

to Kapua & onwards a distance of 30 miles including all our arable land except here and there a small patch where the owner with uncommon vigor defended it, was burnt over & the food thoroughly baked. Often the man after watching his plantation a whole night would leave it supposing it past danger when some sudden turn of the wind would change the direction of the fire, & before he could again reach it, his whole plantation be consumed.

There has been a decrease of children in our field the last 5 years, upwards of 250... The population in our field is diminishing. There is no place probably among us where it is on the increase. Kaawaloa which in 1835 numbered 460 inhabitants has now only 160 either on the land or considered as belonging to it... The famines too are thinning off our inhabitants.

There are two or three vessels constantly plying between our place & Oahu & every vessel that left for several weeks was loaded down with passengers so as scarcely to afford a foot room for the captain. But a part of these will never get back. They are trusted for their fare to Oahu & when they return they are required to pay the fare for both ways. Their lands in the mean time, lying uncultivated, they will have nothing to eat should they return... [M. Ives Ms. 1846:2-5; MHM Kealakekua 1839-1857; Mss 2a H31 Kealakekua]

On October 9<sup>th</sup>, 1848, the Minister of Public Instruction conducted an examination of schools on the island of Hawai'i. From his journal, we see that little attention was paid to land of Northern Ka'ū and Southern Kona, which was passed by canoe, with only a few villages noted on the way:

Oct. 9 Sailed at midnight from Kailikii in a canoe with Lapuwale & 3 other natives. In a dangerous sea, the outrigger gave way & but for the courage & skill of a native who sprang into the waves and seized it, & lashed it fast, we should have been capsized, where there was no possibility of landing. At about 1 o'clock in the morning, God be praised for our deliverance. As we passed along the coast of Kona, I visited the schools in the several villages & as in Kau, found the teachers doing but little... [HSA Public Instruction, Series 261 Box 1]

1855 – J.D. Paris (Station Report). Paris described the reorganization of the South Kona Mission Station, giving the boundaries of each out-station, and the population therein, beginning at Hōkūkano in the north, and extending to Miloli'i-Kapu'a in the south. The following narratives focus on the Miloli'i section of the station, where Paris describes the custom of living near shore, while maintaining upland cultivated lands, some three to five miles above the shore; such was the practice throughout the lands of the Manukā NAR and into neighboring lands of Ka'ū. By this time, places of worship at some areas were shifting upland (accessed by the *mauka* Government Road), while the schools along the coast continued to be used (under the Office of Public Instruction). Paris wrote—

Mr. Paris' Report 1855

Since our last Annual Report our Church in S. Kona has been reorganized or divided into six branches... This arrangement while it greatly augments the labors of the Pastor or Miss. is nevertheless we think, as this people are scattered over a large extent of country, & can never all meet together, greatly beneficial to them.

The first of these Churches extends geographically from Hokukano on the North to Onouli on the South... ..The other two Churches one at Kaohe & the other at Milolii. The former has 101 members the latter 140. Both these Chhs have comfortable houses to worship in. The one at Kaohe is of thatch, the one [at] Milolii is stone.

These Chhs are made up of the poor of this world & of the poor of Hawaii. Most of [the] people get a lively hood (!) principally by fishing – their villages are mostly near the sea

shore on the barren lava. Their food is cultivated back from the sea shore, the distance of from three to five miles, where the land is generally fertile & with proper culture would produce abundantly. During the year we ordained two Deacons at Milolii & one at Kaohe...

At Milolii. We have some good people & some of whom we stand in doubt. A few living epistles known & read of all men – some whose light shines more dimly & through many clouds & others whose light is darkness... The No. of Births in this District has been greater than in the two preceding (!) years & No. of deaths Smaller:

Births	81	—	Deaths	57...
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The health of the native population & foreign residents in South Kona has been during the past year unusually (!) good. We have had no Epidemics & but little sickness of any kind & comparatively but few deaths. It has been a year of peace & plenty. Our hills & valleys have been watered abundantly with the showers of heaven. The Earth has yielded its increase & the ocean abounded with fish. Some of our people we think are more diligent & industrious than in years past. More patches have been cultivated – more fields fenced – more trees planted more houses built & repaired, & more roads & paths made than in years past. In some of our Villages there is a very marked improvement about the houses & yards every thing wearing a more cheerful aspect.

We have no field waving with golden harvests (as on some other islands) but our people are multiplying their Coffee patches, & the number of Orange trees loaded with golden fruit, are rapidly increasing.

Some of the “thousand hills” are dotted over with cattle & horses; - and vast fields of barren lava, fertilized with streams of living goats... [Report of the Mission Station at Kealakekua – MHM Kealakekua 1839-1857; Mss 2a H31 Kealakekua. Paris 1855]

1863 – J.D. Paris’ Station Report for 1863, included an overview of the history of the Ka’awaloa-Kealakekua Station. Of interest to lands in the Kapalilua region, are descriptions of the three primary church-school stations at the time, and that mission efforts in the region focused on the coastal region until the improvement and re-opening of the mountain road in 1852-1855:

Milolii & Kapua.

This Chh. has its station & house of worship at *Milolii* on the sea shore about 35 or 40 miles from the Miss. Station at Kaawaloa. They have a rough but good stone meeting house...on the sea shore, & another at *Kapua* 5 miles beyond, & another as far distant inland. These are small. Some of the members of this Chh. live at least 15 miles from the central part at Milolii. Except when the Missionary visits them, they never all meet at the same place.... The Chh. was organized in 1855 with 90 members – it now numbers in good standing 180... [Paris Ms. 1863:1-5]

By 1868, the superintendent of schools conducted an examination of schools on the island of Hawai’i. From his report, we learn of conditions of the schools at Kahuku—no school being present in Manukā or Kaulanamauna—and that the Kapu’a school, had been relocated to Okoe:

Kamaoa. School house of wood in good condition. 45 scholars. House stands on original lot, but unfenced.

Kahuku. Wooden house, thatched, in good condition, on original lot and unfenced. 16 scholars. Examined both these schools together and found their proficiency quite good. Kamaoa rather better than Kahuku... Leaving Kau, I visited the following schools in South Kona:

Arriving too late at **Kapua** to examine the school which is held at Okoe, and passing by Milolii which lies too far out of the way by the shore, I arrived at Papa... [HSA Public Instruction Reports, Series 261]

Forty-five years later, W.H. Kinney, described travel through the South Kona-North Ka'ū region, in a guide prepared for visitors to the island of Hawai'i. Kinney (1913) tells us that few houses were located along the shore, between Kapu'a and Kahuku. At Kapu'a, cattle were shipped, and other residences were used periodically by fisher-people:

A fair trail leads through KEALIA, a pretty village which is practically a suburb of HOOKENA, a streamer landing place, [page 63] which was once a village of much importance, but which is now being abandoned by the population, which is Hawaiian. Near the wharf was a place famous in ancient days for the playing of a game with *pupu* shells. In the great cliff south of the village are several caves, some of them still floored with sand, where tapa makers plied their trade. A very poor trail leads *makai* of this cliff to the KALAHIKI village, a small settlement on the south side of the bay, which may also be reached by a better trail on top of the bluff. Here are traces of a four terrace *heiau*. Beyond this there is no practicable trail leading south. There are a few very small fishing villages, Alae, Alike and Papa, which are reached by poor trails from the *mauka* road. It is necessary to travel from Hookena *mauka* to the main road, to Papa, and thence by either road or trail to HOOPULOA, the last steamship landing in Kona. This is another village which is dwindling in population, only a few Hawaiians and a couple of Chinese storekeepers remaining. A fair road leads across a barren *a-a* flow to MILOLII, the largest and best specimen of an exclusively Hawaiian village on the Island, which is seldom visited. It is splendidly situated by a sand beach, the sea coming right up to the yard walls, and is inhabited by a rather large population of Hawaiians, who prosper through the fishing which is almost phenomenally good. A fair trail leads South to HONOMALINO, where there are no houses, but a splendid sand beach, where turtle abound. The trail leads south, along the beach, to the OKOE landing, where there is only one house, and to KAPUA, used as a cattle shipping point, where there are two houses. Just south of this is AHOLE, where there is a perfect papa holua, about 400 to 500 feet long, appearing as if it had been built but yesterday. A few hundred yards south is KAUPU, where there are a few grass houses, and south of this, until Kau is reached, there are only a few widely scattered houses, used only occasionally for fishing. This region is seldom visited. Its chief points of interest are the remains of a *heiau*, *mauka* of the Catholic church at Milolii, some fine *papa konane* at the south end of the same village, a well preserved *kuula* (still used) where fishermen offer offerings of fruit to insure a good catch, by the beach south of Milolii, where the Honomalino ranch fence crosses the trail; while all along the trail are smaller *kuulas*, and at many points the foundations of villages, where old implements may still be found. [Kinney, 1913:65]

### ***Heiau Reported in Uplands of Manukā (1907)***

In 1906-1907, J.F.G. Stokes, an archaeologist working for the Bernice Pauahi Bishop Museum, conducted a survey of *heiau* (ceremonial sites) on the island of Hawai'i. In his survey (Stokes and Dye, 1991), Stokes reported on one *heiau* in uplands of Manukā, which now make up the NAR. This *heiau* (SIHP No. 3659), was described as:

*Heiau* of Kaupoku or Kaneikaupoku, land of Manukā, 2 or 3 miles northeast of the Kona-Ka'ū road. The story was that magical bananas grew there. [Stokes and Dye, 1991:113]

### ***Trails and Roads Through the South Kona-North Ka'ū Region***

*Ala hele* (trails) and *ala loa* (regional thoroughfares) are an integral part of the cultural landscape. The system of *ala hele* and *ala loa* provided access for local and regional travel, subsistence activities,

cultural and religious purposes, and for communication between extended families and neighboring communities. Trails were, and still remain important features of the cultural landscape today.

Historical accounts describe at least two primary trails of regional importance in South Kona, which generally merged into one major trail; with smaller trails on the cliff-side of the Kahuku bluff (Pali o Māmalu). The trail which crossed the *makai* (near shore) lands, linked coastal communities and resources together, was the primary route described by early visitors, as above. The other major trail, known as “*Keala’ehu*” (The path of ‘Ehu), passed through the uplands (in the vicinity of the present Māmalahoa Highway). This trail comes out of Ka’ū, passes into North Kona, and continues on to Ka’ūpulehu, where it then cuts *makai* to Kīholo (meeting with the *makai* alignment of the *alaloa*).

The *alaloa* then continues into Kohala, passing through Kawaihae and beyond. This route provided travelers with a zone for cooler travel, and access to inland communities and resources. The trail also allowed for more direct travel between North and South Kona, and Ka’ū (see Malo 1951; I’i 1959; Kamakau 1961; Ellis 1963).

In addition to the *ala hele* and *ala loa*, running laterally with the shore, there are another set of trails that run from the shore to the uplands (*makai* to *mauka*). By nature of traditional land use and residency practices, every *ahupua’a* also included one or more *mauka-makai* trail. In native terminology, these trails were generally known as — *ala pi’i uka* or *ala pi’i mauna* (trails which ascend to the uplands or mountain). One such trail identified on historic maps is in Manukā, and passing from *mauka* to the *kīpuka* Kamilo’āina—an ancient dryland cultivating ground—and on to the shore by Nā Pu’u a Pele, where it connects with the main coastal trail (see *Register Map No. 2469*).

Along such trails are found a wide variety of cultural resources, including, but are not limited to residences (both permanent and temporary), enclosures and exclosures, wall alignments, agricultural complexes, resting places, resource collection sites, ceremonial features, *ilina* (burial sites), petroglyphs, subsidiary trails, and other sites of significance to the families who once lived in the vicinity of the trails. The trails themselves also exhibit a variety of construction methods, generally determined by the environmental zone and natural topography of the land. “Ancient” trail construction methods included the making of worn paths on *pāhoehoe* or ‘*a’ā* lava surfaces, curbstone and coral-cobble lined trails, or cobble stepping stone pavements, and trails across sandy shores and dry rocky soils.

By the 1830s, the growing missions and business interests, sought the improvement of routes of access around the islands—primarily to facilitate travel by horses and other hooved animals, and wheeled carts. In most cases, the native trails were not safe or even usable for such methods of travel. By the late 1840s, the major thoroughfares (such as the *ala loa* – *Keala’ehu*) became a part of a system of “roads” called the “*Alanui Aupuni*” or Government Roads. Work on the roads was funded in part by government appropriations, and through the labor or financial contributions of area residents and prisoners working off penalties.

It appears that in the Manukā vicinity, the *makai* trail was minimally improved in the 1840s, while the *mauka* trail, *Keala’ehu*, was modified by the 1850s, with improvements continuing throughout the century, until the *makai* route was all but abandoned by the 1860s. Generally, the *mauka-makai* trails in individual *ahupua’a* were maintained by the residents for their use (as protected by the Kingdom through *Kuleana Act of 1850*; and later, the *Highways Act of 1892*). Only selected *mauka-makai* trails were made into formal government roads. No record of such action was found in documents reviewed for lands that make up the Manukā NAR. This does not imply that the right of access for native tenants (as provided for in the *Kuleana Act of 1850*) in *ahupua’a* such as Kapu’a, Kaulanamauna and Manukā were not protected, it simply means that the Kingdom chose to expend funds on primary routes of benefit to the larger public.

The following communications are a part of a collection of records from native residents and government officials regarding travel through the South Kona-North Ka’ū region. The letters identify residents of given lands, the nature of trails and roads, and the evolution of travel in the region

through 1900. Underlining of place names and emphasis given in selected narratives are used by the authors of this study to draw attention to specific narratives.

