

4302

Form 304

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: T. Hawaiian Is.

11-5613

DESCRIPTIVE REPORT.

Topographic

Sheet No.

4302

LOCALITY:

Kauai, Northwest Coast  
~~North Coast of Kauai, T.H.~~

Makaha Pt. to Wainiha Bay

1917

CHIEF OF PARTY:

F.G. Engle

4302

## Descriptive Report

to accompany

Topographic Sheet H, Island of Kauai, T.H.

F. G. Engle, Chief of Party. Director's instructions dated Nov., 23, 1926.

### EXTENT:

This sheet includes the shore line on the north coast of Kauai from longitude 159-33 on the east to 159-44 on the west.

### GENERAL DESCRIPTION OF COAST:

The entire shore line with the exception of the section to the eastward of longitude 159-35 consists of cliffs. These vary from a hundred to over a thousand feet in height. There are numerous ravines and valleys, running inland, which cut up this wall at frequent intervals. There are also short stretches of sand and gravel beach but these extend only a short distance inland, from 50 to 200 meters, being terminated by the cliffs. The most extensive of these is at Kalalau Valley. Here also the cliff line recedes gradually from the sea on the westward side but comes down again abruptly on the east side. From there eastward to the termination of the cliff coast there are but few breaks in the cliff wall. Along the greater portion of this section there is a shelf a few feet above high water but there are numerous impasses due to caves and overhanging cliffs.

Wind and Surf Conditions:- The prevailing winds are from the north east and are fairly constant with a strength of about 5 - Beaufort scale. There is a daily variation however, the wind usually not attaining its full strength until about 10 A.M. The wind was observed to blow along the coast with greater force than offshore a few miles. This applies to the coast from Long. 159-35 to 159-42 approx.. To the westward of Makuaiki Point the shoreline has curved sufficiently to the south to be partially sheltered from the Northeast winds.

The surf did not seem to vary with the strength or duration of the local wind. It, apparently, was due chiefly to the offshore winds, the local winds serving merely to increase the chop and render the handling of a small boat more difficult.

There is surf at the entrance to all the valleys, sand, and boulder beaches. West of Makuaiki Point the surf is also general. Along the remaining Pali coast the sea breaks directly on the steep rock beach.

Landings:- With no wind blowing it is possible to land almost anywhere in a whale boat with a good boat's crew. There are several places, however, which are well sheltered from the prevailing Northeast winds making a landing very easy. The best of these is at Haena Village in which a landing may be made in any kind of weather, the hook-shaped coral reef affording excellent protection.

The only possible landing at Kalalau Valley with any sea at all is the sand beach to the westward. This is a fairly steep sand beach, the first line of breakers occurring about fifty meters out. In a fresh wind the landing is dangerous and with a strong wind, impossible.

Landing to the eastward of the sand beach is dangerous because of the

boulders set free from the eroded drift bank.

Following is a list of the best landings with their positions and condition:

Lat.	Meters	Long.	Meters	Near Hyd. Sta.	Sheltered from winds	Condition of sea at landing when sheltered.
22 - 09	: 850	: 159 - 42	: 1000	: Why	: N.NE. & E.	: Slight swell no surf.
22 - 09	: 1150	: 159 - 42	: 300	: At	: N.NE. & E.	: Slight swell no surf.
22 - 10	: 100	: 159 - 40	: 800	: Pat	: N.NE. & E.	: Slight wash of surf.
22 - 10	: 100	: 159 - 40	: 650	: Won	: NW. & W.	: Slight wash of surf.
22 - 10	: 700	: 159 - 39	: 1150	: Wal	: Not sheltered: sand beach.	: Always surf in proportion to wind & sea.
22 - 11	: 1500	: 159 - 37	: 950	: But	: NE. & E.	: No surf. Steep rock beach 1dg. 5-6' rise & fall of sea
22 - 12	: 600	: 159 - 36	: 900	: Can	: NE. & E.	: No surf. Steep rock beach 3-4' rise & fall of sea.
22 - 13	: 450	: 159 - 35	: 300	: Out	: All winds.	: Smooth - slight swell with wind.
22 - 13	: 1000	: 159 - 33	: 1200	: Haena Vil	: All winds.	: Smooth.

#### SURVEY METHODS:

Traversing with the usual plane table equipment was used exclusively, the nature of the coast barring any other method. It was not deemed necessary to obtain form lines since the Geological Survey Map of Kauai contains contours.

Length of traverses and closing errors:

Maka to Kala	5-1/2 nautical miles	8 meters
Kala to Kailiu	4-3/4 " "	40 "
Kailiu to Niha	2 " "	6 "

These closures were within the required limits and were adjusted.

#### OFFLYING DANGERS:

None except coral reefs as noted on the sheet.

#### LANDMARKS:

There are two unpainted houses in Kalalau Valley which may be seen for several miles off shore. They may be identified as hydrographic signals HOW and RAK.

HOW	-----	Lat. 22-10	(1100)	Long. 159-39	(558)
RAK	-----	Lat. 22-10	(1270)	Long. 159-39	(308)

List of marked Topographic Stations & Plane Table positions:

Station	: Lat.	: Meters	: Long.	: Meters
Cad	: 22 - 09	: 1402	: 159 - 41	: 1652
San	: 22 - 10	: 480	: 159 - 40	: 70
Rat	: 22 - 11	: 1430	: 159 - 37	: 1240
Cliff	: 22 - 12	: 725	: 159 - 36	: 810

STATISTICS:

Miles of shore line (statute) ----- 15.5

Respectfully submitted,

*George A. Nelson*  
Topographer

Approved and Forwarded:

*F. G. Engle*  
F. G. Engle  
H. & G. Engineer.

Inspected January, 1928 and found adequate.  
At the junction with T. 4203 sheet 4302  
shows a sharp turn in the shoreline, whereas  
T. 4303 indicates that the shoreline runs in  
a straight line.

The steep turn is probably a stream  
in the valley at the junction of the two  
sheets.

*E. P. Ellis*

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

REG. NO. 4302

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 5

REGISTER NO. 4302

State ~~Territory of Hawaii~~ Hawaiian Is

General locality ~~Island of Kauai~~ Northwest Coast

Locality Makaha Pt. to Wainiha Bay  
~~North Coast~~

Scale 1-20,000 Date of survey June-July, 1927

Vessel DISCOVERER

Chief of Party F.G. Engle

Surveyed by George A. Nelson

Inked by G.A.N.

Heights in feet above H.W. to ground ~~to tops of trees~~

Contour, Approximate contour, Form line interval        feet

Instructions dated Nov. 23, 1926, 1926

Remarks: