

5007

Diag. Cht. No. 4115

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton
Director

C. & G. SURVEY

L &

APR 7 1930

Acc. No.

~~Hawaiian Is.~~
State: ~~Terr. of Hawaii~~

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 5 5007

LOCALITY

~~Territory of Hawaii~~

N. W. Coast of Hawaii Island

Kawaihae

19 28

CHIEF OF PARTY

K. T. Adams

5007

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5007

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. 5

REGISTER NO. 5007

State TERRITORY OF HAWAII

General locality N. W. COAST OF HAWAII

Locality KAWAIHAE ✓

Scale 1/5,000 Date of survey Nov. 28 to Dec. 8, 1928

Vessel U.S.C. & G.S.S. GUIDE.

Chief of Party K. T. Adams

Surveyed by V. M. Gibbens

Protracted by G. W. Lovesee

Soundings penciled by J. S. Morton

Soundings in fathoms feet

Plane of reference M. L. L. W

Subdivision of wire dragged areas by

Inked by Warren H. Bamford

Verified by WHB

Instructions dated November 3, 1927

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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Instructions dated November 3, 1927

Remarks:

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET NO. 5
Scale 1/5,000

Kawaihae, Hawaii, T. H.

DATE OF INSTRUCTIONS: November 3, 1927.

LIMITS: This sheet extends from Latitude $20^{\circ} 01' 300$ meters North North-west to Latitude $20^{\circ} 03' 800$ Meters and from the shoreline out to the 15 fathom curve.

CONTROL: The control for this sheet consisted of 2 Triangulations stations. KAWAIHAE L.H. and KAWAIHAE WIRELESS MAST and Topographic Signals located on Topographic Sheet "C", November 1928.

SURVEY METHODS: The usual method of handlead sounding was used. The party used a whale boat. One officer in charge took right angle and plotted, the other officer took left angle and coxswained the boat. Two men were on the oars, one man sounding and one pulling in the lead. The men would alternate between the oars and sounding.

All lines were run on ranges and no compass courses were used.

GENERAL INFORMATION: From about 25 Meters S. W. of Kawaihae dock there is an offshore coral reef which extends south to the Limit of the sheet. This reef from the Dock to as far south as signal Tree, bares in a number of places at low water. On a very calm day a few lines were run over this part of the reef, and to get get over it we had to pick the deepest places we could find. There is a break in the reef about west of Signal Ern which a small boat can get through. From this break south the reef is deeper and does not bare at low water. The weather did not permit sounding over this part of the reef.

There is a narrow channel between the reef and shore and starting at the dock widening out into a good small boat anchorage between signals Wav and Tal. Small boats running into this anchorage must keep a good lookout for the channel is very narrow, but the water is clear so one can see it all right.

Only small boats can land at the dock and in Southerly weather there are breakers across the channel approaching the dock.

DANGERS: The only danger on this sheet is the offshore coral reef and boats should stay well clear of it.

The channel approaching the dock and the channel between the shore and reef to the small boat anchorage are narrow.

ANCHORAGES: The Inter-island boats anchor about 200 Meters W.N.W. of the dock and put a stern line on the Mooring buoy. Other ships anchor about 3/8 Mile W.N.W. from the dock.

The small boat anchorage is between the reef and shore and between Signal Wav and Tal. It is well protected. The usual way to this anchorage is past the dock and through the narrow channel to the anchorage. A few fishermen that know the break in reef about West of Signal Ern enter the anchorage through it.

LANDMARKS:

The most prominent Landmarks are;

1. Kawaihae Light House
Latitude 20° 02' 1243.9 Meters Longitude 155° 50' 236.0 Meters.
2. Kawaihae Wireless Mast
Latitude 20° 02' 1189.4 Meters, 155° 50' 179.0 Meters.
3. Kawaihae Heiau, which is an old stone Hawaiian Heiau, on a knoll about 50 or 60 ft. elevation, 0.9 miles SSE of the dock, and shows black against the green background.

STATISTICS: The statistics for this sheet appear on another sheet attached to this report.

Respectfully submitted,



V. M. Gibbens, Lieut.(j.g.)
U.S.C. & G.S.S. GUIDE.

Forwarded, Approved,



K. T. Adams,
Commanding,
Steamer GUIDE.

STATISTICS FOR SHEET, FIELD NO. 5, 1928.