The following communication from 1847—the earliest one describing “Government” road projects—describes the main route of interest through Kapalilua (South Kona), as being *makai*, where it meets with the route in Ka’ū:

**August 13, 1847**

**G.L. Kapeau, Governor, Island of Hawaii; to  
Keoni Ana, Minister of the Interior:**

*Aloha oe e ka mea Hanohano –*

I have a few questions which I wish to ask you. Will the police officers be required to pay, when they do not attend the Tuesday (*Poalua*) labor days? How about parents who have several children? What about school teachers and school agents? Are they not required to work like all other people when there is Government work on the roads and highways?

I believe that school agents, school teachers and parents who have several children, should only go and work on the weeks of the public, and not on the *konohiki* days....

...The roads from Kailua and down the *pali* of Kealakekua, and from Kailua to Honokohau, Kaloko, Ooma, the place where our King was cared for, and from thence to Kaelehuluhulu [at Kaulana], are now being surveyed. When I find a suitable day, I will go to Napoopoo immediately, to confer with the old timers of that place, in order to decide upon the proper place to build the highway from Napoopoo to Honaunau, and Kauhako, and thence continue on to meet the road from Kau. The road is close to the shore of Kapalilua. Also, the road that is to go *makai* of Kukalaula, below Keauhou [Ka’ū], and then continue to the shore of Puna and Hilo, will probably begin at Keaiwa.

The width of the highways around Hawaii, is only one fathom, but, where it is suitable to widen where there is plenty of dirt, two fathoms and over would be all right... If the roads are put into proper condition, there are a lot of places for the strangers to visit when they come here. The Kilauea volcano, and the mountains of Maunaloa, Maunakea, Hualalai.

There is only one trouble to prevent the building of a highway all around, the steep gulches at Waipio and Pololu, but this place can be left to the very last... [HSA, Interior Department, Roads; translation modified by Maly]

**March 29, 1852**

**Hudsonville (Onouli), Hawaii**

**T.H. Paris (Road Supervisor, S. Kona) to L. Kamehameha (Minister of Interior):**

...I received a letter from your chf. clerk, S. Spencer Esq., requesting me to forward a report respecting the road tax in my district. I hasten a reply and will give you the information referenced so far as I can. The balance of cash in my hands from last year is \$18. The whole amount rec’d. the past year was \$78.

The probable receipts for the next two years will not in my opinion, exceed two hundred dollars, and may be much less. The probable expenditures which should be made, during the next two years would not be less than two thousand dollars but we would be glad to get a less sum. I have been opening a new road, or rather an old one that has been closed for fifteen or twenty years past, which is the only practicable route to Kau. This can be made a good road with a little help from government, but will take a long time if we have to rely entirely on the road tax. I have worked hard the past year I have not depended on native lunas but have been with the men myself. More than this I am still willing to do all in my power to improve the road if you will only encourage us a little

with your help.

The tools that I have are few and in need of repair. I have not enough of money on hand to repair the tools for this years work. Please excuse the freedom I take in begging you to consider the matter and give us a little help... [HSA, Interior Department Roads Hawaii]

In the following communication from Geo. Kalaau, South Kona Road Supervisor, readers learn of road work in the district; with specific reference to Division 9, as the section extending from Milolii to Kapu'a. Kalaau also gives the number of residents in the division eligible to work on the road.

**December 22, 1854.**

**Geo. B. Kalaau (South Kona Road Supervisor),  
to Keoni Ana (Minister of the Interior):**

...I report to you the matters pertaining to the Road Tax of this District during this year, as follows:

1. The number of persons subject to Road Tax in this District. When I counted the persons from 16 years up to forty years and over, there were six hundred and forty-one persons, including foreigners and native Hawaiians.
2. The number of days worked by these persons, under the law of 1853, six days work by each, that being the full payment for the one year ending on the last day of December, 1854; and if these six days are multiplied with the six hundred and forty-one persons, the result will be three thousand eight hundred and forty-six, the number of days. But, I divided the work up in the nine divisions, as follows:

Division 1, from Puuhau to Onouli 1; Division 2, from Onouli 2 to Kealakekua; Div. 3, from Kiloa to Keei 1; Div. 4, Keei 2 to Honaunau; Div. 5, Keokea to Kealia 2; Div. 6, Hookena to Waiea; Div 7, Honokua to Kaohe; Div. 8, Kukuioape to Hoopuloa; Div. 9, **Milolii to Kapua.**

If the count of the days is by districts, it will be fifty-four days, because, I have given six days to each division, the same to all the sections... [describes collection of taxes]

6. Money disbursed and the balance. I paid out the sum of eight dollars, of the road tax, for a part between Hoopuloa and Milolii. A very bad place, plenty of rocks, therefore, I gave that money in order to fix up that place. There is no money balance...

The total number of people who required to contribute to the Road Tax in the District of South Kona:

From Honokua to Kaohe, the people in this division, 94.

From Kukuioape to Hoopuloa, the people in this division, 65.

**From Milolii to Kapua, the people in this division, 44...**

[HSA, Interior Department Misc. Box 146]

**May 1859**

**Bureau of Public Works Report on Expenditures:**

...For the Road from **Manuka to Kahuku** \$500.  
For the Road from Kukuioape to Milolii \$500...  
[HSA, Interior Department Roads Hawaii]

**1869**

***Petition of J.W. Maele and 97 native residents of South Kona, to F.W. Hutchinson (Minister of Interior):***

...We, the people whose names are below, petition to you about the Road Supervisor of Kona. We desire that S.W. Papaula be made the Road Supervisor of South Kona. That a straight road be opened from *Kaulanamauna* to Kealakekua, and that the places which are bad and in disrepair be made good, like the work (by Thomas Martin) on the road of Kau.

Please kindly consider our request to you. In truth of this request, we sign our names below... [HSA, Interior Department, Roads Hawaii Folder 6; translated by Maly]

***August 3, 1869***

***W. James Smith; to F.W. Hutchinson, Minister of the Interior (Regarding the Mauka Road from Kapua to Kahuku, and the Road crossing the 1868 lava flow):***

...As requested by your Excellency before leaving Honolulu, I would state for your information that upon arriving at Hawaii, I landed at a place called Kahaluu in N. Kona, and have since ridden through the districts of S. Kona, Kau, Puna, Hilo, a part of Hamakua, and Kohala, and in reference to the roads in the district of Kau, concerning which you wished to be informed, I am now able to say from comparison, that in my opinion the roads in that district, as a whole, are quite as good as those in any other district on this island.

There are many places, as in all the other districts, which should be improved, and which, with a little vigilance on the part of the Road Supervisors, could be much improved.

The road from Kapua, the last land in S. Kona, on the Kau side, which I am informed was constructed under the supervision of the present Supervisor, last year, or the year before, extends a distance of about twelve miles, I should judge, through the most rugged section of the country I have seen on the island, and considering the nature of the country over which it is made, and the material available for the purpose, it cannot be regarded other than a well executed most creditable piece of work. Men were at work extending the line of this road as I passed over it. No regular or well defined road has yet been made over the new lava flow at Kahuku, though considerable labor has doubtless been required to bring it to its present fair condition... [HSA, Interior Department Roads]

***August 30, 1869***

***R.A. Lyman; to F.W. Hutchinson (Minister of the Interior):***

...The old road at Kahuku can be reopened for about \$200.00 so as to be a good road. Most of the people go on the old road, some parts of the road in North and South Kona are being well worked. The new road from Kona to Kahuku is almost finished, and is a good road, except that it goes up & down the hills too straight, so that it will wear out quick on the rises... [HSA, Interior Department, Roads Hawaii Folder 5]

***August 1, 1871***

***Henry Cooper (South Kona Road Supervisor), to F.W. Hutchinson (Minister of the Interior):***

...I beg to inform you in regards to the roads in South Kona. I have worked the roads for about 18 miles from North to South, say from your Highness' place to Kukuioepae, the roads thus far are in fairly good order.

I have remade two miles of road on the beach across the lands of Keei & Honaunau, this improvement was much required as the road had become almost impassable. From Kukuiope to **Kapua** there is some 12 miles of bad road which I think can be done for (150) One hundred & fifty dollars p. mile. T. Martin says he will contract for two hundred dollars p. mile, but by shipping men or letting it out by contract it can be done for less. I would also say that on the newly made piece of road before mentioned, the natives allow their goats to run at large thereby doing more damage in one month than would be done by ordinary travel in a year. I have posted notices without effect, and would ask your Excellency's instructions upon the subject... [HSA Interior Department, Roads Hawaii Folder 8]

**July 21, 1877**

**Henry Cooper (South Kona Road Supervisor),  
to J.M. Smith (Minister of the Interior):**

...As you are aware from the report of the Royal Commissioners the roads in South Kona are not very good. From Kealakekua to Kukuiope about 18 miles the *mauka* road is not so bad but beyond that the road is bad until the boundary of T. Martin's road in the district of Kau. Nothing can be done on this road without assistance from the Government appropriation.

I think a good road 5 feet wide may be made for two hundred dollars a mile & I would suggest to your Excellency that one mile of said road be made by contract. The present formation is clinkers & very rough, uneven *pahoehoe* for near 15 miles... [HSA Interior Department, Roads Hawaii Folder 10]

**November 1880**

**W.T. Martin, Kau Road Supervisor; to  
Minister of the Interior**

**Explanation of the Roads and the Money Allotted:**

1) Road running to Kona from Mamalu, Kahuku and reaching Kaulanamauna, Kona. It is perhaps 13 or 14 miles long. Half of the road is 7 feet wide, and the other half 4 feet wide. Money considered by me, needed to finish it, \$1,200. One section of the road is let out to Keaka and his 8 fellow laborers for \$400... [HSA, Interior Department Roads; Maly, translator]

**July 14<sup>th</sup> 1887**

**C.N. Arnold Road Superintendent, Island of Hawaii;  
to L.A. Thurston, Minister of the Interior:**

...I have the honor to report the following work in progress, and recently completed on Hawaii.

**Kau District:**

..We are...engaged in this District on a new road across the Lava flow of 1887, the distance across this flow, including the openings is about 3 ½ mile. The estimated cost of this work is \$1800. I am sure I can complete it within that amount. This work was also offered for contract, but the lowest bid being in excess of my estimate, I was directed by the Minister to proceed there and give the work my personal attention. I was engaged at this work when I met with an accident, being bucked from my horse, which has delayed the work. The work is well under way, and three weeks more of labor will complete it. I regard this as an important work as without it the travel between Kau and the Southern Districts of Hawaii is practically suspended...

**South Kona:**

The road of this District are in good fair condition. A small amount could be spent to advantage in cutting the brush from the sides of the roads and throwing out the loose

rocks, \$400. would be enough for the District... [HSA, Interior Department, Roads, Box 39]

**October 28, 1889**

**S. Kekumano (South Kona Road Supervisor),  
to L.A. Thurston (Interior Department):**

...Work on the road to **Kapua** has ended. If the money is sent I will immediately go over the road to **Kapua**. The road from Pahoehoe to Honaunau has been put in good order, leaving only the section that runs to North Kona to be done.

I received a petition from the people of Papa and Hoopuloa, asking that this Road Board work on the road that runs up from the landing of Hoopuloa to the uplands at Papa; that One hundred dollars be sent to repair the areas that are in the worst condition. This road is the means of their livelihood, and how they transport their goods to the landing. There are 23 names on the petition... [HSA Interior Department Roads – Hawaii; Maly translator]

**Hookena**

**November 8, 1890**

**D.H. Nahinu (South Kona Road Board), to C.N. Spencer (Interior Department)  
(Reports that Road Board has appointed Cantoniers for South Kona):**

...Here also is a list of the size and different sections of the roads, their mileage and the people who are responsible to work them, and the pay that is considered right. There only remains the road that descends to the shore at Kaawaloa. If it is determined that the work should be done, it will be started immediately.

The Divisions are thus:

...Section 6. Pahoehoe to Kaapuna, 5 miles. The roads needs improvement. J.W. Kuaimoku, cantonier. \$25.00 per month.

Section 7. Kaapuna to Honomalino, 5 miles of road in this section. Kalaimoku, cantonier. \$25.00 per month

Section 8. Honomalino to **Kaulanamauna**, adjoining Kau, 6 miles. Kalaimoku, cantonier. \$25.00 per month...

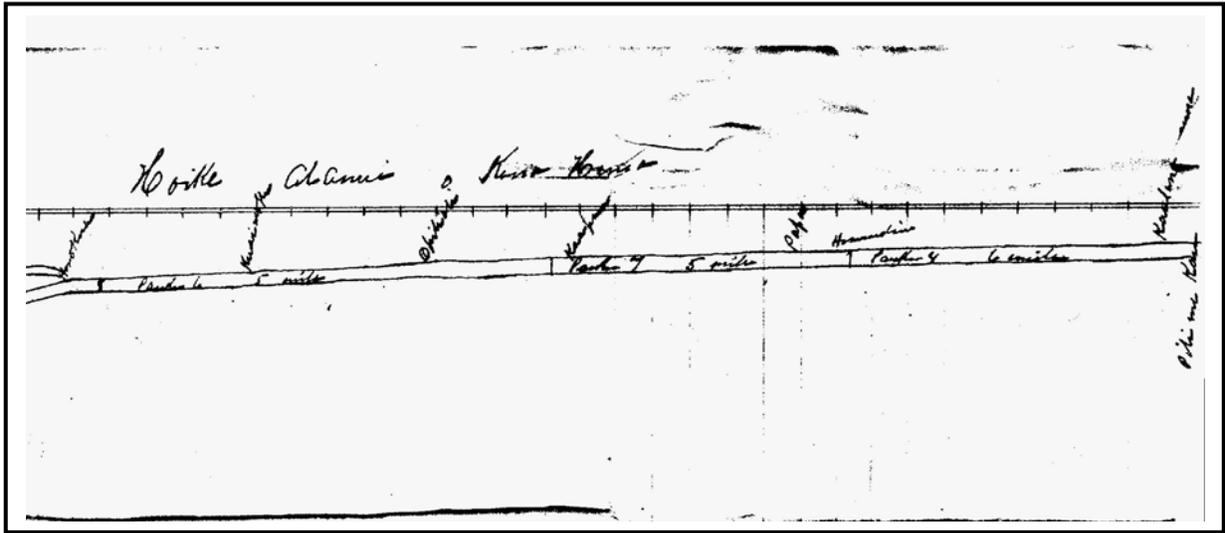
Here also is a diagram [Figure 2] which I have drawn of the road. It is perhaps not exactly right, but by it you can see the length of the road is 43 ½ miles... [HSA Interior Department Roads, Box 41; Maly Translator]

**March 31, 1892**

**Report of C.N. Spencer, Minister of the Interior  
(Regarding new road being built between Hookena and Kahuku):**

About five miles of this road is completed, and is certainly one of the best in the Kingdom. It will run for about thirty miles towards Kahuku, from which place to the Volcano, a good road will be finished during the present period.

