along land, of Paauhau to "**Kemole**" Hill;
6. 244° 35' 15060.0 feet along **Kaohe III-A** (General Lease 594 to A. W. Carter, Guardian) to a point directly South of "**Kaluamakanii**" Trig. Station;
7. 255° 20' 15700.0 feet along Kaohe III-A (General Lease 594) to the **Hanaipoe** Gulch at the Southeast, corner of the land of **Kalopa**;
8. 293° 45' 13660.0 feet along **Kaohe II-B** (General Lease 623 to Kukaiau Plantation Company, Limited), to "**Puu Kea**" Trig. Station at the Southwest corner of the land of **Kohalalele**, from which the true azimuth and distance to "**Apakuie**" Trig. Station is 154° 02' 40" 6150.0 feet; [page 246]
9. 254° 10' 5800.0 feet along the head of the land of Kohalalele to a waterhole on the *mauka* side of "**Puu o Kihe**" Trig. Station;
10. 319° 00' 5200.0 feet along the head of the land of **Kukaiau** to its South corner just *mauka* of **Iolehaehae**;
11. 286° 50' 5400.0 feet along **Kaohe VI** (General Lease 624 to the Kukaiau Plantation Company, Limited) to a place called **Waikulukulu**, a point in **Kaula Gulch** at the West base of the hill **Puu Kalepa**;
12. 34° 30' 9000.0 feet along the land of **Humuula to Holei**;
13. 19° 42' 20" 26368.0 feet along land of **Humuula to Kaupakuhale Hill**;
14. 13° 10' 17260.0 feet along the land of **Humuula** to the point of beginning.

Area 66,600 Acres.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the Territory of Hawaii to be affixed. Done at the Capitol in Honolulu, this 5th day of June, A. D. 1909... W. F. FREAR, Governor of Hawaii. [HFA, 1909:247]

Modifications in Boundaries of the Mauna Kea and Hilo Forest Reserves (1910-1937)

In 1910, Governor Frear, removed tracts of land from leasehold interests, to be included in the Hilo Forest Reserve. The proclamation named the lands and described the acreage as:

In the Hilo Forest Reserve I do hereby set apart as integral parts of that Reserve those certain portions of the tracts of government land known as **Humuula, 3,901 acres**, more or less, Kahoahuna, 46 acres, more or less, Waikaumalo-Maulua, 790 acres, more or less, Opea-Peleau, 230 acres, more or less, Kamaee-Wailua, 930 acres, more or less, Wailea-Kaiwiki, 3,834 acres, more or less, Piha, 3,780 acres, more or less, **Piihonua, 33,941 acres**, more or less, that lie within the boundaries of the Hilo Forest Reserve, in the District of Hilo, Island and County of Hawaii, Territory of Hawaii, created and approved by proclamation of Acting Governor A.L.C. Atkinson, under the date of July 24, 1905, which said proclamation gives the metes and bounds of said Hilo Forest Reserve, the same being more particularly described by and on a map now on file in the office of

the Territorial Survey Department in Honolulu, marked "Registered Map No. 2060," and a description accompanying the same, numbered "C.S.F. 1629," altogether an area of 47,452 acres, more or less... [HFA, 1910:277]

In late 1913, R.S. Hosmer presented a special report to the Commissioners, among the topics discussed was an update on the fencing of the Mauna Kea Forest Reserve. He described the progress in the following letter:

November 18, 1913

Special Report: Forest Conditions – Hawaii

R.S. Hosmer; to the Board of Commissioners of Agriculture and Forestry:

...Mauna Kea Forest Reserve.

In passing mention may be made here of the **Mauna Kea Forest Reserve** that takes in all the upper slopes of that mountain above approximately the 8000 foot contour, altho' across **Humuula** it is somewhat higher – about 9,500 feet. For the greater part of the way around the mountain the line is substantially fenced; above **Humuula** by a fence built about 20 years ago by Mr. Haneberg and now kept in repair, under the terms of its lease, by the Humuula Sheep Station Company; above the **Kukaiau** ranch by paddock fences, which with other fences on that ranch are now being, or soon will be repaired and put in good shape; above the Parker Ranch, by strong fences built and now maintained by a regular fence rider. These fences are all required to be maintained under Government Leases, respectively Nos. 608, 623, 624, 594. Under Lease 594 it was provided that the Government pay half of the cost of the fence on the boundary between the forest reserve and the fee simple land of Upper **Paauhau** (Parker Ranch), from **Puu Laau to Puu Kemole**. Lease 608 runs 'til 1930, the others to 1928.

The section on the west slope of the Mountain, between **Waikii** and the boundary of **Humuula**, across the Government land known as Kaohe 4, is not fenced. This section is not under lease. It was lately the scene of certain litigation over a broken lease, between Mr. A.M. Brown and the Government.

There are still some wild cattle on Mauna Kea, and a few herds of wild horses, but thru' driving and shooting by men from the neighboring ranches the numbers of these animals have been very much reduced. There are also wild pigs on Mauna Kea, but not, I think, in very great numbers... [HSA – Gov 2-1 Board of Forestry & Agriculture]

In 1921, C.S. Judd, Superintendent of Forestry, conducted an inspection of the Hilo and Mauna Kea Forest Reserves. His report on the inspections, published in the *Hawaiian Forester and Agriculturalist*, documented the importance of the water resources generated by the Hilo forest lands (identifying primary trees found); the extent of the sugar cultivated on lands fed by the stream systems flowing from the forest; the continuing impacts on the forest by wild cattle and ranching interests; and impacts to the forest from plantation and homestead activities. Judd observed:

THE HILO FOREST RESERVE.

Every stream of any moment on the Island of Hawaii, with the exception of those in the Kohala Mountain region, has its source in the Hilo Forest Reserve. Not only does the town of Hilo depend solely upon the water coming from this forest reserve for its domestic uses, but ten sugar plantations absolutely depend upon this water for fluming their crops to the mills, for use in the manufacture of sugar, and for the domestic use of their laborers. The output of these ten sugar plantations, which comprise almost a solid belt of cane fields from 3 to 5 miles wide and 35 miles long, extending from the Olaa Plantation in Olaa to the Kaiwiki Sugar Company at Ookala, and the existence of which the water from the Hilo Forest Reserve makes possible, during the ten years from 1911 to 1920, amounted to 1,126,376 tons of sugar worth approximately \$114,469,455.14.

The Hilo Forest Reserve was the third out of the present total of 47 forest reserves to be set apart and was set aside by a proclamation signed by Acting Governor A.L.C. Atkinson on July 24, 1905. It embraces at present, a total area of 110,000 acres, of which 60,223 acres or 55 per cent is unleased land belonging to the Territory, and 49,777 acres or 45 percent is land in private ownership. Owing to the peculiar system of Hawaiian land surveys the private lands and government lands in the reserve are indiscriminately interspersed and usually consist of narrow strips or wedge-shaped pieces of land running from the sea up the slopes of Mauna Kea.

The largest single piece of land in the reserve is *Piihonua*, embracing 33,941 acres of government land. This was held under lease by the late John T. Baker until March 21, 1921, when the lease expired and the land reverted to the Territory.

The lowest part of any of the reserve lies at the elevation of 1400 feet above sea level on ***Awehi Stream*** west of the town of Hilo, and the highest part is found at the upper end of ***Piha*** at an elevation of about 6,750 feet. The heaviest rainfall between these limits occurs between the elevations of 2,500 and 4,000 feet above sea level. In general, the reserve consists of a solid belt of almost impenetrable forest, in a region of heavy rainfall, 20 miles long from north to south with an average width of 10 miles lying on the gentle slopes of the huge mountain mass of Mauna Kea. This slope is cut up by innumerable eroded gulches and one may follow along the lower boundary of the reserve and observe more than 100 perpetual waterfalls.

The forest growth consists chiefly of *ohia lehua* with the usual undergrowth of tree ferns and *ieie* vines and a ground cover of countless other ferns, shrubs and vines, an ideal com- [page 170] bination for the conservation of water. On the well drained slopes, especially at the higher elevations, extensive groves of *koa* trees are found, and in the highest portions the *mamani* tree occupies the drier situations. In the wet forest other trees such as the *kopiko*, *kolea*, *olapa*, *pilo*, and *naio* are also found.

The Hilo Forest Reserve would have served a greater usefulness in the way of water conservation if it had been found feasible to include originally a larger area of forest land and to protect all of the forest on this area from the very start.

The work of three agencies has resulted in confining the reserve to its present size. Grazing interests on the west or upper boundary have encroached upon the forest to an undesirable extent and would still like to send their destructive stock even deeper into the forest. This, in fact, is being done on some of the private lands within the recommended forest reserve boundary, and the only way to terminate it will probably be by the purchase of the lands by the government.

On the east or lower boundary, cane cultivation has removed hundreds of acres of heavy forest. This is a proper use of the land when kept in cultivation to cane, but when such land is abandoned, allowed to grow up in Hilo grass, and then pastured without adequate fences on the boundary line, the result is further destructive of forest growth by grazing and a pushing back of the heavy forest.