Kawaihae, Hawaii, T. H.

DATE	DAY	NO. OF POSITIONS	NO OF SOUNDINGS	STATUTE MILES
Mov. 28	a	107	517	6.9
29	b	77	356	5.0
30	c	154	1057	9.3
Dec. 1	d	150	928	9.4
2	e	99	612	5.6
3	f	65	428	4.2
4	g	60	360	4.3
5	h	116	508	6.9
6	j	94	690	4.8
7	k	52	262	2.2
8	l	74	608	4.7
TOTALS		1048	6326	63.3

TIDAL NOTE

Sheet No. 5, Kawaihae, Hawaii, T.H.

A portable - automatic tide gauge was established by V. M. Gibbens at Kawaihae on November 22, 1928 and was removed on February 27, 1929.

During the period November 28 to December 8, 1928, soundings were taken on sheet No. 5, and the tide gauge was inspected by the officers on the hydrographic party. On December 10th the gauge was turned over to a native observer, who died the latter part of the month. His daughter carried on the inspection for the remainder of the time. Numerous mistakes were made in inspections, such as recording the time and height as shown on the marigram instead of those shown by the clock and staff.

MLLW was obtained by simultaneous comparison with Honolulu over the period November 25 to December 14, 1928. These observations were correct, and were used for reductions of soundings on sheet No. 5.

The remainder of the observations were considered very doubtful, and were not used.

TIDE REDUCERS

Sheet 5, Kawaihae, Hawaii, T. H.

November 28, 1928

9:00 AM - 10:20 --- -0.5'
 10:20 - 2:05 PM- 0
 2:05 - 6:50 PM -0.5

November 29

8:00 AM - 8:55 --- -1.5'
 8:55 - 9:55 --- -1.0
 9:55 -11:05 --- -0.5
 11:05 - 3:20 PM- 0

November 30

7:54 AM - 8:55 --- -2.0
 8:55 - 9:50 --- -1.5
 9:50 -10:50 --- -1.0
 10:50 -12:05 PM- -0.5
 12:05 - 4:40 --- 0

December 1

8:00 AM - 9:30 --- -2.0
 9:30 -10:30 --- -1.5
 10:30 -11:20 --- -1.0
 11:20 -12:30 PM- -0.5
 12:30 - 5:55 --- 0

December 2

6:20 AM -9:40 --- -2.0
 9:40 -11:00 --- -1.5
 11:00 -12:05 PM- -1.0

December 3

8:00 AM -11:15 --- -1.5
 11:15 -12:25 --- -1.0

December 4

8:00 AM -11:15 --- -1.5
 11:15 - 12:55 PM- -1.0

December 5

8:00 AM - 9:50 --- -1.0
 9:50 -11:30 --- -1.5
 11:30 - 1:30 PM -1.0
 1:30 - 2:55 --- -0.5
 2:55 - 4:55 --- 0

December 6

7:00 AM - 9:15 --- -0.5
 9:15 - 1:20 PM- -1.0
 1:20 - 3:00 --- -0.5
 3:00 - 4:40 --- 0

December 7

8:30 AM - 11:10 -- -0.5
 11:10 - 11:30 PM -1.0

December 8

7:05 AM - 8:45 --- 0
 8:45 -12:15PM- -0.5
 12:15 - 1:40 --- -1.0
 1:40 - 4:00 --- -0.5

VERIFICATION REPORT

Hydrographic Sheet No. 5.

This will certify that I have examined the finished smooth sheet and sounding records and have approved the same.

No supervision was had over the field work as it was done, it having been executed by a camp party while this vessel was in Honolulu.

Some little additional sounding was done south west of the lighthouse at my later suggestion.

The large shoal area south of the town was not surveyed, only a few lines being run across it. This large area is full of coral heads and breaks in almost the smoothest weather. These few soundings lines should not be used as a guide to draw any depth curves, as the bottom over this shoal area is of a very irregular nature.

K. T. Adams

K. T. Adams,
Commanding,
Str. GUIDE.

COPY FOR FIELD RECORDS SECTION

May 22, 1930

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5007

Locality: Hawaii Island (Kawaihae Bay)

Chief of Party: K. T. Adams in 1928
Plane of reference is Mean lower low water, reading

1.7 ~~12~~ ft. on tide staff at Kawaihae Bay
6.5 ft. below B. M. 1

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 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.