The completion of a road which shall encircle Hawaii is a matter of impossibility as the work of a single period, but by doing a little each two years and not suffering what has been made to go to ruin, we shall have at length, by means of other roads running through the interior of the Island, and serving as it were, as tributaries to the belt road, opened up to cultivation and prosperity large and valuable tracts of land, at present of little use and scarcely known. [HSA, Interior Department Report, 1892:284]



**Figure 2. Portion of "Road Exhibit of South Kona" Showing Section between Honokua to Boundary of Ka'u – Section 8 from Honomalino to Kaulanamauna.**

Bureau of Survey

Aug. 10<sup>th</sup>, 1894

**Frank S. Dodge, Assistant – H.G. Survey;  
to Hon. Jas. A. King, Minister of Interior:**

...Having recently returned from a tour of inspection of the Government roads of Hawaii, through the Districts of North and South Kona, Kau, Puna, Hilo, Hamakua and a portion of South Kohala, I would submit my report upon the same, with certain recommendations, and suggestions.

In company with Mr. W.E. Wall of this Bureau, I landed at Kailua, Kona, July 21<sup>st</sup> and proceeded southward as far as Kaawaloa that day, and thence on to Honomalino on the following day. Mr. Wall took observations for altitude, with a barometer – at many points along the line, and the results are now on file in this office, and will be of considerable value in case a detailed survey is to be made.

From my observations of the needs of the Kona District, and the evident progress now being made in its development, I should recommend that steps be taken at the earliest possible date for the improvement of the main road through the whole district, making it passable for loaded vehicles. A road twelve feet in width, with frequent turnouts would be a vast improvement over the present trail – and assist greatly in opening a large section of country. The general line of the present mauka road should be followed – with a few changes necessary to overcome excessive grades...

At Hookena, I had an opportunity of examining the new road constructed a few years ago from the harbor to the mauka road, and found it in good condition, and needing very slight repairs. It is one of the best roads on Hawaii, and shows conclusively what can be done with the materials close at hand, all through Kona.

At Papa, Hoopuloa and Honomalino there is a very general demand for better facilities for reaching the landing at Hoopuloa, and there is nothing in the way of construction except the elevation to be overcome, which is about seventeen hundred (1700) feet – requiring about four (4) miles of road on an 8% grade.

With the main road completed as a wagon road throughout the district, and the various roads to the steamer landings as above recommended, the two Konas would be far more accessible than at present, and their development much more rapid.

From Honomalino to the Kahuku Ranch the only road is about as bad as it can be, especially where it crosses the lava flows of 1868 and 1887, and it needs reconstruction over its entire length. Most of the land along this section of road is a barren waste and of little value for cultivation, but the main road should be built, as a very important link in the chain around the island... [HSA, Interior Department Roads, Box 41]

**December 31, 1897**

**T.H. Wright (South Kona Road Supervisor), to J.A. King (Minister of Interior)  
(Reports on conditions of roads in South Kona) :**

...Hoopuloa Road in fine condition with an exception of a Rock about  $\frac{3}{4}$  mile from the landing; order has been given to Member Buckholtz to remove same.

Road from Papa I to Honomalino fair.

Road from Honomalino to **Kahiawai** [Manukā] “boundary” very bad, portions overgrown by Lantana, Guavas, etc. etc., dangerous. Needs fixing, but is impossible for the Road Board to do so.

Road from Papa to the termination of S.W. Waiau Road [in Waikakuu vicinity] under repair by Road Board.

S.W. Waiau Road, known to the Konas by the name of Lazaro Road, lately built. It's one of the poorest built roads ever constructed. Banks decaying in some places, hardly any surface dressing. Very sharp turns, large hole on the sides where gravel has been dug... The other day portion of the banks by “Mr. Monsarratt's Plantation” caved, hardly any filling... [HSA Interior Department Roads, Box 41]

**January 29, 1900**

**Waiohinu, Kau**

**S.M. Kanakanui, Surveyor; to W.D. Alexander, Surveyor General:**

...I am in Waiohinu now with my traverse on this side of Kahuku Ranch, on line of the new road to Waiohinu now under construction. I have written you from Keei last month concerning the possibility of my continuing this work around, and I have been expecting a reply before this, but none has come.

The road after leaving Puu o Kamaoa in Kahuku to about a mile back of Col. Norris' is worthless. The road was built with light lava of '87, and the heavy wheels of our wagon went down a foot into these loose rocks and it was worse than sand. It takes 6 full horses to travel that stretch of only 3 miles. I will get the traverse down to Honuapo by Saturday... [HSA – DAGS 6, Hawaiian Govt. Survey]

**January 12, 1901**

**Kukuioepae, S. Kona**

**S.M. Kanakanui, Surveyor; to W.D. Alexander, Surveyor General:**

My traverse is now at Alike today, and I expect to pass Papa by Tuesday, which time I think to take our supplies to **Kapua**. The condition of the road at this end is pretty poorly laid out and built, there are lots of dirt and loose rocks on the way, obstructing the travel, bends being too sharp that it takes professional drivers to pass with wagon load... [HSA – DAGS 6, Hawaiian Govt. Survey]

## **Government Survey Records: Interior Lands of the South Kona-North Ka'ū Region Described (1859 to 1891)**

Survey records of the Hawaiian Government, provide us with some of the most descriptive accounts of the lands in the South Kona-North Ka'ū region, found to date. Following the *Māhele 'Āina* (Land Division) of 1848, the Kingdom entered into a program of surveying entire *ahupua'a* and tracts of land. Throughout the middle, to later 1800s, the Hawaiian Survey Department, continued its efforts to improve maps depicting the islands, districts, and other land divisions. This work required intensive field surveys, and produced an amazing record of place names, and descriptions of the land and associated resources. This section of the study, includes descriptions of the land and surveys from letters and field books, and covers the lands of Kahuku and Keauhou, which cut off lands of the Manukā NAR; and also includes specific references to lands of the Manukā NAR, extending from the shore to the upper mountain limits. Among the important locational references in the communications, are Pu'u o Ke'oke'o (Keokeo), situated a distance upslope, above Manukā; Nā Pu'u a Pele, in Manukā (Manukaa); Ohepu'upu'u and Hanakeaumoe, in Kapu'a; and general references to Manukā, Kaulanamauna and Kapu'a. Other references cited from the communications, describe the general nature of the landscape, forest, and lava flows, and identify some of the traditional and historical uses of the resources in the region. The narratives provide modern readers with a sense of the landscape more than 130 years ago, and how it has, in some instances, changed.

The records were found in the collections of the Hawaii State Archives (HSA) and the State Survey Division. Underlining and emphasis is added by the authors, to draw the readers attention to specific references of interest.

***Waiohinu, Hawaii***

***28, June, 1859***

***Wm. D. Alexander; to Rev. R. Armstrong***

***(Regarding Survey of Kahuku and other Lands on Mauna Loa):***

...As Prof. Haskill is about starting for Hilo, I will send you a line or two by him. We arrived in Kona about three weeks ago. Made an excursion in company with Tom Paris, to the top of Mauna Loa. Explored the eruption of '59 for thirty miles, from where it is a mere crack as wide as your hand, to when it is a lava sea, four miles wide. There is still quite a rim of liquid lava flowing down the mountain in a subterranean tunnel. We had clear dry weather & enjoyed the trip highly. Left Kona last Friday in company with Prof. Haskill & arrived here Saturday night. The Liholiho reached Hilo last Friday, the 21<sup>st</sup>. I expect Henry & Justin here in a day or two with my theodolite transit, compass & chain. My sextant & chain brought with me. I expect to commence surveying next Friday, the 1<sup>st</sup> of July. Yesterday, I rode out to ***Kahuku*** to look at the land & engage kanakas. The old kamaainas agree very nearly in their statements which are as follows.

The boundary begins a little this side of the Kahuku church & runs straight to the sea with some zig zags, then along the shore a mile then up the mountain a few miles, & then it turns north, running parallel with the sea & cutting off all South Kona, till it meets Keauhou somewhere in the valley between Hualalai & M. Loa, & then turns & runs up to the summit crater of Mokuaweoweo.

On the other side the boundary runs up into the forest, & then turns eastward cutting off all the lands of Ka'ū as far on Kaalala beyond Keaiwa more than half way to the Volcano, & then runs up the mountain. I shall not attempt to run the northern boundary, I think. I shall go ahead & survey the arable land, down to the sea, along the shore to ***Manukaa*** & up to the Gov't. road. My "*manao*" at first is to run the southern boundary to Kaalala by triangulation with the theodolite & sextant, and perhaps to the top of the mountain.

The fact is that **Kahuku** was a region of bird-catchers & was bounded by the limits of their favorite birds. The proportion of good land in it is very small. I doubt whether it is worth \$1500. I shall be very glad to receive any instructions from you. [HSA – Box 81, Series 261 Public Instruction: Re. Land]

**Makiki**

**September 21, 1874**

**W.D. Alexander, Surveyor General;  
to R.A. Lyman, Boundary Commissioner:**

...In regard to the boundaries of Kahuku in Kau, Hawaii, I can only state what was the testimony of the Ka-u people when I surveyed part of Kahuku in 1859.

I did not survey the line between **Kahuku & Manukaa**. The old Kamaainas however all agreed that Kahuku cut off all the South Kona lands at the upper edge of the forest. As they express it, wherever the “uwa’us” were found that was Kahuku. They testified that Kahuku extended to Ahu a Umi between Hualalai & Mauna Loa.

On the other side they testified that Kahuku in like manner cut off all the lands in Kau at the upper edge of the bush, the “*wahi oneanea*” being Kahuku, as far as Makaaka, near Keaiwa. Thence the boundary turned up & ran to Pohaku o Hanalei.

I think, however it was a question whether the summit crater of Mokuaweoweo belonged to Kahuku or Kapapala.

I gave a written statement at that time to Mr. Armstrong together with a map & the notes of survey, but I understand that they were in Mr. Robert Brown’s house at the time of the eruption of ’68 & were burned up. [HSA, Interior Department Survey, Box 22]

Government surveyor, J.S. Emerson and party, conducted initial field work in the South Kona region in 1884 to develop Register Map No. 1282. Letter to W.D. Alexander, regarding his progress in the field, and his field book (Register No. 257), include references to several named locations from Manukā through Kapu’a, with sketches of the landscape. His narratives also identify residents on the near shore lands of those *ahupua’a*. The following excerpts describe lands of the Manukā NAR vicinity.

**March 30, 1884**

**Napohakuloloa Station**

**J.S. Emerson; to W.D. Alexander:**

...On Saturday Mar 22 we left Kukuiopae early in the morning and landed at Lae o Heku at 7:30 A.M. This station we hurried through with all possible expeditions, it is a ragged and jagged mass of *aa*, and finished it up to my entire satisfactions on Wednesday morning, Mar. 26. Thence we came to this ill starved spot, arriving here at noon the same day. Dark clouds and rain have hindered the work at this place. On Friday afternoon the rising surf warned us to move the boat to a place of greater safety. It was accordingly anchored in Alike Bay, where it remained the next day. The last that was seen of it was about 9 or 10 o’clock Saturday night when it seemed to be all right.

This morning early I was awakened by a native who came to tell me that the boat had disappeared... I trusted my *kanaka* sailor that it was all right, and did not attend to it in person. The man whom I had engaged to take charge of the boat at Hookena failed me and I took another man, Keoni Miki, in his place. He is a good sailor and a faithful man and was guided in selecting the anchorage by advice of kamaainas... [HSA – DAGS 6, Hawaiian Govt. Survey]

**April 9, 1884**

**Puu Nahaha, Kona**

**J.S. Emerson; to W.D. Alexander:**

...It is with pleasure that I report the safe return of my runaway whale boat, none the worse for a thirty hours excursion out to sea. About 7 or 8 A.M. on Monday Mar. 31 a fisherman named Kaleimoku, living in **Kaulanamauna**, the last hamlet in S. Kona, was sitting down to his dish of fish & poi, when he noticed a white speck upon the horizon, rising & falling with the waves. Thinking it may be a canoe drifting with the tide, he quickly launched his own canoe, and with his wife & boy started in pursuit. When they had gone so far out to sea that they could no longer see the surf beating against the shore, his wife became very much afraid and tried to turn him back.

But he would hear no such timid proposal & pushed boldly on. As at length they neared what now they saw to be a whale boat, the woman's fears again arose, that there was a corpse on board and that they would be "tapu'd." But the prize was too great even for her superstitious fear, and soon they all sprang aboard & drew in the anchor which was still hanging from the bow and dragging by a long chain...