In the past on some of the government lands homesteads have been surveyed out and opened to settlement on parts of this lower forest without adequate thought as to the best use of the land. Some of these in swampy and rainy country have been abandoned and some have never even been taken up.

In all such matters there is necessarily a give and take depending on the highest use to which the land should be put. Several interests, however, seem to be oblivious of the usefulness of the Hilo Forest Reserve as a whole and would "kill the goose that laid the

golden egg” for some temporary gains rather than join in the general scheme of forest protection for the benefit of the leading industry and the community as a whole.

In order to ascertain exact conditions on the ground an intensive field study was begun early in May, 1921, by a party of Territorial officials who are resurveying the lower boundary and reporting on all situations as observed. This work will be completed in a short time and will result in adding about 2,500 acres of unleased government forest land to the reserve along the lower boundary and increasing its size as well as usefulness.

The investigation, which has been made under adverse weather conditions, has resulted in surveying and marking the new forest boundary at the rate of about eight miles per month, and has disclosed such situations as unbuilt or wrongly located fences required by general leases and homestead agreements issued by [page 171] the land office, unlawful grazing, illegal wood cutting, and the presence of wild cattle on the reserve.

Steps have already been taken to correct such situations and it is planned to exterminate all wild stock in the reserve, to complete the fencing of the boundary at the earliest possible date, and to place a competent ranger in charge. Because of various ownerships of land in this important reserve, it is necessary that all parties cooperate with the utmost harmony in order to bring this work to a satisfactory conclusion... [HFA, 1921:172]

...The work of delineating the *makai* boundary and surveying additional areas to be included in the Hilo Forest Reserve continued during the month and resulted in the running of 7.5 miles from ***Pohakupuka Stream to Kaula Gulch*** at the extreme north corner of the reserve. A visit was made to the survey crew and the boundary line was inspected across the lands of ***Piihonua, Waipunalei, Piha, Opea Peleau and Kaiwiki 3***. [page 223]

FENCING REQUIREMENTS.

During the course of my forest inspections the following instances of unfulfilled fencing requirements or of incorrectly located fences came to my attention and were at once reported to the Commissioner of Public Lands with the suggestion that he compel the lessee or homesteader to comply at once with the fencing requirements on the proper lines...:

4. Hilo Forest Reserve. Weloka, general lease 946 to Laupahoehoe Sugar Co. Supposed to be adjacent to *makai* forest reserve boundary, but upper fence of lease found to be about 700 feet *mauka* in the forest reserve.

5. Hilo Forest Reserve. Laupahoehoe, general lease 926 to M.P. Silva. Very frail fence found to be 1,330 feet at the NW. corner and 342 feet at the SW. corner *mauka* of the correct forest reserve boundary, and as a result about 98 acres of forest reserve land were being illegally grazed and the forest cover thereon destroyed.

6. Hilo Forest Reserve. Adjacent lot 51 of the Hakalau-iki homesteads, held under general lease 984 by Rose de Lima. Inadequate fence on *mauka* line of her lease, which allows cattle to get into the forest.

MAUNA KEA TRIP.

On August 5 and 6, visited the Mauna Kea Forest Reserve, in company with my assistant and six others, for the purpose of determining upon experimental planting with temperate zone trees and of making scientific observations in this high country. The *mamani* forest

between 7,700 and 10,000 feet, the upper timber line, was found to be in good condition. Two wild cattle and a band of wild sheep were seen, but no wild horses, although a band of the latter are occasionally seen on the mountain. Six wild sheep were killed on the trip. It is possible that conifers will succeed on the lower slopes of this reserve if planted at times of favorable moisture, but there are not sufficient funds available at present for this work. At **Waiau Pond**, near the summit at 13,014 feet, where our party experienced a cold night and the temperature was as low as 18 degrees, causing a film of ice to form on the edges of the pond, it is planned to start a small grove of lodgepole pine trees by seed spotting, so that in time fuel wood will be available for travelers who ascend the mountain. For this purpose an order of 20 pounds of seed has been placed with the Forest Service at Portland, Oregon. The presence of numerous cinder cones superimposed on glacial drift all over the summit plateau of the mountain was found to be of great interest... [HFA, 1921:224]

Chas. J. Kraebel, Assistant Superintendent of Forestry, reported in August 1921, on the boundary survey, of lands in the Hilo Forest Reserve, and reported on a field trip to Mauna Kea. Kraebel and survey party found that the *mauka* boundaries of many of the homesteads had been pushed too far inland, thus impacting the forests meant to be protected. Kraebel also described the tree planting efforts around the mountain lands, conducted in partnership with A.W. Carter of Parker Ranch:

...I respectfully submit the following routine statement of my work during August, 1921.

BOUNDARY SURVEY.

At the end of the month the survey of the *makai* boundary of the Hilo Forest Reserve had reached the point in **Kaula Gulch** called "**Paeoapu**," which is the extreme north corner of the reserve and therefore the end of the *makai* boundary. The distance covered by Mr. Hockley's party during August is approximately 7.5 miles, extending from Pohakupuka Stream at Waikaumalo to Kaula Gulch between the lands of Ookala and Manowaialee. At Waipunalei Mr. Hockley found it necessary to make a complete resurvey of lots 12 and 13 of the Kahoahuna Homesteads in order to correct an error in the original survey and to determine the forest boundary in that vicinity. In the course of the month's work several irregularities in the location of fences were disclosed. The *mauka* fence of lot 55, Waikaumalo Homesteads is several hundred feet *mauka* of its correct position, infringing thus upon the Robertson Estate land of Mauluanui. In Laupahoehoe, the *mauka* fence of the government remnant under general lease 946 is approximately 700 feet *mauka* of the true boundary; while on the government remnant under lease 926 the present fence is 342 feet *mauka* at the south end and 1,330 feet *mauka* at the north end of its true location. In Waipunalei, because of the peculiar status of that land at present, I requested the surveyor to carry the line straight across this land from the west corner of the land under lease 926 to the newly established south corner of lot 13, Kahoahuna Homesteads. The land of Waipunalei cannot be regarded as forest reserve at present, since the upper portion constitutes a paddock of the Parker Ranch and the lower portion is used as a pasture by homesteaders under permit from the Laupahoehoe Sugar Company. The effect of this use is to separate the forest in the government land of Humuula from the remainder of the Hilo Reserve, a condition which should be corrected as soon as possible.

At the end of the month the following portions of the boundary survey remained still to be done: From **Hanawai Stream in Papaikou to Puu Kauku**, a distance of about two miles; the final line of 1.2 miles across **Piihonua and Waiau from Hookelekele Stream to Alae Stream**; the inclusion of the area of Piihonua lying between Hookelekele Stream, Wailuku River, and the land of **Punahoa 2**; determination of the Punahoa 2-Piihonua boundary from the **Wailuku River** to the top of the land of Punahoa 2, approximately 7 miles of straight line.

PARKER RANCH.

On August 1, in company with the Chief Plant Inspector, I drove to Waimea to consult with Mr. Carter on the forestry problems of the Parker Ranch. The ranch is well equipped to raise in its own nursery all the common species of trees for windbreak purposes, but Mr. Carter is anxious to be supplied with the less common introduced species for [page 225] experimental planting. This is an excellent opportunity for experimentation in a thorough manner and on a scale which the Division of Forestry is unable to practice independently. There is almost no limit to the range of climatic conditions which can be found on the Parker Ranch, and Mr. Carter would be at pains to help us find the most favorable site for each species. The conifer plots established ten years ago on the slopes of Mauna Kea are examples of the excellent results which can be obtained by this sort of cooperation.

At the time of our visit there were some 300,000 transplants in the ranch nursery, including the genera *Eucalyptus*, *Acacia*, *Araucaria*, *Cypressus* and *Pinus*. It is obvious that such vigorous efforts in forestry deserve our most hearty support.

MAUNA KEA EXPEDITION.

During the first week of the month I made the ascent of Mauna Kea with a party of government officials and scientific men, including the Chief of the U.S. Geological Survey for Hawaii, the Territorial Land Commissioner, the Director of the B.P. Bishop Museum, and the Superintendent of Forestry. The purposes of the expedition were several, centering chiefly about the problem of mapping the mountain, and about the reported evidences of ancient glaciation above the elevation of 11,000 feet, which was Professor Gregory's principal concern. Unmistakable evidences of glaciation were found and a plan for further study was developed by Professor Gregory...

PINE TREES ON MAUNA KEA.

During the fourth week of the month I cooperated with Dr. H.E. Gregory of the Bishop Museum on a trip up the northwest slope of Mauna Kea. Dr. Gregory's object was to secure further evidence of glaciation on the mountain, while I went to inspect the conifer plots established in February, 1910, by Mr. Hosmer. Both objects were very gratifyingly realized. Abundant evidences of glaciation were found and numerous photographs of striations, moraines and ice-distributed boulders were obtained.

