

4698

4698

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*  
Field No. .... Office No. *4698*

LOCALITY

State *Hawaii Island*  
General locality *Wainiha*  
Locality *Bay & Hanalei Bay*  
*North Coast of Kauai*

192-7

CHIEF OF PARTY  
*F. G. Engle*

LIBRARY & ARCHIVES

DATE .....

4698

U. S. COAST AND GEODETIC SURVEY  
L. A.

Form 504  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

State: Hawaiian Islands

11-5613

DESCRIPTIVE REPORT.

Hydro. Sheet No. <sup>4698</sup> 11 4698

LOCALITY:

~~Kauai Island~~

Wainiha Bay &  
Hanalei Bay, North coast of

~~Kauai.~~

19127

CHIEF OF PARTY:

F. G. Engle

4698

DESCRIPTIVE REPORT

to accompany *Wainiha Bay &*

HYDROGRAPHIC SHEET #11 HANAIEI BAY, KAUAI, T. H.

Commanding Officer's Instructions dated, November 23, 1926.

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LIMITS: This sheet covers the hydrography of Hanalei Bay and Wainiha Bay and approaches. Sounding lines were carried off shore to approximately the 10 fathom curve.

SURVEY METHODS & CONTROL: Control for this survey consisted of triangulation signals established by the field party and a series of topographic signals established on Topographic Sheet I Hanalei Bay 1:5,000 completed just previous to the hydrography.

The greater part of this survey was made with a 30 ft., motor sailer. A whale boat was used in sounding the Hanalei River and on a few soundings in the Bay. A copper centered hand lead line with a 10 lb., lead was used throughout the survey. The sounding lines were carried as close to the beach as safety would permit. The outer limits of reefs and breakers were sketched in from the sounding launch while at the inner ends of the sounding lines.

No fixes were available when sounding in the Hanalei River. Positions on the three sounding lines were estimated on the boat sheet by the officer in charge of the launch and transferred to the smooth sheet from the boat sheet.

The whale boat sounding lines in the western and southern parts of Hanalei Bay were done while a fresh North East wind was blowing making the speed of the boat very erratic.

Tidal reducers for this sheet were obtained from a portable automatic gauge operated at the dock near triangulation signal DEPRICK.

DESCRIPTION OF THE COAST: This subject is fully covered in the descriptive report accompanying Topographic Sheet I, Hanalei Bay.

LANDMARKS: Signal LONE is a lone tree about 30 feet high on the top of the bluff. Signal STAEF is a prominent white flag staff in front of a large house. Signal TALL is a high prominent tree, much higher than the other trees of the group. Signal SAL is a white flag pole near the last house to the southward of the group in sight along the beach. Signals DER and RIK are loading derricks about 12 ft., high on the ends of the two docks. Signal HOW is the center of a lone red house, fairly prominent.

INSHORE DANGERS: On the eastern side of the entrance to Hanalei Bay between signals RIV and CAM a coral reef almost entirely bare at low water extends out from shore about 325 meters. This reef is entirely covered at high water but the limits are usually outlined by breakers. A coral reef almost awash at low water extends offshore nearly 500 meters between signals HAN and WES. This reef was sketched on the boat sheet by the hydrographic party. On the western side of Wainiha Bay from signal POLE to the western limits of the sheet a coral reef awash in spots at low water makes out approximately 350 meters from shore. The outer limits of this reef were sketched on the boat sheet by the hydrographic party.

On the western side of Wainiha Bay from signal POLE to the western limits of the sheet a coral reef awash in spots at low water makes out approximately 350 meters from shore. The outer limits of this reef were sketched on the boat sheet by the hydrographic party. Heavy breakers roll in in this section during the North East trades. The entire five fathom shoal extending about a half mile East North Eastward of signal NIHA<sub>2</sub> breaks and is dangerous in heavy weather.

ANCHORAGES: Hanalei Bay affords good holding ground and shelter for everything except North or Northwest storms which are infrequent. The entrance to Hanalei Bay is said, by local authorities to break nearly across in a heavy North West storm.

Respectfully submitted,

Approved & Forwarded:

*Dec 8, 1927*

*F. G. Engle*

F. G. Engle,  
Comdg., Str. DISCOVERER.

*Thos. B. Reed*

Thos. B. Reed.

11

January 26, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
volumes of sounding records for

HYDROGRAPHIC SHEET 4698

Locality: **KANAI ISLAND, T.H.**

Chief of Party: **F. G. Eagle, 1927.**

Plane of reference is **M L L W**  
**2.2** ft. on tide staff at **Kanaloa Bay**

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

*J. Wade*

Chief, Division of Tides and Currents.

## Section of Field Records

Report on Sheet No. 4698

Chief of Party F. G. Engle

Protracted by H. A. Nelson

Verified and Inked by J. T. Walker

Surveyed in 1927

Surveyed by Theo. B. Reed

Sounding plotted by H. A. Nelson

The sounding records were complete and neatly kept.

The protracting was remarkably accurate. Only four positions were found incorrectly plotted. Thirty one percent of the positions were checked.

The soundings except for a few cases were carefully plotted according to time intervals.