As I had finished up Napohakuloloa station on the day previous we at once started after breakfast, for Hanamalo reaching there before noon on Friday... [HSA – DAGS 6, Hawaiian Govt. Survey]

**J.S. Emerson – 1884**

**Primary Triangulations**

**Kona Hawaii Vol. VII (Reg. No. 257) [Figures 3 & 4]**

**April 17, 1884, from Milolii Station**

...Kahapaakai point ext.	Kapua
One of two places in S. Kona where salt is made.	
The other is in Kaulioli [Kauleolī].	
Kahapaakai rock in sea... Boundary bet. Okoe & Kapua.	
The boundary of these two lands runs straight from this rock to a pt. 10 fathoms S. of Puu Nahaha trig. station as surveyed by Fuller.	
Owea Coconut grove. 12 trees	Kapua
Owea bay tang. hd. of sand beach & boat landing	Kapua
Kahehena's grass h.	Kapua
Haleola pond. Sight on coconut tree by same.	Kapua
Lepeamoia cape N. of Owea bay.	Kapua
Nalupai.	Kapua
Ahole Bay tang. hd. of Nalupai bay.	Kapua
Kakio cape.	Kapua
Kamaohe cape.	Kapua
Niu Ou Coconut grove. Over 200 trees.	Kapua
Lae Kamoi Boundary between Kona & Kau... [1884:61]	

**April 23, 1884, from Wahapele Station**

...Kahehena's grass house	Kapu'a
Kakio Cape, extremity	Kapu'a
The <i>kamaaina</i> for this station is Makia, an old man... [1882:93]	

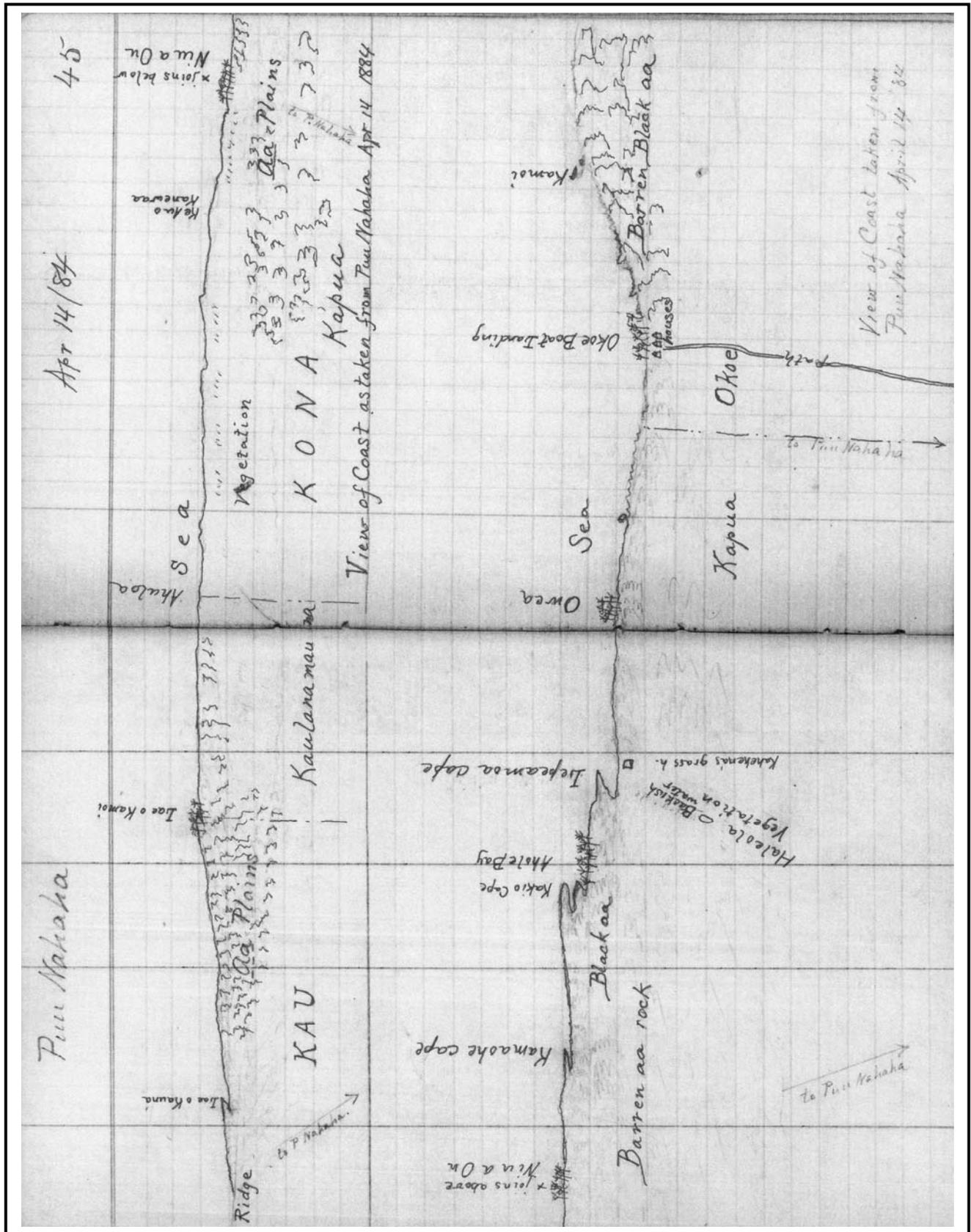


Figure 3. View from Puu Nahaha Trig. Station, South Kona.  
 J.S. Emerson Field Book No. 257, 1884:45 (State Survey Division)



**About 1900 feet above sea level.  
In Camp by Gov't. Road to Kau.  
Kaulanamauna, S. Kona, Hawaii  
Jan. 30, 1887**

**J.S. Emerson; to Prof. W.D. Alexander:**

...Late Monday P.M. Jan. 24<sup>th</sup> we started from Pahoehoe and reached Kukuiope 2<sup>nd</sup> in time to camp for the night. The smoke from the eruption covered the entire country to such an extent that all objects at a distance were quite observed, but not as much so as on the Thursday previous.

On Tuesday we passed through Papa where we bought a supply of pure water which has lasted nearly up to the present time. At Hoopuloa we spent the night at the nicely furnished house of G.L.W. Kealiikuli, with whom we have established our depot of supplies. We found him very short for water, his large cistern being nearly dry. Wednesday we gradually passed out of the smoke covered district and rejoiced once more in the bright clear sunlight. Late in the day we camped on Puu o Kamaoa by the Gov't road in Kahuku overlooking the present flow.

From my Δ station on this hill I observed & recorded the following bearings viz.

Papaakalo Δ	Mag Az.	197° 3'
Road to Kau direction of do.	Mag Az.	282° 55'
Puu Hou formed by eruption of 1868	Mag Az.	333° 40'
<b>Na Puu a Pele</b>	Mag Az.	52° 50'
Smoke column over source of eruption	Mag Az.	191° 10'
Steam columns in sea terminus of same	Mag Az.	0° 30'
(Nearest point in road covered by flow)	Mag Az.	282° 55'
Estimated distance of same		1 ¼ to 1 ½ miles

The first impression on reaching this fine point for observation was somewhat disappointing. A vast amount of smoke was pouring initially off from an unseen source high up on the slope of Mauna Loa whence it was deflated by a strong current of air and carried in a westerly direction forming a huge spreading cloud of darkness. The steam jets arising from the sea seemed dwarfed by the contrast. Before me lay an immense waste of horrid *aa* over which the late flow had so madly rushed to the sea in two streams, leaving its course now marked by black lines of *aa* rock, here and there lit up with patches of glowing red. In places flames burst out from burning trees as Pele slowly "ate up the land." There were long lines of smoke and rising waves of hot air, but very little fire. But this was a view by day. At night the scene was grand. The "cloudy pillar" over the source of the flow was brilliantly illuminated, and with the glowing red of the long lines of the flow, lit up the country in all directions with a light about equal to that from a full moon when slightly obscured by smoke or very thin clouds. The light was so diffused as scarcely to cast a shadow. The slight trace of a Shadow which I detected was cast opposite to the direction of the source of the flow. Thursday evening I visited the late flow at the Gov't road, but saw only a cooling mass of *aa* piled up like a rude stone wall to arrest further progress. The heat was "intense." (Pardon the use of that much shrugged adjective) A strong wind blew directly from the glowing surface and soon drove me back to a respectful distance.

The spot which I then approached had been covered by the flow since the previous evening. So the natives who had previously visited it said. On account of the roughness of the country I could not travel around by night to examine any part of the flow save that close to the road. I came away very much disappointed. The next morning I visited the flow again and was rewarded by a grand view of a fresh and active stream of *aa* just above the road. I managed to keep to the windward of it and study its actions in comfort.

As a whole the advancing column made extremely slow progress but in places the liquid portion showed considerable activity though weighed down by a mass of inert aa above it. The formation of a gully before my eyes explained how some ravines may be formed by Pele without resorting to erosion by water.

The work of the survey progresses satisfactorily. I have set two fine signals which command good views of the district to the Eastward beyond Mr. Jones. They are Papaakalo on a high hill *mauka* of road & Puu o Kamaoa by the road. I have also planned where to set my signals on the coast. On the boundary between Kahuku & **Manuka**. I have also set a good signal to tie up to the coast signals. What I am now after is to set a signal inland on the conspicuous hill Puu Keokeo by which I hope to connect the Kona & Kau systems of triangulation and get over an extended forest. I have the best guide to direct me and hope to start tomorrow. It will bring me near the source of the flow which I hope to visit. Please let Dr. Emerson see this letter & the last one as well. We are in good health in spite of rather rough weather. With *aloha*... [HSA, HGS DAGS 6]

***In Camp, 5950 ft. above sea level,  
By Namanuokehau Waterhole  
Kahuku, Hawaii  
February 17, 1887***

***J.S. Emerson; to W. D. Alexander:***

...We left our camp on the government road on Tuesday morning and arrived here yesterday noon. On Wednesday the entire day was spent in making the road passable through the *koa* trees. It had not been used for seven years and required considerable cutting. We are now encamped on the upper edge of the forest. All the country above us to the top of Mauna Loa is a barren waste of rugged aa with some *pahoehoe*.

This morning I went to **Puu o Keokeo** distant some two miles up the sides of the mountain. As the route lay over aa, impassable for our animals, we went on foot and were repaid by a magnificent view. Mauna Loa was covered with a considerable amount of snow. Near its apparent summit the familiar landmark, Pohaku Hanalei, stood boldly out, bearing North 19° 30' East (magnetic) and just in the rear of it arose a large mass of smoke, evidently volcanic, indicating more activity at that point than at any other further down in the course of the late flow. Commencing a little below and somewhat to the right of Pohaku Hanalei and extending for a considerable distance directly towards me, was a continuous steam crack, said by my native guides to have been there long before the late eruption. Whether that is the case or not it occupies a position directly in line with the late flow.

I have already called your attention to the remarkable line of volcanic cones down the side of Mauna Loa from Puu Ouo through Puu Kinikini towards Napoopoo. The late flow is near the line of another similar series of volcanic cones beginning with Pohaku Hanalei, passing through Puu o Keokeo and a series of other cones in its vicinity and terminating at the sea at **Na Puu a Pele**. Puu o Keokeo, like Puu Ouo, is composed of exceedingly light material. Its name is a misnomer for its color is decidedly red. I looked in vain for a piece of solid rock in its vicinity and I had to go to a great distance to get anything that I could mark with a cold chisel. The loose, spongy masses of rock which I found on the hill, fell to pieces with the slightest blow. After considerable labor we set up a huge signal commanding an extended view of the coast from Lae o Kamilo in Waiohinu to Hanamalo Point in the *ahupuaa* of that name in South Kona.

The late flow was spread out before me like a map. At about half a mile distance from me, about South 67° 30' East, was the beginning of a line of steam jets extending for over half a mile towards Mr. Jones' residence and marking the course of the late flow previous to its appearance above the surface.

At two P.M. we started to explore the late flow. As we descended we sank to our knees in the loose porous material of which the hill was composed. At the base for a time we passed over the aa on the old road by which Umi used to send his swift messengers to the coast at Kahuku. Leaving this ere long we passed over rugged fields of aa until we arrived at the upper extremity of the line of steam jets. The rocky masses had been terribly shaken and cracked. Through the fissures the steam was forcing its way to the surface loaded with sulphurous gases. I freely passed through the masses of steam without inconvenience, though at times I was forced to hold my breath on account of the irritating character of the gasses.

After descending thus a long distance along the line of the steam cracks, sulphur began to appear on the surface and the quantity increased as we proceeded; the cracks meanwhile grew larger, with here and there rounded shafts, through which poured out streams of hot sulphurous gases but no fresh lava had yet appeared. But at length after reaching the lower end of the steam jets nearly half a mile from their upper extremity, I came to the first view of fresh lava. It was a narrow crack but a few inches wide through which the black liquid mass from beneath had barely reached the surface. As I proceeded the lava stream gradually increased in width. Fragments had been thrown up with great violence and covered the old aa, rocks on either side of the narrow fissure with shining black fragments of the fresh lava which must have been thrown to a considerable height.

The fog was closing in upon us and a horrible stretch of aa must be crossed before I could reach my tent. I was compelled to tear myself away from a scene of the greatest interest. At the point at which I left, the flow might have been about forty feet wide and was intensely black.

My old goat hunters made splendid time over the rocks, and I had to adopt most unusual speed to keep in sight of them.

The country near the flow must have been terribly convulsed by the earthquakes.

Numerous fissures exposed the fresh surface of rocks which had lately been torn asunder. Projecting bluffs and crags had been thrown down and slabs of lava had been upset by earthquakes which in this vicinity must have been terrific.

Tomorrow my work will take me to the vicinity of the flow and I shall probably see more of it at a point lower down. I am very much pleased at the arrangement of the hills and when they are all located on the map I think they will greatly interest Mr. Green and other students of Hawaiian volcanoes... [HSA, HGS DAGS 6]

***Kukuiope, Hawaii  
September 14, 1890***

***J.S. Emerson; to Professor W.D. Alexander:***

...I have mastered the situation. The problem of how to locate Ka Lae and carry the Kona triangulation into Kau is solved. Success has crowned my efforts to get over or through the great forest belt and  $\Delta$  up ***Puu o Keokeo*** to the  $\Delta$  stations to the north of Kapalilua. Aided by the best men I knew of, we found a hill in Kaapuna overlooking the great forest and commanding a view of the following stations, viz. Puu Ohau, Keawekaheka, Palemano, Makolehale, W. Hualalai, Kapukawaa, Puu Nahaha, Hanamalo, Hanakeaumoe & the coast south as far as Kawili [at Ka Lae]. This gives me the line joining this Kaapuna station and Hanamalo as a fine base line to carry the triangulation up and on. By three intermediate points, all commanding a view of Hanamalo, and the coast to Hanakeaumoe, I pass from Kaapuna over the forest to ***Puu o Keokeo*** by four triangles revolving about Hanamalo as a pivot, with various

checks from other coast stations. Puu o Keokeo once connected with Hanamalo etc., the triangulation to the south and through Kau follows without difficulty.