The tree plot at the lowest elevation, 7,000 feet, contained a total of 201 thrifty trees, ranging in size from 6 feet to 20 feet, and including the following species: *Pinus coulteri*, *Cedrus deodara*, *Libocedrus decurrens* and *Pinus jeffreyi*, named of their vigor of growth. At 9,000 feet [page 226] Coulter pine again showed the best growth of all species, but the total number of living trees was only 46. At 11,000 feet, the highest plot, only a single stunted tree was found, an incense cedar. Further experimentation at this altitude is therefore inadvisable at present. The results on the whole, however, are very encouraging, since it is demonstrated that lumber-producing trees can be successfully grown at the intermediate altitudes. Numerous photographs were taken at all the plots and specimens of all species were also taken for the office herbarium. An exhibit of these, with explanatory placards in a store window in Hilo and remained there during the recent American Legion Convention in the city... [HFA, 1921:227]

In 1937, The boundaries of the Mauna Kea forest Reserve were modified, to take in additional portions of the lands of Humu'ula, Ka'ohe, and some lands lying *makai* of the two. As a result further lands were removed from the grazing operation of the Humu'ula Sheep Station. Hawaii Territorial Survey Plat Map No. 613 (by notes of survey from C.S.F. 5055, July 20, 1937) depicts the modified boundaries, and the notes of survey record the metes and bounds:

C.S.F. 5055
Maunakea Forest Reserve
(2nd Revision)

Hamakua and North Hilo Districts
Island of Hawaii

Being portions of the government land of **Kaohe** and **Humuula** and portions of the privately owned lands of Koholalele (R.P. 4527, Mahele Award 26-B to Kailakanoa) and Paauhau (Grant 2869 to J.P. Parker).

Beginning at the South corner of this tract of land at the junction of three fences in the land of **Humuula**, the true azimuth and distance to said point from Government Survey Trig. Station **OMAOKOILI** being 5° 21' 40" 4036.0 feet and the coordinates of said point of beginning referred to Government Survey Trig. Station **AAHUWELA** being 30,032.8 feet South and 45,412.7 feet West as shown on Government Survey Registered Map 2789 and running on the AAHUWELA Meridian by azimuths measured clockwise from true South:—

1. 141° 58' 00" 18880.3 feet along fence along the remaining lands of **Humuula and Kaohe**;
2. 111° 27' 20" 12426.7 feet along fence along the remaining land of Kaohe;
3. 86° 13' 30" 14380.7 feet along same;
4. 225° 01' 40" 20217.5 feet along same to a + on set stone;
5. 147° 09' 00" 18695.1 feet along same to a + on set stone at the foot of hill called "Puu Laau" the true azimuth and distance to Government Survey Trig. Station "Puu Laau 2" being 79° 06' 30" 191.4 feet;
6. 229° 51' 10" 10788.5 feet along fence;
7. 228° 32' 00" 5384.0 feet along same to a + on set stone southeast of rocky hill called "Nanao" or "Kalepaio", the true azimuth and distance to a + on set stone on said hill being 158° 19' 86.10 feet;
8. Thence along the fence, the direct azimuth and distance between the two end points being 239° 59' 20" 11724.2 feet;
9. 152° 13' 30" 755.8 feet along fence to Government Survey Trig. Station "Kemole 2" marked by Δ on set stone, the true azimuth and distance to a U.S.B.M. elevation 7630 feet (marked by + on bronze tablet) being 169° 35' 18.06 feet;
10. 226° 16' 30" 8903.7 feet along fence, along the remaining portion of the lands of Paauhau (Grant 2769 to J.P. Parker);
11. 235° 40' 50" 7579.1 feet along same along the remaining portion of the land of Kaohe;
12. 256° 24' 00" 3162.6 feet along fence along the remaining portion of the land of Kaohe;
13. 304° 42' 00" 681.0 feet along same, the true azimuth and distance to a + on stone on the Paauhau-Kaohe boundary being 207° 15' 30" 777.8 feet;
14. 14° 18' 00" 1120.4 feet along fence West of Kawailiili Gulch;
15. 29° 45' 30" 782.8 feet along same;
16. 20° 04' 30" 978.4 feet along same;
17. 354° 32' 30" 881.7 feet along same;

18. 277° 10' 00" 5128.2 feet along fence along the remaining portion of the land of Kaohe;
19. 255° 21' 00" 11150.1 feet along same to an angle in fence South of Puu Mali Hill;
20. 279° 33' 40" 3483.1 feet along fence along the remaining portion of the land of Kaohe;
21. 278° 02' 40" 8751.8 feet along same and along the remaining portion of the land of Koholalele (*Mahele* Award 26-B to Kailakanoa);
22. 295° 59' 50" 4034.0 feet along the remaining portion of the land of Koholalele to a pipe in concrete marking the end of Course 76 of Land Court Application 1090, Trustee, Estate of Charles Notley, deceased, applicant;
23. 318° 58' 20" 11083.2 feet along fence along Land Court Application 1090 and remaining portion of the lands of Kaohe and Humuula to a + on set stone, the true azimuth and distance to Government Survey Trig. Station "Kalepa" being 217° 54' 30" 3837.5 feet;
24. 348° 03' 20" 12093.5 feet along fence along the remaining portion of the land of ***Humuula***;
25. Thence along the fence, the direct azimuth and distance between the two end points being 7° 02' 40" 13619.0 feet;
26. 57° 41' 40" 8739.6 feet along same;
27. 38° 24' 50" 13989.0 feet along same to a + on set stone;
28. 357° 23' 00" 5939.0 feet along same;
29. 105° 06' 00" 153.4 feet along same;
30. 59° 42' 00" 1164.5 feet along same;
31. 63° 13' 50" 1593.5 feet along same;
32. 88° 10' 10" 3071.4 feet along same;
33. 95° 02' 20" 2971.8 feet along same;
34. 71° 59' 30" 2061.8 feet along same;
35. 41° 43' 30" 1595.9 feet along same;
36. 68° 28' 10" 13351.0 feet along same;
37. 17° 00' 20" 5039.9 feet along same;
38. 37° 01' 10" 4210.3 feet along same to the point of beginning.

Area, 88108 Acres

Summary of Areas

| <u>Lands</u> | <u>Owner</u> | <u>Area</u> |
|-----------------------|-----------------------------------|--------------------------|
| Kaohe | Territory of Hawaii | 79260 Acres |
| <i>Humuula</i> | <i>Territory of Hawaii</i> | <i>8453 Acres</i> |
| Koholalele | Hamakua Mill Company | 248 Acres |
| Paaupau | A.W. Carter, Trustee | <u>147 Acres</u> |
| | Total Area | 88108 Acres |

[C.S.F. 5055, State Survey Division]

Humu'ula and Land Interests of the Department of Hawaiian Home Lands (1920-present)

Being a part of the Crown Land inventory, Humu'ula and Pi'ihonua fell into the category of Ceded Lands as a result of the annexation of Hawai'i to the United State in 1898. Following years of work, Prince Jonah Kūhiō Kalaniana'ole and associates succeeded in passing legislation enacting the Hawaiian Homes Commission Act (HHCA) of 1920, enacted by the United State Congress on July 9, 1921. The Act established a land base of approximately 200,000 acres, to be set aside for homesteading purposes by Native Hawaiian beneficiaries of the Act (Hawaii Advisory Committee, 1991).

Section § 203 of the Hawaiian Homes Commission Act of 1920, identified various public lands which would be made available for homesteading purposes. The Act named the lands and available acreage, but also included exemptions to the availability of the lands:

(a) "all lands within any forest reservation, (b) all cultivated sugar-cane lands, and (c) all public lands held under a certificate of occupation, homestead lease, right of purchase lease, or special homestead agreement... On the island of Hawaii: ...fifty-three thousand acres to be selected by the department from the lands of **Humuula Mauka**, in the district of North Hilo... [HHC, Amended, 1964:4]

While a portion of Humu'ula was designated as one of the lands set aside for Native Hawaiian homesteaders, the land was held under leases by Parker Ranch from 1914 to 2002. No pastoral homesteading lands became available until around 1990—this as a result of efforts on the part of Native Hawaiian applicants on the wait list for pastoral lease lands. The final lease of Parker Ranch on lands of Humu'ula ended in August 2002. In the years leading up to the end of the lease, the Department of Hawaiian Home Lands, beneficiaries and applicants initiated dialog to formulate a plan for land stewardship and lessee opportunities on portions of Humu'ula and Pi'ihonua. At the time of this writing, *'Ōiwi Lōkahi o ka Mokupuni o Keawe*, in cooperation with the Department of Hawaiian Home Lands and Townscape, Inc., are working on a master plan to accomplish a program of leases and stewardship on Humu'ula and Pi'ihonua.

That Hawaiians have long been in favor of, and contemplating such uses by beneficiaries of the Hawaiian Home Lands Trust, is evidenced in the voices of our *kūpuna*, and was given voice in a public forum, as early as December 1920, when efforts to ensure passage of the HHCA were still underway. On December 2nd, 1920, Stephen Desha, Sr., editor of the Hawaiian language newspaper, *Ka Hoku o Hawaii*, published an article, including an interview with an elder Hawaiian rancher, and *kama'āina* of the Humu'ula lands. The article, translated by Maly, follows, with the words of William Lindsey, who from his youth, to his old age, traveled and worked Humu'ula and other lands controlled by Parker Ranch.