H. H. Hammer
Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5007

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	1048
Number of positions checked	170
Number of positions revised	4
Number of soundings recorded	6326
Number of soundings revised	1189
Number of signals erroneously plotted or transferred	NONE

Date: October 31 - 1930

Cartographer: Warren H. Bawford

Note the excessive number of soundings revised due to plotting without regard to time intervals

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SECTION OF FIELD RECORDS

REPORT ON SHEET No. H.5007

Nov. - 1 - 1930.

SURVEYED BY - V. M. GIBBENS
SURVEYED IN - 1928
CHIEF OF PARTY - K. T. ADAMS
PROTRACTED BY - G. W. LOVESEE
SOUNDINGS PLOTTED BY - J. S. MORTON
VERIFIED AND INKED BY - W. H. BAMFORD.

- 1.) The records were found to conform to the General Instructions for Field Work.
- 2.) The protracting was excellent, only four out of the hundred and seventy positions checked - being erroneously plotted.
- 3.) The time intervals between soundings were not adhered to by the one who plotted the sheet.

4./ The sounding line crossings were found to be adequate. ✓

5./ The development on this sheet is considered sufficient. ✓

6./ The depth curves could be completely drawn and show a very lumpy and irregular bottom.

7./ The sheet was fairly clean and the work, although large - was found to be legible.

8./ The field plotting was completed to the extent prescribed in the Hydrographic Manual.

9./ There were 1189 corrections made to the plotting of the soundings. This is 18.79% of the soundings recorded.

- 10.) There are no adjacent contemporary surveys.
- 11.) The fractions on the sheet were reduced correctly and the protracting was excellent but the spacing of the soundings was very poorly done - and necessitated a great deal of work in replotting the soundings. The time interval was uniform practically throughout the entire work.

Respectfully Submitted

Warren H. Bamford.

Section of Field Records.
Report on H-5007
Kawaihae Bay, N. W. Coast of Hawaii
Surveyed in 1928
Instructions dated November 3, 1927 (Guide)

Chief of Party - K. T. Adams
Surveyed by - V. M. Gibbens
Protracted by - G. W. Lovesee
Sounding plotted by - J. S. Morton
Verified and inked by - W. H. Bamford

1. The records conform to the requirements of the Hydrographic Manual.
2. The work is in accord with the specific instructions with the exception that considering the irregularities of the bottom some split lines should have been run over the shoal spots developed by the regular system of lines in the anchorage to the westward of the dock at Kawaihae.
* (par 2a)
3. The field plotting was completed as required by the Hydrographic Manual but there was an unusually large number of soundings that required replotting on account of poor spacing (about 19%, see verifiers report).
4. There are no contemporary adjacent surveys. This survey falls within the limits of H-3650 (surveyed in 1914). A comparison was made between the two surveys and there is a generally good agreement and as far as the general chart is concerned it will be possible to ease the new work into the old.

As for the coral reef shown on H-3650 off Kawaihae, there is a slight difference between the limits as shown on that sheet as well as the limits shown on T-3422 and what ~~what~~ would be considered the limits of the reef as far as the present survey is concerned. Although the topographer on T-3422 sketched the limits from sextant positions it seems to fall too far offshore considering the depths obtained on the present survey. It being a submerged reef, however, except in spots, the limits are necessarily a matter of interpretation. Therefore, it is recommended that the cartographer be guided by the soundings on this sheet for the delineation of the limits of the reef.

If it is contemplated having the large scale chart extend below the southern end of the reef, it will be necessary to utilize the soundings from H-3650. While this is probably not the best practice, it is not considered sufficiently important to warrant calling for additional work.

5. Additional Work - See paragraph 2, above.
6. Reviewed by A. L. Shalowitz, Feb. 1931.

* Par. 2a.

There should have been more development in the bight about 450 meters S. E. of the dock and an attempt made to develop the low water line as this is an area that is much used by small fishing boats. It should be remembered that the scale of the chart will be the same as this survey.

applied to compilation 4167 F.M.A. Feb. 1941
" " " 4140 F.M.A. June "