Great praise is due my native men who have enabled me to accomplish all that I have attempted. Splendid fellows they are who have done fine work under the greatest difficulties and hardships. Their names are Chas Ka, Lapauila & Solomon Hu besides Kanakanui. The territory over which we have been traveling these three weeks might be called "a petrified section of Hell." You know what Kona rocks are. We have experienced the meanest, roughest and most treacherous portion of Kona. On Thursday, Sept. 4 my mule, Hiiaka, broke through the thin and brittle crust of rock and fell with all her load some three feet into a cave or lava tunnel. The poor creature was badly cut & bruised by the sharp & jagged rock before we could get her out of the hole. The mule Pele lost the shoes off of her hind feet and suffered greatly on the horrid aa over which she was forced to travel. Both she and Hiiaka are about used up for the present, but will probably be ready for duty in a week. My old mules, Kuhaimoana and Kamohoalii, never did me better service. They accomplished the entire trip without a mishap. Noble brutes, may they rest in a mule heaven after all their toil and service for science is ended!

On Sunday, Sept. 7 my admirable native guide, Lapauila, was so miserable and used up with rheumatic pains, that he was obliged to leave me and seek relief at home. We all have had our shoes torn and cut to pieces on the frightful aa. Nearly every one has suffered with sore and bruised feet and Kanakanui has had trouble with sore hands. But all have borne their troubles bravely.

For over two weeks the animals went without drink. In dry weather they would have given out altogether for lack of water, but fortunately or unfortunately, we had rain and mist every day save two or three that we were on the mountain. Our shoes were soaking wet much of the time. Nearly all our drinking water was from the rain caught on the fly. The rain and mist allowed us but a brief portion of each day to study the country. But for the intimate knowledge of the country possessed by my guides, we could have made almost no headway in such weather. Little by little our provisions gave out and we were reduced to very plain fare. The dogs have killed off the goats and have themselves gone in search of food elsewhere. After two days hunt, Chas Ka secured a pig when all our other meat had given out. But in spite of rain, obscurity, short supplies, sore feet and crippled animals, we all agreed to stick to it, to the end, and did.

During the past two days the weather has been beautifully clear. With enough of such weather I will locate South Cape.

My plan is now to hire a boat and reset all the needed coast signals as far as Ka Lae. Then with fresh animals set three signals to the north of Hookena and begin instrumental work at Kaapuna station. From Kaapuna I hope to occupy the stations in & above the woods in order as far as **Puu o Keokeo**. Tomorrow I expect to be in Hookena and read the letters and papers that have accumulated during the past three weeks. With *aloha nui* to yourself and the friends in the office... [HSA, HGS DAGS 6]

***In Camp, Hookena, Hawaii  
September 28, 1890***

***J.S. Emerson; to Professor W.D. Alexander:***

...I reached this place late last night to find your very kind and interesting letter of the 22<sup>nd</sup> awaiting my return. I have to report a most prosperous and completely successful trip to Ka Lae by boat. By dint of hard work and long hours, aided by the able seamanship of my sailor man and most unusual fortune with the weather, we have

accomplished, to my entire satisfaction, all that we proposed to do by this expedition. The work done was as follows:

1<sup>st</sup> The selection of a suitable point for a  $\Delta$  station to connect Hanamalo with Hanakeaumoe. This we found in perfection at *Ohepuupuu* in Kapua on top of a *Kuula* overlooking a large extent of country. A large *ahu* on top of a hill was there ready to my hand, thanks to my *kamaaina*.

2<sup>nd</sup> The resetting of nine old stations and the establishing of one new one in the following order going South viz. Kapukawaa, Milolii, Hanamalo 2, Puu Nahaha, ***Ohepuupuu, Hanakeaumoe, Na o Puu Pele***, Puu Ki, Puu Hou & Ka Lae.

3<sup>rd</sup> A careful study of the mountain from the sea to settle certain points hitherto unsettled, as for example the real location of that elusive hill, Puu Eleele.

4<sup>th</sup> The securing of two hardy mountaineers to replace my former guides whom I thought best to dismiss with thanks.

Hanamalo was all but swept out of existence by the sea in '88. It is impracticable to restore it and Hanamalo 2, distant some 20 feet, now takes its place. It will be a pivot for all my mountain work. Puu Ki & Puu Hou signals (huge ahus) had been badly treated by the goats, or the earthquakes, and had either fallen or were about to fall. The flag pole at Ka Lae was gone. At Kapukawaa, Milolii, Hanamalo 2 and Puu Nahaha I took extra time to build signals that might be seen from Puu Ohau etc.

The preliminary work of planning and setting signals is now all but done. I may set a signal on Puu Eleele if I ever really reach it as I very much desire to do. In that case a signal on Lae Loa will be of great service by shortening the base line connecting with Kapukawaa, Hanamalo etc. I have never been so mystified by a hill's eluding my search as by this Puu Eleele. Now I have actually put a flag on the supposed hill and found that it was situated a mile, or so from the real hill I was in search of. The real Puu Eleele commands a view unsurpassed in extent by any hill in the forest belt in S. Kona, and yet I have never been able to reach it. I will not be balked in this way Puu Eleele must be found and broken in to service. My trip as I expected was a trying one. The kamaainas predicted that one would not reach Ka Lae in safety. But we were wonderfully favored and won quite a triumph. We left S. Cape Friday morning and until Saturday night were in a little boat most of the time, with very little sleep.

Kanakanui finds the work no pleasure trip. He does not stand roughing it as well as I do. He finds the *aa* awfully rough on his shoes and sore feet, and has had a hard time. I am sorry for him and try to make it as easy for him as I can, but I can't accomplish the impossible. Whoever ventures to come with me to S. Kona must of necessity travel over some of the worst *aa* in existence. Poor mules, poor men, I feel sorry for them all. But the work must go ahead and I can stand it if they can. Hiiaka was the most discouraged mule I think I ever saw. When we last saw her two weeks ago she was a most pitiable object, hardly able to rest her weight on her hind feet. The weather is superb, wonderfully clear. I begin my instrumental work at Kaapuna as soon as possible. Am in excellent health and spirits... [HSA, HGS DAGS 6]

***In Camp, Puu o Keokeo, Kau, Hawaii  
November 10, 1890***

***J.S. Emerson; to Professor W.D. Alexander:***

...Since my last to you I have been without intelligence from the outside world and have yet to read a month's mail accumulated during my stay on these mountain solitudes. This enforced lack of intercourse with the world of thought and action is the

necessary result of conditions beyond my control, and will, I hope, come to an end in a few days, when having satisfactorily finished my labors here, I will descend once more to the lower regions. The work has gone steadily and bravely on. The weather, though not the best, has been fairly good, and my observations have come rigidly up to the standard of excellence which I had determined upon. I have occupied the following stations:

Puu Ahinui	primary	Oct. 6 – Oct. 14
Kaapuna	primary	Oct. 15 – Oct. 21
Pualehua	primary	Oct. 22 – Oct. 27
Puu Hoomaha	primary	Oct. 28 – Nov. 1
La Ula	secondary	Oct. 31 P.M.
Namanuikēhau	tertiary	Nov. 3
Puu o Keokeo	primary	Nov. 5 – up to the present time

During the past week the weather has been the poorest for my work, and I am patiently working and waiting for a clearing up of the general obscurity. I propose to stay here until it does clear up and my mountain work is satisfactorily completed. My plan is then to occupy Puu Nahaha. I am glad to report my health as fully restored, and my men all well and contentedly doing their duty. As to the mules, poor creatures, they have had the hardest experience that I hope they will ever have. Poor, lame Hiiaka, by constant care and attention has recovered from a most serious trouble in her foot. Had I not personally looked after her, I fear she would have died of hunger and thirst.

On the morning of Nov. 1<sup>st</sup> the mule, Pele, was found fallen into a pit and sadly bruised and injured. We did all we could to save her, lifting her out and giving her whiskey and water. But it was too late. Her strength was gone and she died.

The Manuikēhau, or Honomalino, water hole has entirely failed me after the second visit to it. It is now quite dry. My mules have greatly suffered from thirst in consequence. They have had to travel great distances for water, until their shoes, put on Sept. 29, are now nearly worn away. I have also to report one new pack saddle smashed and another somewhat injured.

I am profoundly thankful that we have passed so nearly through this mountain campaign with no more serious disaster. I never again expect to be so long in such a horrible country. I know of nothing like it elsewhere in these islands. Had I not secured the very best men to help me, matters might have been frightfully worse. The great fissure of 1886 is a most interesting study. Near Pohaku o Hanalei great volumes of steam are pouring out continually. In the early morning and after a shower, numerous small steam jets appear all along the course of the fissure, particularly near the sulphur beds a mile and a half or two miles South of this hill. I find considerable heat in places, (Mabez would call it “intense heat” I suppose) where the sulphurous gases are coming freely up from an unknown depth. I was setting the signal here on Sept. 10 and then noticed the steam arising near Pohaku Hanalei, but not in such volumes as at present. My guide states that this steam first appeared at the time of the flow of 1886 and has often been noticed since.

I have carefully looked for the reflection of fire, in the clouds, at night, over Mokuaweoweo, but have thus far seen none. I should add that the summit of Mauna Loa can not be seen from any of the other stations which I have been occupying.

I think perhaps I shall require the aid of a couple of heliotropes when I occupy Puu Ohau, some two months hence. I fear that otherwise I will fail to see my very distant signals to the South. I will refer to the matter again more at length.

Kanakanui sends "aloha to all." With my *aloha nui* to yourself and friends in the office...  
[HSA, HGS DAGS 6]

**November 29, 1890**

***In Camp, Ohepuupuu, Kapua, S. Kona***

***J.S. Emerson; to Professor W.D. Alexander:***

...Enclosed please find Bills and Vouchers for Months of Oct. & Nov. T.K.R. Amalu's Bill of \$8.00 for mule shoeing has to go to Hookena to receive his signature. I hope to send it to you by next mail.

Your very interesting letters of Oct. 23<sup>rd</sup>, Nov. 3<sup>rd</sup> & Nov. 13<sup>th</sup> all reached me in a lump, Saturday evening, Nov. 22 from Hookena. All my efforts to get them sooner failed for various reasons. Yours of Nov. 26<sup>th</sup> reached me late yesterday P.M., as I was moving Camp from Hanamalo to Okoe. Many thanks for all these kind letters and the sympathy you ever show me. Since leaving the mountain I have occupied two very important stations, viz. Puu Nahaha & Hanamalo 2, with the best of results.

The weather is magnificent, the mountain signals clear and distinct and almost free from clouds all day. I never saw finer weather for my work. Puu Ohau & Makolehale signals have been remarkably distinct for such a great distance. Keawekaheka, since leaving Puu Nahaha, has sunk from view. Everything for the future, promises well. I feel rested and refreshed with a supply of proper food after some days of scanty fare. The few natives about here live on fish & a wretched substitute for poi made of wheat flour. I had to live on sweet potatoes, squash & dry fish for a week, while waiting for supplies. It made me nearly sick. There are no decent stores this side of Hookena. It is exceedingly dry weather, so the natives say, and all my fresh water has to be packed long distances from the few water holes up in the woods. May they not give out yet a while!

The following primary stations are yet to be occupied, viz. ***Ohepuupu, Hanakeaumoe***, Kapukawaa, Milolii. Puu Ki, by boat, ***Na Puu a Pele***, by boat, Keawekaheka, Puu Ohau and Makolehale. I expect to finish up my work by the last of January.

The problem yet to be solved is to see the South coast signals from Puu Ohau, etc. An ahu to the South shows only its non illumined side, however much cloth may be wrapped about it. I will, when I am ready, send for two heliotropes as a last resort if all other devices fail me.

I would suggest that my next work on Hawaii be the triangulations from Ka Lae to the Volcano. I have thought a great deal about the matter and would like in due time to tackle the job. I have a guide in view, the right man, his name is Lohiau, now in my employ. Suppose I begin next August. Meanwhile what shall I do with the mules, after I am through with them about February 1<sup>st</sup>? Three of them are in good order viz. Kuhaimoana, Kamohoalii & Kanaloa, while poor Hiiaka is delicate and hardly fit for use. Pele as you know is dead on the aa on the mountain, a sad fate. Shall I have them all with Mr. McDougall. I am afraid Kanaloa will go off. I would suggest that Notley come up here before I leave and go to work on homesteads in S. Kona. Kanakanui would be pleased to assist him, and Lohiau would be the best guide to all my stations and reference points. I would turn over my two tents, cooking outfit, mules etc. etc. to him as soon as I left, and would go over the ground with him if necessary. I speak of this now so that he may have ample time to get ready if you approve the plan.

The top of the mountain is invisible from here. ***Puu o Keokeo*** is the highest peak to be seen. No earthquakes, nothing unusual to report.

I fear that some of my letters to you, one or two, have gone astray. I wrote very fully and am sorry to have caused unnecessary anxiety. With *aloha nui*... [HSA, HGS DAGS 6]

**December 9, 1890**

**In Camp, Hanakeaumoe, Kapua, S. Kona, Hawaii**

**J.S. Emerson; to Professor W.D. Alexander:**

...Your very kind letter of the 4<sup>th</sup> with the newspapers came duly to hand. Many thanks for the same. I find it very slow work to get the address of my papers changed from Hookena to Hoopuloa. The result is that I am thus 10 days behind on news save at your very kindly send a paper properly directed.