While the land resource has been degraded since 1920, much of what the elder Mr. Lindsey expressed, is still held in the hearts and desires of beneficiaries of the Hawaiian Home Lands Trust:

He Mau Aina Waiwai Nui o Humuula ame Kawaihae-uka no na Hawaii (The Lands of Humuula and Kawaihae-uka are of great value for the Hawaiians)

There are many of us Hawaiians living in these days who do not know the nature of the pastoral lands of **Humuula** and Kawaihae-uka, and some of these people today, believe that these are stony and worthless lands, that the Hawaiians cannot live on.

As a result of this confusion, remaining to this day, the writer asked Mr. Wm. M. S. Lindsey of Waimea, if these lands mentioned above, were good lands or perhaps unfit lands? The straight forward answer of this native of the mountain lands, was this, "The lands of Humuula and Kawaihae-uka are first rate lands, with gold and money to be made."

The writer asked again: "It is said that these lands are bad, filled with stones, and that people cannot live there?"

[Mr. Lindsey responded]

"These are words of deception, words spoken by Makekau at the time of casting ballots, and he is not familiar with the nature of these lands. I am one who is familiar with every inch of the land of Humuula. I have gone there to round up cattle from my youth to my adulthood. This is one of the very best lands of the Parker Ranch in these days."

Another question: "Do cultivated crops grow at this place?"

Answer:

"At Keanakolu and Laumaia are very good lands for planting. Fruit trees such as apples and others grow there, and corn will grow as well. These things will all grow there because the soil is rich. These are places with water, though on the pasture lands of Humuula, there is no water. But, there is much grass growing and the cattle are fat, and the horses as well.

At some places on Humuula, the land below the mountain of Maunakea, are grown the *uwala kahiki* (Irish potatoes) and corn, and feed for fattening the cattle of Parker Ranch."

Lindsey also said: "That if individuals could get 500 acres of grazing land, they would be well off.

Thus we understand: "You can raise cattle, horses, donkeys, turkeys, chickens and pigs. On these mountain lands, there are many wild pigs, and you can tame them, fatten them, and sell them. These days, the wild pigs from Humuula are sold for 8 cents a pound, and you can separate out the pigs that you want to sell. Thus money can be made quickly by the ones who have this land."

"The raising of turkeys and chickens is also a fast way for the stock breeder to earn money. You can raise several thousand turkeys a year, and also chickens, if you know how to care for them. Also, the cattle, horses and donkeys are not burdensome animals to care for, as they roam the pasture lands."

"Cattle raised on this land are very fat. At the time when calves are born, their weight rises quickly, and dairy cattle of this place produce a yellow cream as a result of the rich grasses of this place."

Therefore, there is no trouble for a person as he is first beginning, to get food and clothing through the goodness of these animals. With the passing of two years he will be able to sell his cattle, horses and donkeys, as he pleases. A stock breeder can purchase heads of small cattle from other places and bring them back to this land to fatten them, and in the passing of six months, will have two-fold or three-fold the money returned on them. Thus, you shall see the true value of this land for a man if he could get 500 acres of this place..." [Desha & Lindsey in *Ka Hoku o Hawaii*, December 2, 1920; Maly, translator]

THE 'ĀINA MAUNA DESCRIBED IN ORAL HISTORY INTERVIEWS

Since 1998, Maly has conducted some 40 interviews with more than 35 individuals who have lived upon, worked on, and in some cases had born on the *'āina mauna* surrounding Mauna Kea. The interviews have been conducted in the context of knowledge of Mauna Kea—travel from the lowlands to the plateau lands surrounding the mountain, and up to the summit region—and to document activities undertaken as a part of traditional and cultural practices and historical ranching and forestry work. The interviewees included elder native Hawaiians and beneficiaries of the Hawaiian Home Lands Commission Act of 1920; elder cowboys, former employees of either the Parker or Shipman Ranches; former employees of the Territorial and State Forestry programs; and other *kama'āina* with cultural attachments and first hand experiences upon the *'āina mauna*.

During the interviews, participants were asked about their knowledge of the cultural and historical landscape of the *'āina mauna*—including knowledge of places; traditional practices and access; historical features and trails; ranching practices, and changes in the landscape. Primary interviewees ranged in age from their 50s to mid 90s, and all spoke from personal experiences, and the recollections of their own elders or other elder *kama'āina* with whom they traveled the mountain lands. The interviewee's personal experiences in the region dated from the early 1900s to the present day

Overview of Documentation from Oral Historical Accounts

While many of the interviews cited in the original studies conducted by Maly and Maly (1999, 2002b & 2003) focused on knowledge of Mauna Kea, it was found that discussions of the high mountain lands could not be undertaken without first talking of how one got there, and the activities that took one to the *'āina mauna*. Indeed, for most living interviewees today, travel to Mauna Kea was associated with ranching, forestry, and hunting activities. By the time of undertaking this study, all of the elders—the parent and grandparent generations of the interviewees, who were born in the period between 1850 to 1900, and who traveled to Mauna Kea with their own elders—had passed away. In reading the interviews, it will be seen that a significant portion of the information recorded focuses on the mountain as a whole feature in the cultural and natural landscape, rather than focusing on specific regions or zones. This attachment to the mountain landscape is rooted in antiquity and remains important in the lives of native Hawaiians today, who attribute spiritual and cultural values to Mauna Kea.

The following narratives provide readers with an overview of the primary information recorded about many of the resources on the *'āina mauna*, considered to be significant by interviewees. The site, resource, cultural significance, and documentation on practices has been separated into several general categories below. These categories provide readers with immediate access to key points raised by interviewees and consultation participants. Each of the primary topic categories are also divided into two sub-categories—information recorded in a formal interview, and information recorded in consultation. *Please note that while the information below provides readers with an overview of the cultural-historical information that was recorded as a part of earlier studies, the full interview transcripts and consultation records should be read for further details and to understand the context in which the information was discussed.*

Table 1 on the following pages, provides readers with an introduction to many of the primary interviewees. The list is presented in alphabetical order, and identifies the interviewee's background and time period of the interviews. In addition to the primary interviewees identified in *Table 1*, consultation interviews with several individuals have contributed to cultural-historical information pertaining to the *'āina mauna*. Participants included, but were not limited to: John Hale, Emma Kauhi, Gabriel Kealoha, Maile Kukahiko-Akimseu, Iopa Maunakea, and Ed Stevens. The information was discussed and recorded as personal communications.

Table 1. Background of Primary Interviewees

| <i>Name of Interviewee</i> | <i>Year Born</i> | <i>Ethnicity</i> | <i>Birth Place</i> | <i>Male (M) Female (F)</i> | <i>Place of Residence</i> | <i>Year(s) and Number of Interviews, and Comments</i> |
|---|------------------|----------------------------|-----------------------------|--------------------------------|---------------------------|---|
| Johnny Ah San | 1907 | Chinese-Portuguese | Laupāhoehoe | M | Laupāhoehoe (deceased) | 1998 (2). Retired Mauna Kea Forestry employee. |
| Teddy Bell, Sr. | 1923 | Part Hawaiian | Waimea | M | Waimea (deceased) | 1998 & 2003 (3). Retired cowboy and construction worker. |
| Lloyd Case | 1949 | Part Hawaiian | Waimea | M | Waimea | 1998 (1). Hawaiian practitioner; construction worker; and subsistence hunter. |
| Rally Greenwell & wife, Pat Greenwell | 1913 1924 | Caucasian | Honokōhau | M | Waimea | 2000, 2002, 2003 (4). Began working the Parker Ranch lands in the early 1930s, and traveled to Mauna Kea with elder Hawaiian cowboys. Worked the Humu'ula-Ka'ōhe lands, and served as ranch manager in the 1960s-1970s. |
| Albert Kahiwhiwaokalani Haa Sr. & son, Albert K. Haa Jr. | 1930 1953 | Hawaiian | Kapoho | M | Waiākea | 1998 (1). Retired from Military and State corrections program; Hawaiian ranching family with ties to Mauna Kea. |
| Jess Hannah & niece, Barbara Ka'apuni Phillips-Robertson | 1916 1936 | Caucasian Part Hawaiian | Pennsylvania Waiki'i | M F | Waimea | 2002 (2). Former Parker Ranch water man on the mountain lands; married to descendant of Ka'apuni family with generational attachments to the <i>'āina mauna</i> . |
| Coco K. Vredenberg-Hind & son, Robby Hind | 1923 | Part Hawaiian | Honolulu (raised in Waimea) | F | Hōlualoa (deceased) | 1998 (2). Descendants of Hawaiian ranching family, with generational ties to the <i>'āina mauna</i> . |
| Toshi Imoto | 1928 | Japanese | Pu'u 'Ō'ō | M | Pāpa'ikou (deceased) | 1998 (1). Retired Cowboy, Shipman Ranch |
| Kalani Ka'apuni-Phillips | 1902 | Hawaiian | Waimea | F | Waimea (deceased) | 1967. Participant in family interview with Larry K. Kimura (Maly, translator). |
| Kaleohano Kalili | ca. 1884 | Hawaiian | Kohala | M | Lā'ie (deceased) | 1956. Participant in Bishop Museum interview; it was the family tradition to take the <i>piko</i> of children to Waiau. |
| Pualani Kanaka'ole-Kanahele | 1937 | Hawaiian | Hilo | F | Pana'ewa | 1998 (1). Hawaiian Educator, cultural practitioner; <i>Ho'opa'a Kumu Hula</i> . |
| Sonny Kaniho | 1922 | Hawaiian | Kawaihae uka | M | Waimea | 1998 (1). Retired Cowboy; Humu'ula Hawaiian Homesteader. Willie Kaniho, father of Sonny Kaniho <i>mā</i> , was one of the preeminent guides on Mauna Kea between 1915 to 1950. |