The sheet was clean and legible when received.

The drafting conformed to General Instructions except as follows: The projection lines were shown every minute instead of every half minute as should be done on a 5000 scale. Curves should be sketched in pencil by the field party.

The following poor crossings were found:

19 b (green) and 60 b (red)

66-67 c (green) and 78 b (red)

85 g (green)

Two signals named "Tree" were found on the sheet.

Ten hours and 45 minutes were spent checking 655 positions and 47 hours were spent spacing and inking 4412 soundings.

Reviewed by

Date.

Respectfully submitted  
J. T. Walker.

STATISTICS SHEET NO. 11

NORTH COAST KAUAI, SCALE, 1:5,000 - - - - HANAIEI BAY, KAUAI.

Date, 1927	Letter	Volume	Positions	Soundings	Miles Stat	Vessels
July 22	a	1	166	760	16.9	Stbd. Motorsailer
25	b	1& 2	166	791	14.3	" "
26	c	2& 3	134	539	13.0	" "
27	d	3	150	597	16.7	" "
28	e	3& 4	90	382	10.9	" "
Aug. 6	f	4	64	287	7.3	" "
10	g	4& 5	165	711	19.8	" "
19	h	5	63	364	7.2	" "
20	j	5	26	126	2.4	" "
22	k	5	114	448	13.0	" "
23	a	6	106	854	6.9	Port Whaleboat
Sept. 3	b	6	117	645	6.1	Stbd. "
Totals -----			1361	6504	134.5	

IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DFM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

August 9, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4598

Wainiha and Hanalei Bays, Hawaiian Islands

Surveyed in 1927

Instructions dated November 23, 1926 (DISCOVERER)

Chief of Party, F. G. Engle.

Surveyed by T. B. Reed.

Protracted and soundings plotted by G. A. Nelson.

Verified and inked by J. T. Walker.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the development satisfy the General Instructions with the exception that in Hanalei River no fixes were obtained to locate the boat's positions. It would seem that rather than resort to estimates as to where the boat was, a number of signals could have been established along both shores when the topography was done, and notations made when the boat was abeam of these signals. In this way the soundings along the river would have been definitely fixed.
3. The plan and extent of the survey satisfy the specific instructions with the exception that some of the shoals should have had more development. These will be mentioned under the paragraph for additional work.

The 6 and 12 foot curves were not completely developed throughout the sheet, presumably due to the nearness of the breakers, although no mention is made thereof in the records.

4. The usual depth curves could be drawn except as mentioned in the above paragraph.

5. The field plotting was completed as required by the General Instructions and was up to standard in every respect.
6. The sounding line crossings (including a comparison of closely spaced adjacent lines) are satisfactory. There are numerous cases of considerable differences between cross lines and between soundings on contiguous lines. These occur primarily in the east approach to Hanalei Bay and the west approach to Wainiha Bay and may be attributed to the broken character of the coral bottom and to the choppy sea existing on some of the sounding lines.
7. The junctions with H. 4708 and H. 4709 are generally satisfactory, the differences between some of the overlapping soundings being due no doubt to the above mentioned cause.
8. Additional work is desirable in the following places:
  - a. An extension of the work seaward to completely delineate the 10 fathom curve.
  - b. Additional development between the 12 and 18 foot curves on the shoaling to the westward of  $\Delta$ Cam and particularly on the outermost 12 foot spot.
  - c. A development in the vicinity of the 14 foot sounding near the head of Hanalei Bay in lat.  $22^{\circ} 12' 925$  m., long.  $159^{\circ} 30' 545$  m.
  - d. Additional soundings off Makahoa Pt. from the shore to the 30 foot curve.
  - e. From Makahoa Pt. to the head of Wainiha Bay the sounding lines should be extended further inshore, if not prevented by breakers.
  - f. Additional development to the 18 foot curve on the two shoals in the west approach to Wainiha Bay.
9. Reviewed by A. L. Shalowitz, July, 1928.

Approved:

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Chief, Section of Field Records (Charts)

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Chief, Section of Field Work (H. & T.)

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

C. & G. SURV.  
L. 2  
DEC 17 1927  
Acc. No.

REG. NO. 4698

HYDROGRAPHIC TITLE SHEET

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

Field No. 11

REGISTER NO. <sup>4698</sup> 4698

State Hawaiian Islands

General locality Kauai Island

Locality Wainiha Bay & Hanalei Bay, Northcoast of Kauai Island

Scale 1:5,000 Date of survey July to Sept., 1927

Vessel DISCOVERER

Chief of Party F. G. Engle

Surveyed by Thos. B. Reed

Protracted by G. A. Nelson

Soundings penciled by G. A. Nelson

Soundings in ~~fathoms~~ feet

Plane of reference M.L.L.W. 2.1 on tide staff

Subdivision of wire dragged areas by

Inked by J. T. Walker

Verified by J. T. W.

Instructions dated Nov. 23, 1926

Remarks: Tide staff located on pier on east side of Hanalei Bay about 10 meters from DEBBICK.



Applied to chart 4100 then chart 418 11/7/58 Williamson