

3652

Diag. Cht. No. 4115

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Office No. H-3652

LOCALITY

State HAWAIIAN ISLANDS

General locality HAWAII ISLAND

Locality

1914

CHIEF OF PARTY

J. B. Miller

LIBRARY & ARCHIVES

DATE MAY 18, 1914

3652

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey
O. H. TITTMANN, Supt.

HAWAIIAN ISLANDS,
HAWAII ISLAND

A descriptive report on Hydrographic Sheet F.

Scale 1:60,000

Northwest Point of HAWAII ISLAND

Surveyed in March, 1914, by the party on the U. S.

C. & G. S. Str. PATTERSON.

1. REPORT: LIMITS

I have the honor to report as follows on hydrographic sheet F, showing offshore sounding around the northwest point of Hawaii Island. The sheet extends from Puake on the west coast, thence around Upolu Point to Kukuihaele on the north coast, a distance of 47 statute miles; and extends 9 statute miles offshore, to depths of 300 to 500 fathoms. The sounding was done with the Steamer PATTERSON, with the chief of party in charge of the sounding.

2. METHODS: INTERVALS

The sounding connects in 27 fathoms with the in-shore launch hydrography on sheets 22 and 93. Sounding lines were run parallel to the shore, as it is more expedient under the conditions to run them thus than on and offshore; from 27 to 100 fathoms the lines are spaced $1/3$ mile apart or less, and the soundings $1/8$ mile apart along the lines. From 100 to 200 fathoms soundings are spaced 1 mile apart in both directions, and beyond 200 fathoms 2 miles apart. The soundings from 27 to 100 fathoms were made with Tanner-Blish pressure tubes, to which 4 fathoms is to be added for stray-line: a vertical cast was taken each tenth sounding to verify the tubes. In plotting tube soundings underway, a horizontal offset is to be applied backward along the line, equal to the distance from the ship's bridge to the lead where it touched bottom; this is given by a table already submitted (sheets A & B, Maui Island, 1913). Soundings deeper than 100 fathoms were vertical casts with model or Sigsbee sounding machines.

3. GENERAL FORM OF THE SEA BOTTOM: SHOALS

The form of the sea bottom has no peculiarities: 100 fathoms is found 2 miles offshore, and 300 fathoms 4 to 8 miles offshore. The bottom is sand, fine shells, and fine lava specks, with some corallina. There are no shoals: chart 4115 indicates an extensive shoal off Akoko Point, but no indication of it was found, and it clearly does not exist: a bank of 100 to 300 fathoms extends some distance offshore here, however. There are strong tide rips and discolored water in this locality, which might easily be mistaken for a shoal.

4. COURSES: AIDS TO NAVIGATION.

Vessel courses are best measured from a chart: vessels should keep $3/4$ mile offshore. There are small lights at Kawaihae, Mahukona, Kauhola and Kukuihaele; there are two beacons at Mahukona, consisting of large white cairns, and there are several private mooring buoys, and a range of red lights is shown on the approach of commercial steamers. There are private mooring buoys at Kukuihaele (Pacific Sugar Mill). The most prominent landmarks from offshore are as follows: the radio-telegraph mast at Kawaihae; the two beacons at Mahukona, the abandoned cable hoist at top of the cliff at Honoipu, dark red in color: the twin stacks at Hoesa Sugar Mill: Akoko Point,

where the sugar-fields end and the Hamakua Cliffs begin: the group of islets eastward of Akokoa Point, lying under the cliffs: the Waipia Valley, where the Hamakua Cliffs end: and the cable hoist at the Pacific Sugar Mill, which is a large gray-white building.

5. ANCHORAGES: LANDINGS

There are several possible anchorages which may be used under favorable weather conditions, but none of them are to be recommended. There is fair anchorage off Kawaihae, in 8 to 17 fathoms hard bottom, westward of the light: the anchorage at Mahukona is very poor: there is anchorage eastward of Akokoa Point in 13 fathoms mud and sand, in the middle of the bight: there is anchorage in 13 fathoms mud and sand off the Waipio Valley. There are no wharves: and the boat landings are all very poor. There is a wooden boat landing and shed at Kawaihae: there is a concrete boat landing and derrick at Mahukona: and there is a stone boat landing and derrick at the Pacific Sugar Mill (Kukuihaele).

6. TIDES AND CURRENTS

Tidal reducers for the soundings are obtained from the automatic gauge of the U.S. Engineers at Hilo, Hawaii, and a copy of the record of this has been submitted. Current observations were made at Mahukona, and a record has been submitted. *The current runs northward constantly on the northward coast of Hawaii: there is a strong eddy off Honoipu, and tide rips in other places.*

7. TRADE AND COMMERCE

Steamers for Hilo and other points on the Hawaii coast call at Mahukona, and there are frequently sailing vessels moored there during the sugar season. This place is the outlet of the Kohala district and the terminus and shipping point for the Hawaii Railroad: 20,000 tons of sugar are shipped from there each year, and it is all loaded with lighters.