Table 1. Background of Primary Interviewees (continued)

| Name of Interviewee | Year Born | Ethnicity | Birth Place | Male (M) Female (F) | Place of Residence | Year of Interview(s) and Comments |
|--|------------------|--------------------------|----------------------|------------------------|------------------------------------|---|
| Daniel Kaniho, Sr. | 1932 | Hawaiian | Waimea | M | Waimea (deceased) | 1998 (1). Retired Cowboy; Humu'ula Hawaiian Homesteader. Brother of Sonny Kaniho. |
| Hisao Kimura & Ekizabath Lindsey- Kimura | 1912 1921 | Japanese Hawaiian | Waimea | M F | Waimea (deceased) Waimea | 2003 (3). Began traveling to Mauna Kea in the 1930s. Mr. Kimura was the ranch and worked the Humu'ula-Ka'ohē lands. Mrs. Kimura's family has generational ties to the <i>'āina mauna</i> and has maintained the practice of taking the <i>piko</i> of children to the <i>piko</i> of the mountain. |
| Alika Lancaster & wife, Anita (Kamaka'ala- Poli'ahu)- Lancaster | 1930 1942 | Part Hawaiian | Hilo Moloka'i | M F | Keaukaha | 1998 (1). Mason; Hawai'i Loa descendant; Hawaiian practitioner. Poli'ahu-Hawai'i Loa descendant. |
| Ah Fat Lee & wife, Barbara Lee | 1914 | Chinese | Hālawā, Kohala | M | Kohala | 2002 (2). Began working for Parker Ranch on the mountain lands in the 1930s; later from the 1950s to 1970s, Mr. Lee worked with the Territorial Fish and Game Division, living at Pōhakuloa, and traveling the mountain lands. |
| James Kahalelaumāmane Lindsey | 1882 | Hawaiian | Waimea | M | Waimea (deceased) | 1966. Participant in family interview with Larry K. Kimura (Maly, translator). |
| Kamaki Lindsey | 1932 | Hawaiian | Pu'u Wa'awa'a | M | Kaulana | 2002 (2). Retired cowboy, worked the Waiki'i-Pōhakuloa ranch lands; descended from families who traveled to Mauna Kea, to deposit the <i>piko</i> of new born children at locations on the summit. |
| Irene Lindsey- Ferguson & Romona Ferguson-Kalalau and family members | 1932 | Hawaiian | Waimea | F | Waimea | 1998 (1). Descendants of families with generational ties to Mauna Kea, and ongoing cultural practices. In between the 1950s to 1970s, the family lived on the mountain lands, as the late Mr. Ferguson was a Territorial Forester. |
| Pete L'Orange | 1933 | Part Hawaiian | Waipahu | M | Waimea | 1998 (1). Retired Parker Ranch/Humu'ula Station manager; land use planner. |

Table 1. Background of Primary Interviewees (continued)

| Name of Interviewee | Year Born | Ethnicity | Birth Place | Male (M) Female (F) | Place of Residence | Year of Interview(s) and Comments |
|--|-----------|------------------|-------------|------------------------|------------------------|--|
| Judge Martin Pence | 1904 | Caucasian | Kansas | M | Honolulu (deceased) | 1998 (1). Federal Judge; Mauna Kea Hunter (1930s-1970s). |
| Tita Spielman & son, J.K. Spielman | 1924 | Part Hawaiian | Waiākea | F | ‘Ōuli | 1998 & 2004 (2). Parker-Low family descendants; remains of family members buried on Mauna Kea. |
| Hannah Kihalani Springer | 1952 | Part Hawaiian | Ka‘ūpūlehu | F | Ka‘ūpūlehu | 1998 (1). Hawaiian practitioner; historian. |
| David Woodside | 1924 | Caucasian | Kapa‘au | M | Waimānalo | 2002 (1). Began traveling the mountain lands in the early 1940s, and went on to become a Territorial Forester, with job responsibilities covering the Humu‘ula-Ka‘ohe mountain lands of Mauna Kea. |
| Jiro Yamaguchi | 1924 | Japanese | Waimea | M | Waimea (deceased) | 1998, 2002 & 2003 (3). Retired Parker Ranch cowboy. Traveled and worked the mountain lands from the 1930s to the 1990s. |

Heiau (Ceremonial Sites) and Spiritual Significance

In Hawaiian culture, natural and cultural resources are one and the same. Native traditions describe the formation of the Hawaiian Islands and the presence of life on and around them, in the context of genealogical accounts. All forms of the natural environment, from the skies and mountain peaks, to the watered valleys and plains, and to the shore line and ocean depths were the embodiments of Hawaiian gods and deities. One Hawaiian genealogical account, records that Wākea (the expanse of the sky) and Papa-hānau-moku (Papa who gave birth to the islands)—also called Haumea-nui-hānau-wā-wā (Great Haumea—Woman-earth born time and time again)—and various gods and creative forces of nature, gave birth to the islands. Hawai‘i, the largest of the islands, was the first-born of these island children. As the Hawaiian genealogical account continues, we find that these same god-beings, or creative forces of nature who gave birth to the islands, were also the parents of the first man (Hāloa), and from this ancestor, all Hawaiian people are descended (cf. David Malo 1951:3; Beckwith 1970; Pukui and Korn 1973).

In some genealogical chants, Mauna Kea is referred to as “Ka Mauna a Kea” (Wākea’s Mountain), and it is likened to the first-born of the island of Hawai‘i (Pukui and Korn 1973). In Hawaiian practice, elders are revered—they are the connection to one’s past—and they are looked to for spiritual guidance (Interview with Tita and JK Spielman; Pua Kanahale pers comm. Dec. 1, 1998 and interview Dec. 11, 1998; and Handy and Pukui 1977). In this case, Mauna Kea, the mountain landscape itself is a sacred ancestor.

In regards to specific features, native traditions such as the Boundary Commission Testimonies collected as early as 1873; field survey work conducted by W.D. Alexander and party in 1892; and an archaeological survey (Hudson ms. 1930), provide specific documentation of worship or sites of worship on Mauna Kea, including the presence of *heiau* in the summit region. A 1926 photograph in the collection of Bishop Museum (No. CP 14969) shows Willie Kaniho sitting on what appears to be a stone platform on the summit plateau of Mauna Kea (interview with Sonny and Daniel Kaniho). Interviewee, David Woodside, reported learning of a *heiau* in the vicinity of Kaupakuhale.

Detailed documentation of the “ritual landscape” of Mauna Kea as recorded in archaeological surveys is documented in studies prepared by the State Historic Preservation Division (DLNR-SHPD).

- None of the interviewees recalled hearing the names of *heiau* or other ceremonial sites on Mauna Kea and the neighboring *‘āina mauna*.
- Alika Lancaster (as a participant), Albert K. Haa Sr. (and Jr.), and Lloyd Case (being told by elders) share accounts learned from elders of individuals going to the summit region of Mauna Kea to offer prayers.
- Members of the Haa family specifically describe the work of their *kupuna*, Ioane Haa, on Mauna Kea as being work of *Akua* (Gods). He retreated to Mauna Kea to worship in secrecy (in the old way), because to do so publicly was *kapu*.
- Alika Lancaster describes Mauna Kea as a sanctuary in ancient times. The area above the forest line was so sacred that once in the upper region, your enemies could not pursue you.
- Other interviewees feel that it is likely that worship occurred on Mauna Kea.
- All interviewees attributed spirituality and healing qualities to being on Mauna Kea; and several stated that they still go to Mauna Kea for prayer and restoration.

