

5293

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

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PURSUANT TO DOC SYSTEMATIC REVIEW
GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

State: Hawaiian Islands

DESCRIPTIVE REPORT

Topographic } Sheet No. 31 5293
Hydrographic }

LOCALITY

North Coast of Oahu

Waialeale to Waimea Bay

1932

CHIEF OF PARTY

Hubert A. Paton

5293

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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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.

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3.3(a), EXECUTIVE ORDER 12356.

Field No. 31
REGISTER NO. 5293
State..... Hawaiian Islands
General locality..... North Coast of Oahu
Locality..... ~~Waialeale~~ Waimea Bay to Waialea
Scale 1:5000 Date of survey June 20 - Sept. 13, 1932
Vessel Inshore Hydrographic Survey of Oahu
Chief of Party..... Hubert A. Paton, Lieut.
Surveyed by..... do
Protracted by..... do
Soundings penciled by..... do
Soundings in fathoms feet
Plane of reference Mean Lower Low Water
Subdivision of wire dragged areas by.....
Inked by..... Paul H. Scherr
Verified by..... Paul H. Scherr
Instructions dated..... July 14th....., 1931
Remarks: Surveyed in cooperation with the U. S. Army

5520

DESCRIPTIVE REPORT

to accompany
SHEET #31 W-5293
NORTH COAST OF OAHU, T. H.

WAIALAE TO WAIMEA BAY

INSTRUCTIONS:

The work on this sheet was done in accordance with instructions dated July 14, 1931. Additional verbal instructions were received from Chief Engineer, U. S. Army, Washington, D. C., and Department Engineer, Hawaiian Department, Fort Shafter, T. H., and his representatives.

SURVEY METHODS:

See Descriptive Report accompanying Sheet #12 for detailed account of methods used in this survey. On July 14, 1932, the whale boat being used by this party was stolen and never recovered. A 20-foot dinghy was then furnished by the U. S. Army. It was found that this new boat served our purposes much better than the whale boat. The outboard motor was secured at the stern instead of on the quarter, thereby giving it considerable protection and enabling the coxswain to steer a truer course. In certain shoal areas, the motor was not used, and two oarsmen could usually produce a satisfactory speed. The boat was much easier to haul out not being as heavy as the whale boat and its draft was only $1\frac{1}{2}$ feet loaded. The disadvantages were: first, the dinghy was not very stable, care had to be used when jumping about to get a fix; and in order to balance the leadsman's off-center, weight, about 100 pounds of pig lead were carried on the port side amidships.

A second disadvantage was the absence of air tanks, making the boat much more dangerous to use around breakers.

A cabin launch was lent to the party in September and was used only one day on this sheet. This boat was a very convenient craft for sounding in the deeper areas.

On the southeast end of the sheet, the coral reef fringing the shore breaks away into deep water. Soundings were taken by walking along the edge of the reef.

DISCREPANCIES:

The sounding at Position #1, "g" day, is in error, probably should have been 35 feet instead of 15 feet. The area was thoroughly investigated on "h" day and it is recommended that the shoal sounding be rejected.

COMPARISON WITH PREVIOUS SURVEYS:

The survey of 1910, Sheet #3290, was made on a scale of 1:20,000 and it could be expected that when transferred to a sheet whose scale was 1:5000 there might be small errors in the exact location of the soundings. Taking this in consideration, the depths compared very well with the results shown by the present survey.

The junction with Sheet #4446 was satisfactory.

Respectfully submitted,

Hubert A. Paton
Hubert A. Paton,
Lieutenant,
Chief of Party.

STATISTICS

for

SHEET #31 (FIELD NO.)

Total number of positions	1098
Total number of soundings	4755
Statute miles of sounding lines	68.2
Area in sq. statute miles	2.3

APPROVAL OF RECORDS

SHEET #31

The above sheet and records have been inspected and are approved.

Hubert A. Paton

Hubert A. Paton,
Lieutenant,
Chief of Party.

200

September 5, 1933

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

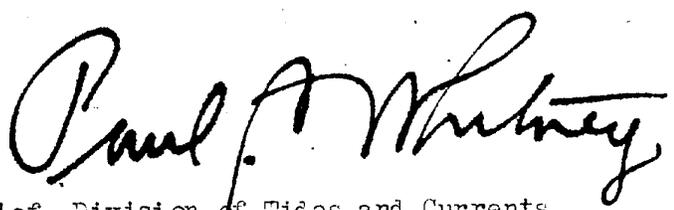
HYDROGRAPHIC SHEET 5293

Locality Waimea Bay to Waialeale, North Coast of Oahu, T. H.

Chief of Party: Hubert A. Paton in 1932
Plane of reference is mean lower low water reading
2.6 ft. on tide staff ~~at~~ No. 2 at Haleiwa
9.8 ft. below B. M. 1

Height of mean higher high water above plane of reference is 1.6 feet

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5293

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

Number of positions on sheet	1098
Number of positions checked	34
Number of positions revised	3
Number of soundings recorded	4755
Number of soundings revised	16
Number of signals erroneously plotted or transferred	—

Date: *November 20, 1933*

Cartographer: *Paul W. Scherr*

No carbons
needed

Section of Field Records.