I am heartily sorry that Notley is to leave the Gov't Survey. I wish there was some one to take up this work of cutting up the Gov't. lands in S. Kona, as I have done a good deal to get things ready for him. I shall hope to start the triangulation in Kau as my next field work on Hawaii.

After two or three dark days the weather is again most beautiful, bright and clear save when the excessive brightness makes it almost painful to look at stations to the South. A most serious defect in the transit is the lack of a brass sheath. Why was it not sent to me with the instrument? What has become of it? I miss it very much these bright days. Please have it sent if possible. While at **Ohepuupuu** I tried in vain to see Puu Ohau & Makolehale signals. The weather was too thick in that direction, save once, for an entire week.

As a practical solution of the problem of rendering distant signals to the South visible, I submit the following [Figure 5]: A 3 x 2 inch pole 16 feet high held in place by a stone ahu. A red and white flag. Red & white strips of cloth tacked to the pole and secured by ropes on each side in a plane at right angles to the line of vision. The stone ahu will appear black, while the red and white cloth will be lighted up by the bright light beyond. The contrast of colors will materially aid in rendering the object visible, I think.

Mr. Lyons made a good suggestion, a white sheet behind a black signal. I think the above will accomplish the same result. All my experiments thus far make me hope for success. I shall use heliotropes only as the last resort after this fails.

By return trip of W.H. Hall please send me 4 pcs. 3x2 in. North West Scanting 16 ft long, for flag pole, let them be rough without planing or paint.

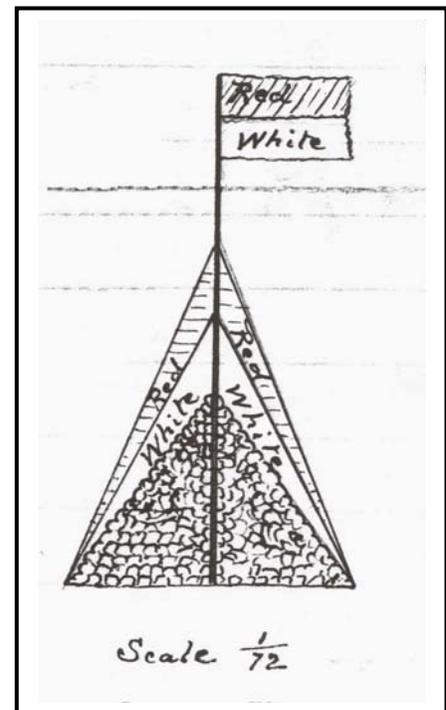
1 pc. 50 yds. more or less, common unbleached cotton cloth for flags etc.

21 yards, or more, of red cloth for flags, etc.

30 fathoms clothes line

4 Papers 8 oz. Carpet tacks.

My reason for troubling you to order these articles is that I don't want to get a lot of very high priced red cloth. Anything red will answer my purpose. Damaged stuff will do. Direct to Gov't Survey Hoopuloa, S. Kona. Please send Heliotropes next trip after.



**Figure 5. Survey Station.  
Ahu & Flag. J.S. Emerson,  
Dec. 9, 1890**

The cloth on the *ahu* and most of the flag at this station was devoured by a rascally goat whom I repeatedly saw at his tricks from my station at Ohepuupuu. The villain has fled. Only his death can atone for this insult to the flag.

The weather seems unsettled. It thunders and is very hot.

I shall be very glad to get back to civilization once more after finishing my work.

Kanakanui surprised me a few days since by saying "This is a Hell sort of a country." He has reason for his disgust with the everlasting, ever present aa.

With *aloha nui*...[HSA, HGS DAGS 6]

***In Camp, Na Puu a Pele,  
Kau, Hawaii  
January 7, 1891***

***J.S. Emerson; to Professor W.D. Alexander:***

...With this I send you my accounts and vouchers in full up to Dec. 31 which I trust you will find satisfactory. The account shows a large balance in my favor, for the reason that since the 30<sup>th</sup> of September I have had no definite statement from you of the amounts that you have deposited to my credit with Bishop & Co. As soon as convenient please send me such a statement that I may close up my accounts for the year in proper shape. Furthermore, my agent, Mr. Magoon, proposes to invest a few hundred dollars, of my funds in the bank, at interest and for that reason I require to know just how much you have placed for me in the bank.

Kanakanui is a brick. He found the boat man at Hookena last Thursday in a very jolly mood, over the horse racing, drinking etc. But he was pilikia loa and could not come. After telling various lies, he finally refused to come at all, and let Kakanui take the boat without him. Saturday evening, Jan. 2 the boat arrived safely at Milolii. Kakanui had brought two or three passengers, giving them their passage for their assistance in managing the craft. Monday we made the passage to this place, arriving just at sun down. Tuesday we set up the transit on the station, but the weather was too dark to do any work. Today the morning was fairly bright and clear, but since noon it has been very dark, and now, 2:30 P.M., is raining. The prospect of good weather here is not very encouraging, but I will do the best with such weather as we have.

I have written to Col. S. Morris of Kahuku to see if he could pasture the mules for me. The tent fly reached me at last all right. It answers my purpose.

The great pilikia here is to obtain fresh water. It cannot be bought for money anywhere along the coast short of Hookena, and to get it from the few water holes in the woods requires three days of work with boat and pack animals. We have therefore given up tea and coffee and use brackish water for everything save drinking. Before long we will have to drink it. Meantime I have bought a good supply of cocoanuts. The water from the tent fly is thus far too salty to drink. If the storm continues it will soon become fresh. We are all well and hope to remain here until our work here is done. With *aloha nui* to Mr. Lyons and all the friends in the office, yourself in particular.

P.S. The Hall has just passed by. I will not get my letters from Hoopuloa in time to answer them this trip. [HSA, HGS DAGS 6]

**Hookena, Hawaii**

**February 1, 1891**

**J.S. Emerson; to Professor W.D. Alexander:**

...Since my last to you I have received yours of the 5<sup>th</sup>, 15<sup>th</sup>, & 26<sup>th</sup> of Jan. Many thanks for the financial statement. The tent fly reached me in good season and is all I want for a tent this trip.

The Census enumerator, one of the omnipresent Smith family, found my party of two at Kapukawaa, and so reported. There is or was a great "hoopaapaa" among the natives about the last item in the blank. Did it mean the amt. of property taxed or the amount of the tax paid on that property?

As to fresh water, I started South by boat, Jan. 5<sup>th</sup>, with 10 gallons. At **Napuu a Pele** I caught 20 gallons of rain water and bought 10 gallons at Milolii sending a boat at great risk to get it. On the 28<sup>th</sup> I used up the last drop and put to sea with only brackish water in the boat. On the 29<sup>th</sup> a sudden shower surprised me at Milolii. We hastily put the fly on the tent and caught 20 gallons before the rain ceased. After 25 days of very limited supply and one day of total privation, that 20 gallons of pure fresh water right from Heaven, was one of the most opportune surprises of my life. I was more grateful for it than words can express. For 25 days the dread of being without water was like a protracted night mare. Thank God, that experience is ended. On the night of Jan. 27, at Okoe, I fell quite sick from acute indigestion and passed a night of great pain. There was just one quart of dirty fresh water on hand. It was a most trying time I assure you. You need not send me water this trip I hope not to require it just yet.

I have received a very kind letter from the Duke of Kahuku, per his agent, offering me the use of his pasture in welcome for the four Gov't mules. I will send them there.

We left Puu Ki and its wild goats on Monday Jan. 26 at 1 P.M. with over cast sky and the fear of a coming storm. A passage of 25 hours brought us to Okoe, where we spent two nights. We landed at Okoe with great difficulty in the surf. Nothing but the consummate skill and daring of my brave kanakas saved us from great loss. The 29<sup>th</sup> was a day of strange adventure. After several hours hard work we got our precious cargo through the surf in safety by repeated trips of a canoe to the boat which was anchored outside. Arriving at Milolii at sun set, the whole village turned out with a long line to help "Emekona ma" [Emerson and companions] to land. It was a most remarkable display of aloha and of sagacity on their part. A canoe came out with the line which I secured to the boat, and men, women and children with willing hands pulled us ashore at the exact moment when it was most safe to do so. I shall never forget that scene as long as I live. They knew better than I the great risk of being caught in the coming storm and darkness, and their wise fore thought saved me from it all.

Kanakanui had the cruel misfortune of running a copper bolt into his leg for about an inch. I got Mr. Doyle, who has studied medicine at Notre Dame, Ill. to examine the wound, and to dress it. But the patient preferred a native woman to dress it with maia pilo root grated up with salt. I let him have his way and the wound seems to be doing well. In the general rush to pull the boat in, one native girl stumbled and fell, hurting her knee badly.

Everywhere in Kona the natives show me marked consideration and kindness. I never met a more generous and kind hearted people any where.

In spite of poor weather, I have made the best possible use of my time and have carried out all my plans fully and successfully. The triangulation thus far is fully up to

my standard and ahead of all my previous work. I stake my reputation with confidence on the result. Tomorrow my faithful comrade goes with me by Steamer to Kealakekua. We expect to occupy Keawekaheka Tuesday morning, and if the weather is decent we expect to see our signals to the South all right, without the use of heliotropes. I have "cuzelled my brains" to make those signals visible. Such signals can't help being seen. More about the result next time. My *aloha nui* to Mr. Lyons and all in the office, yourself in particular. [HSA, HGS DAGS 6]

## **THE LANDS OF MANUKĀ, KAULANAMAUNA, KAPU‘A AND VICINITY DESCRIBED IN LAND TENURE DOCUMENTS, AND GOVERNMENT COMMUNICATIONS**

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The most detailed descriptions of traditional residency and land use on the lands of Manukā, Kaulanamauna and Kapu‘a, including documentation of traditional and customary rights, are those found in the Kingdom collections, documenting the history of land tenure, and defining the boundaries of *ahupua‘a* which now make up the Manukā NAR. The following section of the study provides readers with references from the laws of the Hawaiian Kingdom, which established fee-simple land ownership and codified native tenant rights.

Subsequent to the definition of land rights, the Kingdom set about the processes to determine the metes and bounds of the lands which had been granted in fee-simple interest to various parties. As a result, detailed oral testimonies from elder native tenants were taken in court proceedings, which further documented the occurrence of traditional and customary practices, and nature of the resources within given *ahupua‘a*. From those records, which also follow in this section of the study, we learn of the traditional knowledge and occurrence of native practices in the lands which today are a part of, and adjoin the Manukā NAR.

### ***The Māhele ‘Āina (Land Division)***

In Hawai‘i prior to western contact, all land, ocean and natural resources were held in trust by the high chiefs (*ali‘i ‘ai ahupua‘a* or *ali‘i ‘ai moku*). The use of land, fisheries and other resources was given to the *hoa‘āina* (native tenants) at the prerogative of the *ali‘i* and their representatives or land agents (*kono‘hiki*), who were generally lesser chiefs as well. By 1845, the Hawaiian system of land tenure was being radically altered, and the foundation for implementing the *Māhele ‘Āina* (the Land Division and fee-simple right of ownership) was set in place by Kauikeaouli (Kamehameha III).

Following implementation of the *Māhele*, the King also initiated a land grant program, issuing fee-simple “Royal Patents” on granted land. In addition to the sale of fee-simple interests in land, the Crown and Government lands were also made available for leases and, in some cases, for sale. On December 10th, 1845, King Kamehameha III (Kauikeaouli), signed into law “Article IV—of The Board of Commissioners to Quiet Land Titles,” a joint resolution defining the responsibilities of the Board of Commissioners. Several actions were implemented by this law, among them:

SECTION I. His Majesty shall appoint through the minister of the interior, and upon consultation with the privy council, five commissioners, one of whom shall be the attorney general of this kingdom, to be a board for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property acquired anterior to the passage of this act; the awards of which board, unless appealed from as hereinafter allowed, shall be binding upon the minister of the interior and upon the applicant...

SECTION VII. The decisions of said board shall be in accordance with the principles established by the civil code of this kingdom in regard to prescription, occupancy, fixtures, native usages in regard to landed tenures, water privileges and rights of piscary, the rights of women, the rights of absentees, tenancy and subtenancy, — primogeniture and rights of adoption; which decisions being of a majority in number of said board, shall be only subject to appeal to the supreme court, and when such appeal shall not have been taken, they shall be final...

Section IX. The minister of the interior shall issue patents or leases to the claimants of lands pursuant to the terms in which the said board shall have confirmed their respective claims, upon being paid the fees of patenting or of leasing (as the case may be)... [In the Polynesian; January 3, 1846:140]

As the *Māhele* evolved, it defined the land interests of Kauikeaouli (King Kamehameha III), some 252 high-ranking *Ali'i* and *Konohiki*, and the Government. 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; and (3) *Konohiki* Lands. The "Enabling" or "*Kuleana* Act" of the *Māhele* (December 21, 1849) further defined the frame work by which *hoa'āina* (native tenants) could apply for, and be granted fee-simple interest in "*Kuleana*" lands (cf. Kamakau in *Ke Au Okoa* July 8 & 15, 1869; 1961:403-403). The *Kuleana* Act also reconfirmed the rights of *hoa'āina* to access on trails, subsistence and collection of resources necessary to their life upon the land in their given *ahupua'a*. The *Kuleana* Act, remains the foundation of law pertaining to native tenant rights. The Act was passed on August 6, 1850, and reads:

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... 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 6<sup>th</sup> day of August 1850. [copied from original hand written “Enabling Act”<sup>7</sup> – HSA, DLNR 2-4]

The most important source of documentation that describes native Hawaiian residency and land use practices — identifying specific residents, types of land use, crops cultivated, and features on the landscape — is found in the records of the *Māhele ‘Āina*. While the “Land Division” gave the *hoa‘āina* an opportunity to acquire fee-simple property interest (*kuleana*) on land which they lived and actively cultivated, the process required them to provide personal testimonies regarding their residency and land use practices. As a result, records of the *Māhele ‘Āina* present readers with first-hand accounts from native tenants generally spanning the period from ca. 1819 to 1855. The lands awarded to the *hoa‘āina* became known as “*Kuleana Lands*” and all the claims and awards (the Land Commission Awards or L.C.A.) were given *Helu* (numbers). The L.C.A. numbers remain in use today, and identify the original owners of lands in Hawai‘i.