Pua Kanaka’ole-Kanahale provides readers with detailed narratives of the spiritual significance of Mauna Kea, the Mountain of Wākea in Hawaiian traditions of creation. She observes that Mauna Kea is considered to be *kupuna* (elder), the first born, and is held in high esteem. In native traditions, Mauna Kea is identified as “*Ka mauna a Wākea*” (The Mountain of Wākea—traditional god and father of Hawai’i—who’s name is also written “Kea”). There are many *mele ali’i* (chiefly chants) that identify Mauna Kea as foremost in the genealogies of the *ali’i*. Mauna Kea is the source of a high sense of spirituality. It is the *‘aha ho’owili mo’o* (genealogical cord that ties earth to the heavens). (MKAC meeting Dec. 1, 1998 and interview of December 11, 1998)

Trails and Access

In the period leading up to the mid 1800s, travel to Mauna Kea was done on foot, along a system of trails that crossed the mountain lands. By the later nineteenth and early twentieth centuries, those trails were often traveled on horseback, and while fewer of the trails were used, travel still generally occurred on traditional trails. The trails of Mauna Kea are unique features that linked communities and cultural and natural resources together. To reach the summit, people departed the near-shore and plains lands, and traveled the mountain slopes to the summit region. Thus, the signature or evidence of visitation and site use from pre-contact and through the historic period, has been recorded across the mountain. Family traditions pertaining to journeys on the mountain trails, and knowledge of Mauna Kea—handed down by elders—are still retained as important family history today. A number of the interview participants still travel to Mauna Kea for spiritual well-being and recreational opportunities.

- Interviews with James K. Lindsey, Johnny Ah San, Hisa and Elizabeth Lindsey-Kimura, Teddy Bell, Sr., Rally Greenwell, Sonny and Daniel Kaniho, Toshi Imoto, Ah Fat Lee, Alika and Anita Lancaster, Albert K. Haa Sr. (and Jr.), David Woodside, Irene Lindsey-Fergerstrom (with Romona Fergerstrom-Kalalau and relatives of the Lindsey-Kealamakia line), and Lloyd Case, provided descriptions of trail systems that approach Mauna Kea from all sides of the mountain. Several of these trails were still traveled by the interviewees in their youth, or were described by their elders who still used the trails through the 1930s. Two of the trails, the Makahālau-Kemole-Waiiau Trail, Waiki’i-Pu’u Lā’au-Waiiau Trail (interviews with Kahalelaumāmane Lindsey and Teddy Bell, Sr.) are generally

unknown to most people today. Another important trail described in the interviews is the Laupāhoehoe-Waipunalei-Keanakolu Trail to the summit of Mauna Kea (interviews with Johnny Ah San).

- Of particular interest to the history of trail use is the fact that many of the trails converge at Waiau (reference interviews cited above). The trails ascend the slopes of Mauna Kea from nearly all the major-, and many-smaller *ahupua'a* which lie upon Mauna Kea. Testimonies gathered by the Commission on Boundaries from native informants in the 1870s (see excerpts earlier in this study), describe *ahupua'a*-specific rights of use and collection of resources from the forests and flat lands surrounding Mauna Kea, and to the slopes and summit region of the mountain. Historical accounts, and oral history interviews document that at certain on the *'āina mauna*, travelers and practitioners would stop to offer prayers. The different trails leading up the mountain indicate that people from various regions of the island had reasons to visit Mauna Kea as well.
- Elizabeth Lindsey-Kimura, Irene Lindsey-Fergerstrom (and relatives of the Lindsey-Kealamakia line, including elders recorded in 1966 & 1967), Teddy Bell, Sr., and Kamaki Lindsey shared family traditions of travel along the trails of Mauna Kea. They also shared accounts of a visit made by Queen Emma to Mauna Kea in ca. 1881. The Queen was led by William Seymour Lindsey, and as a result of his help to her, the Queen named one of the Lindsey children "Ka-hale-lau-māmane" (The house made of *māmane* leaves.) The name commemorates an event that occurred on the ascent to Mauna Kea.
- Albert K. Haa Sr. (and Jr.), Alika and Anita Lancaster, and Lloyd Case, shared information that their elders traveled the Mauna Kea trails to worship in the summit region and gather water from Waiau. The water was used for healing and ceremonial practices.
- Teddy Bell, Sr., Sonny and Daniel Kaniho, Tita Spielman (with JK), Albert K. Haa Sr. (and Jr.), Alika Lancaster, Barbara Ka'apuni Phillips-Robertson, and William Akau provided information they learned from their elders about travel to Mauna Kea to procure stone for adze making, which occurred in ancient times.
Johnny Ah San also recalled information about the practice as he learned of it from old native informants.
- Toshi Imoto, Tita Spielman (with JK), Daniel Kaniho, Johnny Ah San, and Lloyd Case provided information about the use of the Mauna Kea-Humu'ula Trail (later the Mauna Kea Road) for the purpose of taking individuals ash remains to the summit of Mauna Kea for release.
- Martin Pence, Johnny Ah San, Rally Greenwell, Sonny and Daniel Kaniho, Theodore Bell, Toshi Imoto, Albert K. Haa, Sr. (and Jr.), Alika Lancaster, Pete L'Orange, David Woodside, Ah Fat Lee, and Lloyd Case provided detailed discussions of their own use of trails on Mauna Kea. Use was primarily associated with Territorial Forestry operations, ranching, hunting, and recreational activities.
- William Akau, a Kawaihae native, learned from his elders of the traditional use of a Mauna Kea trail. The trail was situated on the north-western slope of the mountain, and reached by individuals from other islands, who landed their canoes in the Kiholo vicinity and went to Mauna Kea to gather adze making stones from the summit region.
- John Hale and Gabriel Kealoha, native residents of the Puna District, learned from their elders that families of Puna traveled to the upland *koa* forests on

Mauna Kea and made canoes there. They then returned to the shore with the canoes, and traveled back to Puna by sea.

- Ed Stevens describes the use of trails ('Umikoa and Waipunalei) by priests traveling to Mauna Kea for ceremonies.
- Maile Akimseu testified that her *kūpuna* walked the trails on Mauna Kea (noting that part of her genealogy ties back to 'Umi-a-Līloa; with whom the 'Umikoa-Mauna Kea Trail is associated).
- While most interviewees were unfamiliar with the 1870 alignment of the Government Road between Hilo, Kalai'eha and Pu'u 'Ō'ō—they had not personally traveled it—Toshi Imoto had been told of the trail by his father, who in the period from ca. 1890 to the turn of the century, had traveled it and even driven pigs from Governor Baker's Puu Oo Ranch to Hilo on the route. Johnny Ah San also traveled the trail when employed by L. William Bryan in the CCC; and in a field visit, pointed out various locations that the old route could be seen from, or intersected the present-day Saddle Road.
- Interviewees, Rally Greenwell, Teddy Bell, and Toshi Imoto all traveled the Pu'u 'Ō'ō-'Āina Hou-Keauhou Trail as a part of ranching operations, but indicated that after 1940, most travel between ranch stations at Keauhou and Kahuku, in Ka'ū and the Hilo stations, was facilitated through use of vehicles. Johnny As San and David Woodside traveled the route as far as Keauhou and Kahuku, while conducting work for the CCC or Territorial Forestry Division.
- It was noted by nearly all interviewees, that between 1900 to 1940, travel on the mountain lands surrounding Mauna Kea and Mauna Loa, was carefully controlled by the ranches and L. Bill Bryan of the CCC and Territorial Forestry programs (*Figure 21*). Hunting, except for official ranch and forestry programs was almost non-existent until after the 1940s, when the Territorial program was organized. While access to the mountain lands was controlled, it also appears from the interview records, that many of those families who had attachments to the *'āina mauna* were also tied to the ranches, thus access was not an issue.

Pā ilina (Burial Practices and Sites)

All of the interviewees who were asked about their feelings of the treatment of *ilina* (burial sites), expressed their desire that *ilina* be protected in place. While none of the interviewees reported knowing of specific locations of burials in the immediate area of the Mauna Kea summit, many spoke of *ilina* in cinder cones, and other natural features in the region extending from about the 12,000 to 7,000 foot elevation. The presence of many burials on Mauna Kea, ranging from the summit region to the forest zone was recorded as early as 1873 in testimonies before the Boundary Commission, with subsequent documentation in the 1880s and 1890s by surveyors and historic visitors (see historical documentation in this study). Knowledge of the occurrence of burials on Mauna Kea and the *'āina mauna* has been handed down through present times.

- Alika and Anita Lancaster, Sonny and Daniel Kaniho, Albert K. Haa Sr. (and Jr.), Lloyd Case, and Irene Lindsey-Fergerstrom (with Romona Fergerstrom-Kalalau and relatives of the Lindsey-Kealamakia line) shared their understanding that the individuals buried on Mauna Kea were of an elite class, and considered sacred.
- Alika Lancaster further records learning from his elders that all the high mountain *pu'u* contain *ilina* (burials).
- Johnny Ah San, Sonny and Daniel Kaniho, Alika Lancaster, and Lloyd Case share first hand knowledge of the presence of *ilina* at several of the *pu'u* on Mauna Kea, including but not limited to—Mākanaka, Kaupō, Pu'u Loa, Kanakaleonui, Keanakolu, Pu'u Kihe, Pu'u Kālepa, Pu'u Mali, and Kemole.