Report on H 5293

Chief of Party H.A. Paton

Contracted by H.A. Paton

Verified and inked by P.H. Scherr

Surveyed in June-Sept 1932.

Surveyed by H.A. Paton

Soundings plotted by H.A. Paton

Topography inked by Field Party

1. The records conform to the requirements of the General Instructions ✓
2. The usual depth curves can be drawn. The 30' foot curve near the top of the sheet was partly incomplected pending investigation of a doubtful line. ✓
3. The field plotting was completed to the extent prescribed in the General Instructions. ✓
4. The office draftsman changed no part of the field drafting. However, the breakers, low water line, and coral reefs were inked. The breakers as indicated were

drawn from notes in the records, indicated pencil lines, and comparison with the boat sheet.

5. The only contemporary sheet, H 5318, had not been completed as yet. No junctions were made.

6. Remarks

A.- The line 25.26 E (P.67, Vol.2) was left uninked. Paton, in notes on the page, gives his belief that the reading of soundings was in error. The sounding 18', however, was okayed Paton, on looking over the sheet, (Nov 23), reasserted his belief. The 30' curve at this area was left uninked until approved by Chief Party.

B. The scarcity of lines in places made it difficult to draw the depth curves with definite accuracy. These were drawn to the best of knowledge and belief.

C. The sounding 15' at T G (P.49, Vol.3) was rejected by Paton as indicated by notes on the same page. The rejection was accepted by the verifier. ✓

7. The field drafting was of a good character. ✓

Respectfully submitted,
Paul H. Scherr.

November 23, 1933.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5293 (1932)

North Coast of Oahu, Hawaiian Is. Waialeale to Waimea Bay
Instructions dated July 14, 1931 (Paton)
Surveyed in 1932

Chief of Party - H. A. Paton.
Surveyed by - H. A. Paton,
Protracted and Soundings plotted by - H. A. Paton.
Verified and inked by - Paul H. Scherr.

1. Condition of Records.

The records did not conform with all of the requirements of the Hydrographic Manual. The leadline and tidal corrections were entered in whole feet. Since this was an inshore survey with all depths less than ten fathoms, these corrections were changed and entered in half feet. The day letter was omitted occasionally on the last page of the day - generally containing only the lead line corrections. On some of the pages on June 23 the date was shown as June 22. The field journal was obtained and the date verified.

2. Compliance with Instructions for the Project.

The development generally satisfies the requirements of the specific instructions governing this survey. However, doubtful soundings, discrepancies, etc. were not investigated thoroughly.

3. Sounding Line Crossings.

A complete system of cross lines was not run. The few crossings that were obtained were satisfactory.

4. Depth Curves.

Only the three and five fathom curves could be completely drawn. However the two fathom curve is satisfactory. The survey was not extended inshore sufficiently close to develop the one fathom curve on account of rough seas.

5. Field Plotting.

The field plotting was satisfactory.

6. Junctions with Contemporary Surveys.

At the junction on the west the soundings of the present survey are not in close agreement with those of H-4446(1924) however this may be due to the broken and irregular character of the area. There is a discrepancy of approximately 15^{meters} at the junction of topographic

sheets, T-4108(1924) and T-4740(1932). An investigation by Lieut. Commander J. H. Peters in 1934 checked the position of the most southerly signals on T-4740(1932) and the shoreline and adjacent rocks as shown on that sheet have been accepted. (See review of T-4740(1932). The northern part of the hydrography on H-4446(1924), which depends upon the signals of T-4108(1924) for control was plotted on a tracing with the position of signals Ult and Yel shifted the same amount as the shoreline discrepancy. It was found that this did not improve the agreement at the junction with H-5293(1932) and the hydrography on H-4446 was not adjusted. The junction with H-5318 will be considered in the review of that sheet. The soundings on Sheet #3290 were compared with this sheet and considering the character of the bottom the agreement is satisfactory. The present sheet should be used for charts of this area.

7. Additional Field Work Recommended.

No further surveys are necessary.

8. Miscellaneous Matters.

The changes in the lead line and tidal reducers produced corrections in a great number of soundings, but since the sheet was already inked in it was decided not to change all of the plotted depths. However, where the depth curves were affected, a sufficient number of the soundings were corrected and the curves redrawn. Two soundings of -1 were changed to $-\frac{1}{2}$. Since the leadline had no corrections for depths of less than 9 feet the one fathom curve was not affected. In all cases the corrections are additive and wherever the changes were not made the soundings are shown ~~one foot~~ too shoal, or on the side of safety. There were no entrances or channels, where an additional foot to the least depth would be an advantage. The coral reef extending along the shore from Lat. $21^{\circ}39'.1$ to $21^{\circ}39'.5$ is ^{no} identical with the topographic sheet. The field party took fixes along the edge of the reef and the soundings should have been moved offshore sufficiently to permit the outer limit of the reef to show. In charting this reef, the topographic sheet should control.

9. Reviewed by - H. A. Paton and R. J. Christmas, December 11, 1933

Inspected by - A. L. Shalowitz.

Examined and approved;

C. K. Green, *C. K. Green*
Chief, Section of Field Records.

Paul Jordan
Chief, Section of Field Work.

L. O. Pollock
Chief, Division of Charts.

G. H. Rude
Chief, Division of H.&T.

No correction to chart 4116 - Jan 8, 1936, - JFW