The work of the Land Commission was brought to a close on March 31, 1855. The program met with mixed results, and it has been calculated that the total amount of land awarded to *hoa‘āina* (native tenants – the common people of Hawai‘i) equaled approximately 28,658 acres, of a total four million available acres (see Governor’s report 1902:7).

***Disposition of Lands of the Manukā Natural Area Reserve and Vicinity in the Māhele ‘Āina***

The lands which make up the Manukā NAR include two *ahupua‘a*, Manukā, in the district of Ka‘ū; and Kaulanamauna, in the district of Kona. In the *Māhele*, the following division of lands was agreed to by the King and participating *alii*:

<b><i>Kahuku</i></b>	Retained by Wm. P. Leleiohoku; January 28, 1848 (pp <sup>8</sup> . 23-24). Relinquished by Wm. P. Leleiohoku, May 27, 1850, in commutation for other lands retained by him (Native Testimony, Vol. 10:211). Held by the Board of Public Instruction until 1861, when it was sold by Royal Patent Grant No. 2791, to C.C. Harris; 184298 Acres.
<b><i>Manuka</i></b>	Relinquished by Wm. Lunalilo to King Kamehameha III; January 28, 1848 (pp. 19-20). Granted by King to Government Land Inventory; March 8, 1848 (p. 183).
<b><i>Kaulanamauna</i></b>	Relinquished by Wm. Lunalilo to King Kamehameha III; January 31, 1848 (pp. 49-50). Granted by King to Government Land Inventory; March 8, 1848 (p. 181).

<sup>7</sup> See also “*Kanawai Hoopai Karaima no ko Hawaii Pae Aina*” (Penal Code) 1850.

<sup>8</sup> All page references are to the “*Buke Mahele*” 1848.

**Kapua**

Retained by William P. Leleiohoku; January 28, 1848 (pp. 23-24). Land Commission Award No. 9971.

Within these lands, *hoa'āina* also made claims for small *kuleana*. Our review of all records of the *Māhele* revealed that the following number of claims were made in these lands<sup>9</sup>:

<b>Ahupuaa</b>	<b>Claims</b>	<b>Awarded</b>	<b>Not Awarded</b>
<b>Kahuku</b>	20	6	14
<b>Manuka</b>	7	0	7
<b>Kaulanamauna</b>	1	0	1
<b>Kapua</b>	11	8	3

From the claims and testimony of the native tenant claimants, we learn that residences were maintained on the lands of the Manukā NAR, and that activities by residents spanned the *ahupua'a*, from the shore, to the *kula* (open plains and dryland cultivating fields), and into the forest zone, where cultivation of crops occurred, and canoe logs were harvested. Cultivated crops included;

<i>Ipu</i>	gourds of various types
<i>Kalo</i>	taro
<i>Ko</i>	sugar cane
<i>Koa</i>	trees for canoes
<i>Kope</i>	coffee
<i>Kou</i>	<i>cordia</i> trees
<i>Lauhala</i>	pandanus
<i>Maia</i>	bananas
<i>Mamaki</i>	<i>Pipturus</i>
<i>Niu</i>	cocoanut trees
<i>Pu</i>	squash
<i>Uala</i>	sweet potatoes
<i>Uhi</i>	yams

Place names, as *'ili* or other localities, in which traditional subsistence activities occurred, at various elevational zones for these lands include the following citations from claims:

Kahuku — Awikahua, Halelehu, Haleohale, Kaluaiki, Kamakoa, Keopuka, Koaekoa, Kukaiokaoha, Kukuinui, Niau, Papalahaiu (Papahaiu), Pualoalo, Puukoa.

Manukā — Elehu, Kaahuaina, Kaiakeakua, Kamilo (*Kamilo'āina kīpuka*), Kononihonua, Kuiki (*kīpuka*), Lamakulua (*kīpuka*).

Kaulanamauna — none recorded.

Kapu'a — Ahole, Awela, Haleola, Kailiohia, Kalihi, Kauleokalani, Kipu, Kole, Niua'o'u, Puhinaki, Puuhinahina.

While the actual Manukā NAR does not include the land of Kapu'a—portions of that ahupua'a make up the older South Kona Forest Reserve—several native tenants of Kapu'a, at the time of the *Māhele 'Āina*, also documented that they maintained residences and cultivating fields in Manukā (this is also reflected in the tradition of Koihala, cited earlier in this study). The combined records from Manukā, Kaulanamauna and Kapu'a are cited from the original books of the *Māhele*, with translations prepared by Maly.

<sup>9</sup> The on-going research of *Kumu Pono Associates LLC* in the nearly 60,000 records of the *Māhele 'Āina*, may lead to modifications in these numbers at a later date.



Kaiowalu & Keliainaole Sworn. We have seen his *Ili* of Elehu at Manuka Ahupuaa. Given by Puhi in the Year 1819. No one has objected to him. The boundaries are surrounded by the land of the *Konohiki*.

**Manuka**  
**Kauwe – Helu 8773**  
**Native Register Volume 8:168**

8773 #	<u>Kauwe</u>	Manuka Kau Hawaii
JG	<p><i>Ambia oukou e ka pae o'ona          Suliana Aina e nōho ana ma Honolulu          Orou Kahi mea Suliana Aina, iie ili          Kōia aia ma ka ili o Manuka          Na Kauwe.</i></p>	

Hear ye o Commissioners who Quiet Land Titles, sitting there in Honolulu. I am one who has a land claim. I have an *ili*. The *ili* is there in Manuka.

By Kauwe.

**Manuka**  
**Kauwe – Helu 8773**  
**Native Testimony Volume 8:503**  
**(Not Awarded)**

Helu 8773	Kauwe	Nov 29 1849
<p><i>Laniu and Kalaikoa Sworn. We have seen his parcel, the Ili of Kaiakekua in Manuka Ahupuaa. Gotten from Puhi in the Year 1819. No one has objected to him. The boundaries are surrounded by the land of the Konohiki.</i></p>		

Laniu and Kalaikoa Sworn. We have seen his parcel, the *Ili* of Kaiakekua in Manuka Ahupuaa. Gotten from Puhi in the Year 1819. No one has objected to him. The boundaries are surrounded by the land of the *Konohiki*.

Kapua  
 Lanai Ikaaka – Helu 6026  
 Native Register Volume 8:407  
 (Kapua Not Awarded)

6026 Lanai Ikaaka      Kahaione Hawaii Jan. 10, 1898  
 ʻŌ  
 Aloha oukou a pau e na luna honu kuleana aina, pauciki  
 mau honu kuleana aina, o Honaunani he ikauna ou ma  
 Honoaunani ike he ahupuaa, pauciki kuleana, o Kamehame-  
 ha i ka Pii, o Pii ia Kuakini, ouae no ka moke aina, via no  
 kua kuleana aina iu, he ahupuaa o Kapua no Kuakini mai a  
 ia Pii, via no kua kuleana aina iu he ika o Waiho, o Pahiama  
 he ahupuaa, o Pii he moke, no Kamehameha i ka Pii, via  
 kua kuleana aina iu o Makua he ahupuaa, aia ma ka moke  
 o Puna, no Kuakini a ia Pii, via kua mau kuleana aina ka i-  
 ke, ua mau aku hoi ike i ke o laka, e like no hoi mau iu  
 mau aia, no mau aku ka, he like ka ka! kaafia wale ike nei  
 no ka mau aku ol.      Lanai Ikaaka.

Aloha to all of you commissioners who quiet land titles, my land claims are thus...

...My land claim in the ahupuaa of Kapua, was gotten from Kuakini, and by him from Pii...

Lanai Ikaaka.

**Kapua**  
**Kama – Helu 7927**  
**Native Register Volume 8:514**

7927 Kama  
 70. Eia he ihi oia no Namaielua mai; a mai he kai; a he  
 uka kalo, he 10 Mala uala, 4 Mala kalo, 1 Mala puu, Eia  
 he mau kihapai lele no Naolulo 6 Mala kalo - He mau  
 kuhakaha kekahi in, he 58 hea mi a pumi-  
 Kapalilua Kona Kona. Nai ma Kama.

Here is my *ili* land, gotten from Namaielua, extending from the shore to the upland taro planting area; there are also 10 sweet potato fields, 4 taro field, and 1 field of squash. Here are my detached cultivating grounds (*kihapai lele*), from Naolulo; 6 taro fields. I also have a house lot, it is 58 [fathoms] on all sides.

By me, Kama.  
 Kapalilua, South Kona.

**Kapua**  
**Kama – Helu 7927**  
**Native Testimony Volume 8:504**

Helu 7927 Kama

Ahuole ma Kaolulo Konoehiki. Ua ike mau i he Ili  
 Haleola ma Kapua Ahupuaa. Ua Namaielua mai M.H. 1819.  
 He palena Melehehe Konoehiki a pumi ma aua

Ahuole and Kaolulo Sworn. We have seen the *ili* of Haleola at Kapua Ahupuaa. Gotten from Namaielua in the Year 1819. The boundaries on upland, Kau, sea and Kona sides are all surrounded by the *Konoehiki*.

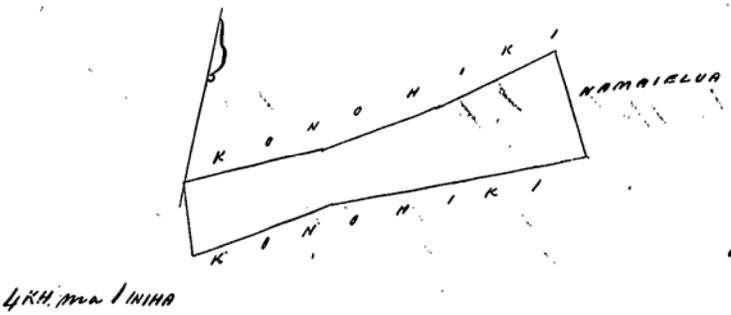
Kapua  
 Kama – Helu 7927  
 Mahele Award Book 3:541 – Notes of Survey  
 (Awarded 3 1/3<sup>rd</sup> acres)

*Helu 7927 Kama. ↓ Kapua, Kama, Kama. 46.*

*Ke ana o Kama, ma Kapua, Kama, Kama, Hawaii.  
 O kumaka ma ke kiki Kihina a v. kolo ana  
 Ak. 29° 15' Kum. 3.60 Ak. ma ke ana o Kamaileu.  
 Kum. 53° 15' " 4.55 " " " " " Kamaiki.  
 " 58° 15' " 4.30 " " " " " "  
 " 64° 45' " 4.88 " " " " " "  
 " 19° 45' Hik. 2.30 " " " " " "  
 Ak. 58° 30' " 5.10 " " " " " "  
 " 67° 45' " 9.10 " " " " " " a kiki i kahi  
 i kumaka i. Helu 3 1/3 Eka*

*Kama Hawaii June 21. 1853.*

*J. Fuller  
 Lumaanaama.*



*Ukupaula \$ 5.00*

*M. L. Lee  
 G. M. Robertson  
 J. Kakaulaha  
 J. H. Smith*

*Honolulu Oatoba 22. 1850.*

Kapua  
 Kapa – Helu 7934  
 Native Register Volume 8:516

576  
 7934 Kapua  
 76  
 Eia kōia iho aiaa no Namaielua mai, Kailiohia ka moaia,  
 eia kōia mau kuhapai i mahi ai, 10 Mula uala, 1 Mula  
 keke, 6 Mula ipu, 2 Mula luhala, eia kōia mau kuhai -  
 pai lile Aholo ka moaia, 4 Mula uala, 1 Mula keke,  
 eia kōia kuhapai lile iho, Haleola 3 Mula uala, Pahale -  
 22 keke loa, 16 keke lauhā, ka nui o pane loa 76 -  
 Kapua Kapalilua Apana 3. eia Kapua -

Here is my *ili* land from Namaielua, the land section of Kailiohia; here are my cultivated gardens, 10 sweet potato fields, 1 taro field, 6 gourd fields, 2 pandanus patches; here are my separate gardens. Aholo is the land section, with 4 sweet potato fields, and 1 taro field; I also have another garden in a separate place, Haleola; there are three sweet potato fields. The House site is 22 long by 16 wide, the total size is 76 [fathoms].

By Kapa

Kapua  
 Kapa – Helu 7934  
 Native Testimony Volume 8:504

Helu 7934 Kapua  
 Ahuole me Kaolulo Hoolihia. Eia iho mau aiaa  
 Ili o Kailiohia ma Kapua Ahupuaa, Na Lanai  
 i hōia mai i ka 1819. Aole mau heheia ia ia,  
 Na palena, Me. Aiaa o Kailiohia, K. Aiaa o Namaielua,  
 K. Kai, K. Aiaa o Namaielua.

Ahuole and Kaolulo Sworn. We know his *ili*, Kailiohia at Kapua Ahupuaa, Lanai gave it to him in 1819. No one has objected to him. The boundaries: Upland, the land of Namaielua; Kau, the land of Namaielua; Sea, the shore; Kona, the land of Namaielua.