Figure 21. Cowboys Frequently Traveled to the Summit of Mauna Kea.
Back Row: Frank Vierra, Martin Martinson, Sr., James Greenwell, Martin Martinson, Jr., and Harry Koa; Front Row: Rally Greenwell, Sam Liana, William Kawai, and Geroge Purdy. (Photo, 1938; courtesy of Rally Greenwell)

A Bishop Museum Photograph (No. CP 14970) discussed in the interviews with Sonny and Daniel Kaniho, and Johnny Ah San, shows Lester Bryan and Willie Kaniho sitting outside of a small cave identified as a burial site by H. Gregory (BPBM Field Notes and Photograph; July 24, 1926)

- Albert K. Haa Sr. (and Jr.), and Pete L'Orange have heard of the presence of *ilina* on Mauna Kea from elders.

Albert K. Haa Sr. (with his son), expressed the thought that his great grandmother (the wife of Ioane) was buried somewhere on Mauna Kea.

- Tita Spielman (with JK), Toshi Imoto, Johnny Ah San, Sonny and Daniel Kaniho, Theodore Bell, and Lloyd Case stated that since 1954 several family members or close friends of theirs have had their cremated remains taken to the summit of Mauna Kea for release.

The ashes of Tita Ruddle-Spielman's grandfather (Eben Low) and her mother and father (Annabelle and Albert Ruddle), were taken to the summit of Mauna Kea to be released. Tita (with JK) stated that until a few years ago she was going to have her own ashes taken there as well. But because of the amount of development on the summit, Tita changed her plans and so notified her children.

While cremation of remains is not a traditional Hawaiian practice, the practice of taking loved one's remains to special landscapes—considered to be the realm of the gods—is an ancient Hawaiian custom. Today, the burial of family remains at a place such as one of the *pu'u* of Mauna Kea may not be feasible. Yet the depth of and on-going cultural attachment to landscape remains strong. Thus, the traditional practice of interment in special landscapes has been adapted to allow for its continuation (see also the interview with Pua Kanaka'ole-Kanahele for further discussion on the cultural significance of this practice).

- Johnny Ah San and Theodore Bell have it written in their wills that upon their

passing away their ashes are to be taken to Kalua Kauka and Pu'u Nānā (respectively), on the slopes of Mauna Kea.

- All interviewees who were asked, specifically stated that burial remains should be protected in place.
- Both Teddy Bell and Alika Lancaster worked on the original road and telescope pads in the mid 1960s, early 1970s. They stated that during that time, they did not see, or hear of burial sites being disturbed as a part of construction activities.
- Iopa Maunakea's *kūpuna* taught him that the reason people were buried atop Mauna Kea was because they desired to be close to *Akua* (God).

Waiau

Waiau is one of the significant features on Mauna Kea that also has an important role in the traditions of the mountain. Of particular importance in traditions and some of the oral history interviews are accounts that associate the water of Waiau with the god Kāne and documentation that the water is important to the on-going practices of native healers and practitioners.

- Traditions passed down through descendents of the Lindsey family describe that it has been the custom of their family to take the *piko* (umbilical cords) of children born in the family to Waiau and the summit peak of Mauna Kea.
- Pua Kanaka'ole-Kanahele described the waters of Waiau as the most spiritually and culturally significant in all the islands.
- Alika and Anita Lancaster and Lloyd Case stated that their elders regularly traveled the mountain trails to Waiau to collect water to be used for healing purposes. Lloyd Case also describes customs associated with collection of water from Waiau to be used for healing purposes.
- Johnny Ah San, Rally Greenwell, Hisa Kimura, Theodore Bell, David Woodside, Tita Spielman (with JK), Toshi Imoto, Sonny and Daniel Kaniho, Coco Hind, and Alika Lancaster all provide descriptions of visits to Waiau in the period between 1932 to the 1960s.
- Theodore Bell recalled that in his youth, there was an *ahu* near Waiau, close to the Mauna Kea-Humu'ula Trail, in which a glass bottle was kept. In that bottle were placed papers on which the names of visitors to Mauna Kea were kept.
- Barbara (Ka'apuni) Phillips-Robertson (daughter of Kalani Ka'apuni-Phillips, interviewed by Kimura in 1967), noted that her mother discussed the custom of taking *piko* to Waiau on Mauna Kea. Her mother described it as a unique custom of the people of Waimea—there was (and remains) a strong connection between the native families of Waimea and Mauna Kea (pers comm. December 22, 1998).

As noted above, Hawaiian members of the Lindsey family have a tradition of taking the *piko* of their children to Waiau and the summit of Mauna Kea. This custom was first brought to the author's attention in 1997, by aunty Emma Kauhi (a native of Kapa'ahu, Puna), who provided the author with a historical account about Waiau, published as a part of a special insert of the Hawaii Tribune Herald. Titled "*Mauna Kea (Past, Present and Future)*" (January 27, 1980), one of the articles was authored by archaeologist, Pat McCoy, who wrote that "there are reports of certain families depositing the umbilical cord (*piko*) of newborn babies in Lake Waiau at the 13,020 foot elevation" (McCoy in the Hawaii Tribune Herald, 1980:B-3). Aunty Emma found the reference very interesting, but had not personally heard of the practice (pers comm.).

Keanakākoʻi (or Kaluakākoʻi) – Adze Quarries

In 1964, the Mauna Kea Adze Quarry was placed on the National Register of Historic Places and designated a National Historic Landmark. It is the largest prehistoric quarry in the world, extending at least seven miles across the summit region of Mauna Kea. Many sites, including, but not limited to shrines, habitation features, and burials are associated with the adze quarries. In the period from the 1860s through the 1880s, Ka-lua-kā-koʻi (The adze making pit – quarry) was recorded as a name for the quarries, with a specific named location identified near the Mauna Kea-Humuʻula Trail. By the 1890s, and subsequently through modern times, the name has been written as Ke-ana-kā-koʻi (The adze making cave). Traditions and historical accounts describe the protocols and customs associated with the collection of stone and manufacture of adze, which was still practiced through the early 1800s. Stone adze quickly gave way to metal tools. Many of the interview participants traveled to Mauna Kea in the 1930s to 1950s with elder *kamaʻāina*, and the adze quarries were pointed out to them as being one of the significant cultural features on Mauna Kea.

- Johnny Ah San, Theodore Bell, Sonny and Daniel Kaniho, Coco Hind, Alika Lancaster, Tita Spielman, Lloyd Case, and Irene Lindsey-Fergerstrom (with Romona Fergerstrom-Kalalau and relatives of the Lindsey-Kealamakia line) all traveled to Mauna Kea with members of their family and visited the adze quarries. On those visits, they heard short accounts of the process of making adze on Mauna Kea, and the value of the stone to the ancient Hawaiians.
- Alika Lancaster describes customs associated with collection of stone for adze making as learned from his elders.
- Other interviewees also visited the quarries in the company of friends.
Interviewees, Ah Fat Lee, David Woodside, Teddy Bell, Jess Hannah, Irene Lindsey-Fergerstrom, and others reported having seen numerous caves on the plateau lands between Humuʻula and Waikiʻi, where adze makers, bird catchers and other travelers formerly stayed while on the *ʻāina mauna*.
- As noted above, under the heading of “Trails and Access,” as a child, William Akau heard his elders talking about visits made by people from other islands to Hawaiʻi. In ancient times, canoes would land in the Kīholo vicinity, and people walked the trails along the gentle slopes of Mauna Loa-Mauna Kea to the summit to harvest and shape stone. Mr. Akau knows the location of a stone just inland from the shore of Kīholo, that was reportedly used as a polishing stone for adze brought down from Mauna Kea..

Valued Facets of the Cultural Landscape on the ʻĀina Mauna

There is an ancient Hawaiian saying “*Mauna Kea kuahiwi ku haʻo i ka mālie*” (Mauna Kea is the astonishing mountain that stands in the calm) (Pukui 1983: No. 2147), that suggests that Mauna Kea is a source of awe and inspiration for the Hawaiian people. Mauna Kea figures in a number of traditional accounts, and many of its place names are directly attributed to the interaction of gods with the land and people. The discussion under the heading of “*Heiau* (Ceremonial Sites) and Spiritual Significance,” provides readers with an introduction to native Hawaiian beliefs surrounding the birth of the islands, and the prominence of Mauna Kea in Hawaiian genealogies—the mountain is a respected elder, a spiritual connection to one’s gods. Thus, landscape can be interpreted as a significant facet of a Hawaiian’s identity. Also, the discussions above, under the heading of Waiau, add further insight into the relationship of land to cultural practices, customs, and beliefs.

There are people today who tie the name Mauna Kea to that of Wākea, the forefather of the Hawaiian race and liken the mountain to one of his body forms. Native families also retain names such as Maunakea, Poliʻahu, Lilinoe, and Waiau, which in some cases are directly tied to the mountain landscape. All of the interview participants, regardless of cultural affiliation, expressed deeply rooted sentiments about seeing Mauna Kea and the mountain lands. Everyone spoke of their sense of

spiritual well-being in either viewing, or being on Mauna Kea. And a number of the interviewees affectionately refer to Mauna Kea as “my mountain.”