8. GEOGRAPHIC POSITIONS: RECORD BOOKS

Geographic positions for locating the soundings are obtained from topographic sheets 3385, 3391, 3393, and 3422 executed by another party in 1913. Many of the soundings can be plotted on hydrographic sheets 93 and 22 (inshore hydrography, 1:20,000) and should be so plotted. The remainder have not been plotted on a smooth sheet by the field party, on account of lack of time: the smooth sheet should be constructed and plotted by the drawing division. The boat sheet is submitted herewith.

Respectfully submitted,

To the Superintendent,

Coast & Geodetic Survey,
Washington, D.C.

Honolulu, T. H.

April 27, 1914.

James B. Miller
Assistant, C. & G. Survey

S T A T I S T I C S

SHEET F

NORTH & WEST COASTS OF HAWAII ID., T. H.

te 1914	Boat	letter	Vol.	Hours	Pos.	Sdgs.	Stat. Miles.
Mar. 11	PATTERSON	A	1	10.9	57	305	54.0
" 12	"	B	1	9.3	56	249	43.5
" 13	"	C	1	10.7	65	134	48.5
" 14	"	D	1	6.3	27	90	27.0
" 18	"	E	1	10.1	47	211	50.0
" 19	"	F	1&2	7.7	45	127	40.5
" 20	"	G	2	7.5	48	195	42.5
" 21	"	H	2	10.8	50	161	58.5
" 23	"	I	2	10.0	30	42	50.8
" 24	"	J	2	8.5	34	105	43.0
" 25	"	K	2	10.7	54	127	58.5
" 26	"	L	2	1.9	5	4	7.5
				104.4	518	1750	524.3

AREA SQ. STAT. MILES 490

VEC
July 20, 1914.

HYDROGRAPHIC SHEET 3652.

Hawaii, Island, Territory of Hawaii, by Assistant J. B.
Miller in 1914.

TIDES.

	Hilo ft.
Mean lower low water, or plane of reference on staff	0.1
Lowest tide observed " "	-0.9
Highest " " " "	3.5
Mean range of tide	1.5

Hydrographic Sheet 3652.

This sheet is a boat sheet.

The soundings in ^{red} pencil are not by the C. S. and have no place on a C. S. hyd. sheet.

The position numbers of the off-shore work are generally omitted, making it difficult to identify the soundings.

The in-shore plotting is so defective that it cannot be accepted. There are ~~no~~ many differences from sheet 3650, in depths of soundings and locations of lines. V_A^{27} to V_A^{29} , rejected on 3650 is plotted on 3652.

The only hydrography of this sheet that is in condition for cartographic purposes is that checked by E. R. Hand. (See his memorandum attached to the sheet.)

If this sheet is to be accepted then a note stating what portion of it can be used, should be placed on the sheet. The projection should be inked.

The descriptive report states "The boat sheet is submitted herewith" and "the smooth sheet should be constructed and plotted by the drawing division".

It is recommended that a new sheet be prepared in the office showing only the hydrography outside of the limits of sheets 3650 and 3651.

E. P. Ellis

12-29-15

Nov. 6, 1915.

REPORT ON HYDROGRAPHIC SHEET 365?
(offshore work, N.W. coast of Island of Hawaii)

This is the original boat sheet. A smooth sheet was not prepared since nearly all of the work shown is plotted on two smooth sheets of larger scale: these are hyd. nos. 3650 and 3651; their limits are carefully shown: all soundings falling within these limits are plotted on the respective sheets, excepting those underscored, which could not be plotted thereon. The positions of these underscored soundings, and of those falling outside the large scale sheet limits, have been carefully checked, as have also the values, since it is intended that they be taken directly from this sheet.

A more careful exposition of the curves will be found on the above indicated sheets.

There is a single line of soundings running East from Kukuihaeke, (E. limit of sheet 3651) being that included between the positions 10 D and 27 D. Being boat sheet work, the originals were but roughly retracted, and the soundings were uncorrected for tide, and not carefully placed: so to make this material immediately available from this sheet (there being no other upon which it could be placed) the line was erased, re-retracted and re-plotted.

Colin R. Land

Sept. 26, 1928.

Instructions received to Sta. Guide 7
connect with limits as shown on sheets
3650 and 3651

~~the~~ work shown on 3650 which is not
shown on 3650 or 3651 is not
considered in making junction. 1915

*File as description
report for H. 3652*

E

Applied to compilation 4140 J.M.G. May 1941