Kapua  
 Kapa – Helu 7934  
 Mahele Award Book 3:540-541 – Notes of Survey  
 (Awarded 3 acres)

Helu 7934 Kapua ✓ Kapua, Kona, Kona, Hawaii

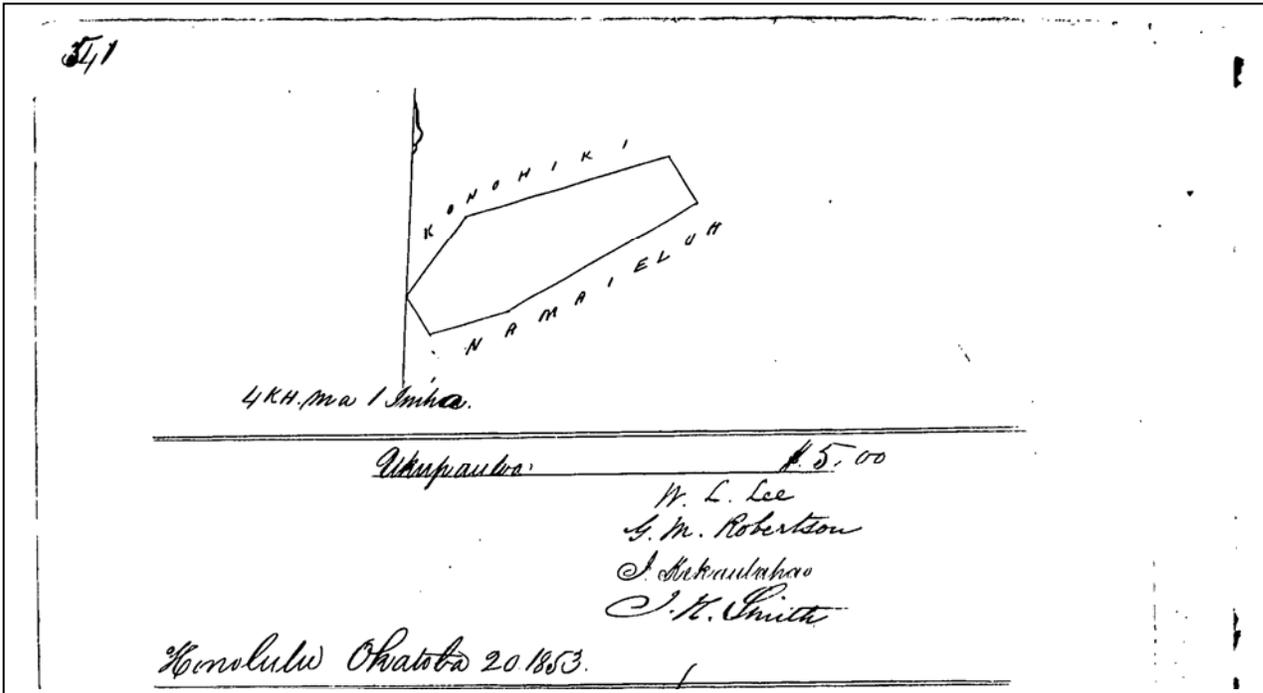
Kapua: Kapa ma Kapua, Kona, Kona, Hawaii.  
 E hana ma ke kiki Oka, a i holo.

Kona:	31° 30'	Hiki.	1.74	Ma ka wai, Kahuhihiki & Kona.
"	58° 30'	Kona.	7.40	" " " " Kahuhihiki.
"	71° 15'	"	2.70	" " " " " "
Kona:	35° 30'	"	1.44	" " " " Kahuhihiki.
"	38°	Hiki.	3.30	" " " " " "
"	71° 45'	"	7.24	" " " " " "

Kahuhihiki. He 3 Eka.

Kona, Hawaii. Ima 21, 1853.

J. Fuller  
 Linnanaama.





Kapua  
 Kaawa (Kaaua) – Helu 7940  
 Mahele Award Book 3:542 – Notes of Survey  
 (Awarded 2 2/10<sup>th</sup> acres)

*Helu 7940 Kaawa* ✓ *Kapua, Kaawa, Kaawa, Hawaii* 542

*Ke ana o Kaawa ma Kapua Ima Ima Hawaii.*

*Usumaka ma ke kiki Kaawa a e holo.*

*M. 23° 30' Ima. 4,50 Ith. ma ke ana. Konoiki.*

*" 73° Ith. 2.85 " " " "*

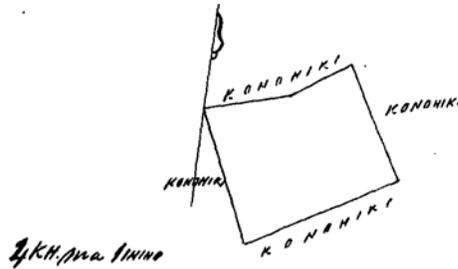
*" 54° 30' " 2.24 " " " "*

*Ima 32° " 4.00 " " " " "*

*" 60° Ima. 5.70 " " " " " a kiki i kiki  
 i sumaka'i. He 2 2/10 Ith.*

*Kaawa Hawaii June 21, 1853.*

*J. Fuller  
 Lunaluana.*

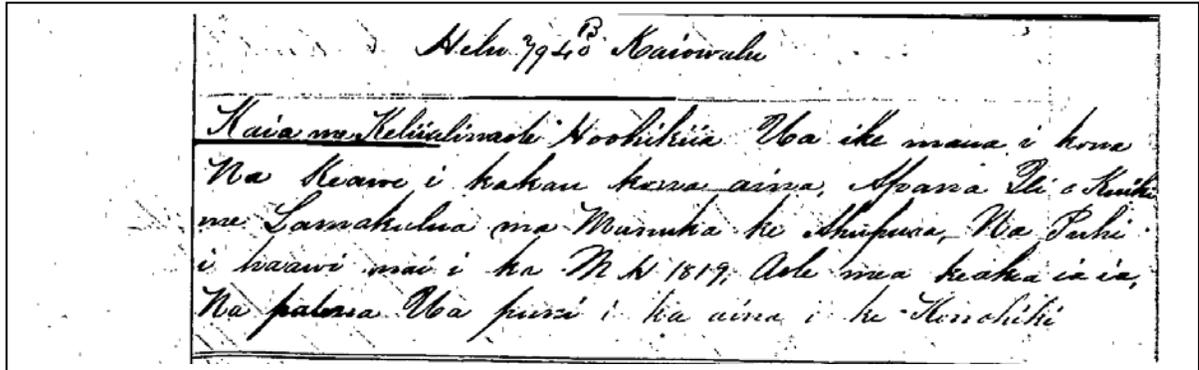


*Ukupa'aka* \$5.00

*W. L. Lee  
 G. M. Robertson  
 J. Sikaulaho  
 J. H. Smith*

*Honolulu Oka'opa 20, 1853.*

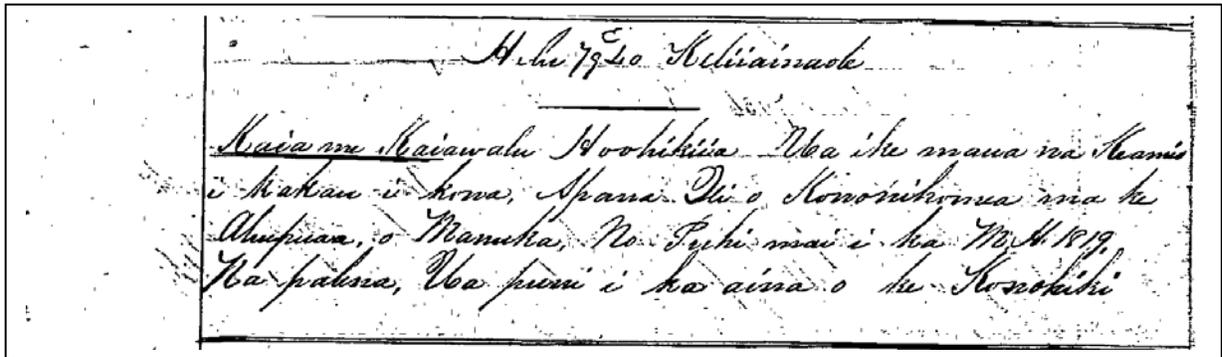
**Manuka**  
**Kaiowalu – Helu 7940 B**  
**Native Testimony Volume 8:505**  
**(Not Awarded)**



Helu 7940 B Kaiowalu  
Kaia ma Keliainaole Nookihikiia. Ua ike mana i kona  
Na Keawe i hakanu kama aiaa, Apara Ili o Kuiki  
ma Lamakulua ma Manuka ke Ahupuaa, Na Puhi  
i hawawi mai i ka M.H. 1819, Aole ma haka ia ia,  
Na palena Ua pui i ka aiaa i ke Konoehiki

Kaia and Keliainaole Sworn. We have seen his (land). Keawe wrote for his lands. An *Ili* parcel, Kuiki at Lamakulua in Manuka Ahupuaa. Puhi gave it to him in 1819. No one has objected to him. It is surrounded by the land of the Konoehiki.

**Manuka**  
**Keliainaole – Helu 7940 C**  
**Native Testimony Volume 8:505**



Helu 7940 C Keliainaole  
Kaia ma Kaiowalu Nookihikiia Ua ike mana ma Keawe  
i hakanu i kama, Apara Ili o Konoehonua ma ke  
Ahupuaa, o Manuka, Na Puhi mai i ka M.H. 1819,  
Na palena, Ua pui i ka aiaa o ke Konoehiki

Kaia and Kaiowalu Sworn. We saw Keawe write out his claim. An *Ili* parcel, Konoehonua in the Ahupuaa of Manuka, gotten from Puhi in 1819. The boundaries are surrounded by the land of the Konoehiki.

Kapua  
 Keliiainaole - Helu 7940 C  
 Mahele Award Book 3:543 - Notes of Survey  
 (Awarded 2 9/10<sup>th</sup> acres)

Helu 7940 C Keliiainaole Kapua, Kona, Kona, Hawaii

Ke ana o Keliiainaole ma Kapua, Kona, Kona, Hawaii  
 E hoomaka ma ke kahi Hiki a e holo.

Ak. 20° Kom. 4.00 Ak. ma ke ana Konoiki.

Kom. 57° 15' " 6.00 " " " " Konoiki.

" 59° 15' " 3.20 " " " " "

" 118° Hiki. 3.70 " " " " Konoiki.

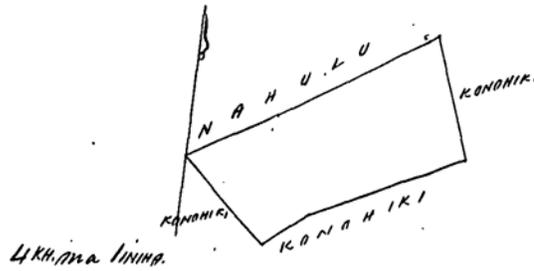
Ak. 52° " 1.85 " " " " "

" 64° 30' " 5.70 " " " " " akiki i akahi

i hoomaka'i. Helu 2 9/10 Ak.

Kona Hawaii June 21. 1853.

J. Fuller  
 Linaanaama



Ukupaulea \$ 5.00

W. L. Lee

G. M. Robertson

J. Stevanovich

C. H. Smith

Honolulu Oatoba 20. 1853.

Manuka  
 Kaia – Helu 7940 D  
 Native Testimony Volume 8:506  
 (Not Awarded)

506  
 Helu 7940 Kaia      Seku 7, 1829  
 Kaiawalu me Keliainaole Kōhōhiki. Ua ike māua i kōna  
 mā Keamia i Manuka, āpaua i kōna Kamilo, mā Abasuka  
 mā Pūhi i ka wā mā i ka M. H. 1819. Uole māua kōna  
 mā palena, Ua pūni i ka uina o ke Kōhōhiki.

Kaiowalu and Keliainaole Sworn. We have seen his land. Keamia wrote it out. An *ili* parcel, Kamilo at Manuka. Pūhi gave it to him in the Year 1819. No one has objected. The boundaries are surrounded by the land of the *Kōhōhiki*.

Manuka  
 Kalopi – Helu 8789  
 Native Testimony Volume 8:513  
 (Not Awarded)

Helu 8789 Kalopi      Seku 7, 1849  
 Palaualelo me Kaanaana Kōhōhiki. Ua ike māua  
 i kōna māua. Ihi o Awela 1, Awela 2, mā Kaahu-  
 aina mā Manuka Ahup. mā Kau. Mā Pūhi mā i  
 i ka M. H. 1840. Uole māua māua i kahea iā iā.  
 Mā palena, Ua pūni i ka uina o ke Kōhōhiki.

Palaualelo and Kaanaana Sworn. We have seen his *Ili*, Awela 1, Awela 2, and Kaahuaina in Manuka Ahup. at Kau. Gotten from Pūhi in the Year 1840. No one has objected to him. The boundaries are surrounded by the land of the *Kōhōhiki*.

**Kapuakou (Kapua)  
Naluhielua – Helu 10380  
Native Register Volume 8:593**

593

10:380 Naluhielua Kapuakou Kapalua Hawaii -  
 He pahuale hou ki Eo awana ka loai, ki Eo awana ka laula, he  
 mau mo'aua heheki iu, 2 mo Lanai mai 4 hikapai kele, 1 Mala  
 mo'aua, 3 Mala wala -  
 Nāu ma Naluhielua

I have a house lot, 80 fathoms long, 60 fathoms wide, also some land sections are mine, 2 from Lanai; 4 taro fields, one banana field, and 3 sweet potato fields.

By me, Naluhielua.

**Kapua  
Naluhielua – Helu 10380  
Native Testimony Volume 8:505**

Helu 10380 Naluhielua

Ahuole ma Kaolulo Koonohiki Ua ike mauna i Kona  
 He o Māhiole Kapua Ahup. Mai ma Makuaohonuwai mai  
 Mo Lanai Ma. H. 1819, a hiki i ka Ma. H. 1843 Uole heheke  
 Ma pāhona Makuaohonuwai Koonohiki a pūni ma a'ao

Ahuole and Kaolulo Sworn. We have seen his Ili, Ahole, Kapua Ahup. Gotten from the in-laws who got it from Lanai in the year 1819 to the year 1843. No one has objected. The Boundaries Upland, Kau, Shore and Kona, are surrounded by the Koonohiki on all sides.