During the interviews, several interviewees lamented that their parents or grandparents had passed away before an interview process was undertaken. The families recounted that their elders knew the names of every *pu'u*; they knew of all the trails, various sites and features, and traditions of Mauna Kea. But because of the remoteness of the summit region and historic changes in native Hawaiian land tenure and practices associated with resource usage, the interviewees noted that their primary experiences in the summit region of Mauna Kea came from infrequent visits made with elders, or later on their own. Thus, only limited site specific documentation of summit sites and place names was recorded. As a result of historic ranching, forestry, and hunting activities much of the site specific information recorded as a part of oral history interviews pertains to the elevations below the summit and reaching into the forest zone.

In addition to the storied and sacred nature of the Mauna Kea landscape—sites and features as those identified above—traditional accounts and interviewees also identify several features of cultural or historical significance on the *‘āina mauna*. Some of these features are on lands being set aside for use by beneficiaries of the Hawaiian Homes Commission Act of 1920. The following notes and photographs highlight several of those comments and features. *Readers please note that the following list is by no means comprehensive or exhaustive.* The list is meant only to highlight the diversity of the cultural-historical resources on the landscape, and provide interested readers with an overview of such resources:

Portions of the Hilo-Kalai'eha Road alignment remain visible along the present-day Saddle Road (interviews with Johnny Ah San, and historical documentation in this study).



Figure 22. Portion of the 1870 Hilo-Kalai'eha Government Road between the present-day 19 and 20 Mile markers (Photo KPA-1724).

The intersection of the Pu'u 'Ō'ō-'Āina Hou Trail (interviews with Johnny Ah San, Teddy Bell, Sr., Rally Greenwell, Toshi Imoto, and David Woodside).



Figure 23.
Gate to the Pu'u 'Ō'ō-'Āina Hou Trail at present-day Saddle Road crossing.
(Photo KPA-3931).

Remains of an enclosure from the early Humuula Ranch Station at Kalai'eha (interviews with Teddy Bell, Sr., and Hisa Kimura).

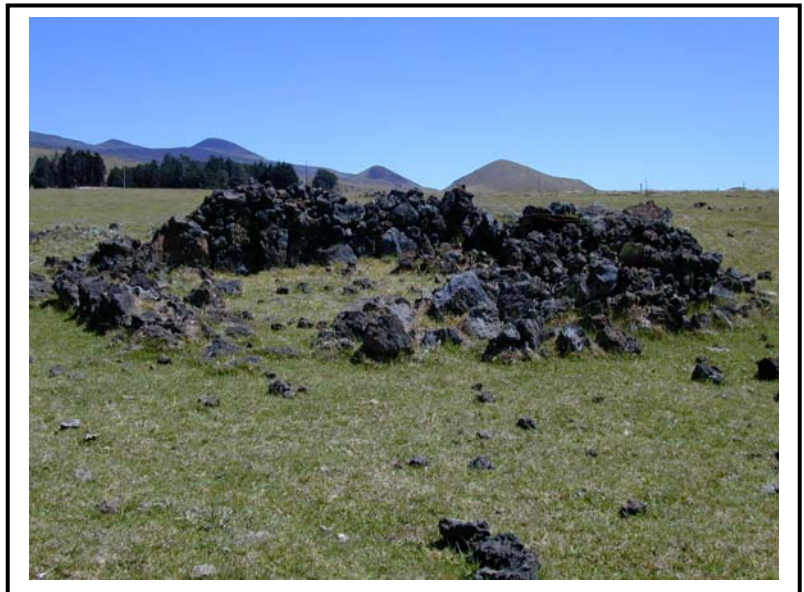
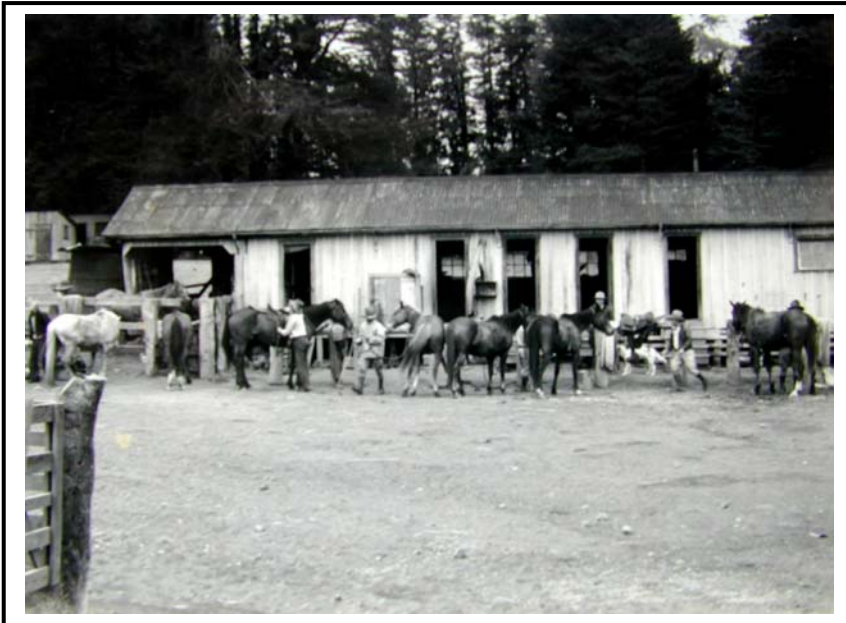


Figure 24. Photo KPA-2891.



Buildings of the Kalai'eha facility of the Humu'ula Sheep Station (interviews with Johnny Ah San, Teddy Bell, Sr., Rally Greenwell, Hisa Kimura, Pete L'Orange,).

Figure 25.
The Bunk and Saddle House of the Humuula Sheep Station, ca. 1935 (Copy Photo KPA-3789; courtesy of Hisa Kimura)



Figure 26. Humuula Sheep Station, Kalai'eha Section. Depicting the Upper section of the Hilo-Kalai'eha Road; 'Oma'oko'ili Hills; and portion of the Kalai'eha Road to Ka'ohe Boundary. (U.S. Army Photo No. 37389 A.C.; 1941. National Archive and Records Administration).

Figure 27.
The Kalai'eha Sheep Sheering
Barn (2002). (Photo KPA-3702)



Figure 28.
Interior of the Kalai'eha Sheep
Sheering Barn (2002).
(Photo KPA-3697)

Portion of “Kulaka,” an old stone pen, into which wild cattle were driven; one of the original features of the Humu’ula ranching operations, dating from ca. 1860 (interviews with Teddy Bell, Sr.). Wall running *mauka* into cloud cover, in center of photograph.



Figure 29.
“Kulaka” (Photo KPA-N022).



Storied landscape of the ‘Ōma’oko’ili and ‘Ōma’okanihae Hills are named for deity and guardians of the mountain lands (see traditional documentation in this study).

Figure 30. Photo KPA-N007.



The ‘Ōma‘oko‘ili and “Wether” Paddock stone walls of the Humu‘ula Sheep Station (interviews with Johnny Ah San, Teddy Bell, Sr., Rally Greenwell, and Jiro Yamaguchi).

View towards ‘Ōma‘oko‘ili, with Mauna Kea in background.

Figure 31. Photo KPA-3806.



Figure 32.
Stone wall of the “Wether” Paddock – ‘Ōma‘oko‘ili Section, along present-day Saddle Road; towards Pu‘u Huluhulu. (Photo KPA-3930)

The name Pōhakuloa is given for a deity and guardian of the waters of Waiau (see traditional documentation in this study).



Figure 33.
Storied Landscape of Pōhakuloaa
(Photo KPA-3256)

The *heiau* on Pu'u Ke'eke'e (Pu'u Kēke'e). Interviewees Pat Greenwell and Hisa Kimura indicated that they had heard from elder Hawaiian cowboys about a *heiau* in the Pu'u Ke'eke'e vicinity, but that they had not personally seen it.



The 1869 map of the formal Hilo-Waimea Mountain Road (Figure 7 b) also identifies the location of “Naopili,” on the Mauna Kea side of Pu'u Ke'eke'e. Naopili is identified in Boundary Commission Testimonies as being a cave—and area frequented by traditional hunters of *ua'u* and *nēnē*, and those who traveled the mountain lands (HSA – Interior Department Lands, 1866, in Maly 2002a).

Figure 34.
Pu'u Ke'eke'e viewed from
Saddle Road, towards Mauna
Loa. (Photo KPA-3638)

David Woodside and Johnny Ah San described the development of the paved Saddle Road alignment, noting that the present alignment through the Humu'ula-Ka'ohe section was specifically set out in order to protect the important *māmane* forest. It was recalled that L. Bill Bryan was insistent that the military not impact the forest and habitat resources.

**Figure 35. The “New” Saddle Road, 1942
Shot across 1935 Lava Flow, ‘Ōma‘oko‘ili stone
walls, and towards Pu‘u Huluhulu.
(KPA Copy Photo Courtesy of Johnny Ah San)**



**Figure 36. Saddle Road – ‘Ōma‘oko‘ili Section Paddock Walls to Pu‘u Huluhulu (2002)
(Photo KPA-2996).**

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