

5321

U. S. COAST & GEODETIC SURVEY
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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

H. M. HARRISON, Director

DECLASSIFIED
AUTHORITY EO 11652
NOAA CI 72-144
DATE 8-3-77 **BY** JBT

State: Hawaii

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic

Sheet No. 25

5321

LOCALITY

Northeast Coast of Oahu

Kaneohe Bay to Kahana Bay

19 33

CHIEF OF PARTY

Hubert A. Paton

U. S. GOVERNMENT PRINTING OFFICE: 1931

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OCT. 23 1933

REG. NO. 5321

HYDROGRAPHIC TITLE SHEET

Ass. No. _____

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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NO. 3.3(a) EXECUTIVE ORDER 12356.**

Field No. 25

REGISTER NO. 33(2)

State Hawaiian Islands

General locality North East Coast of Oahu

Locality ~~XXXXXXXXXXXX~~ Kahana Bay to Kaneohe Bay

Scale 1:5000 Date of survey Jan.-June, 1933

Vessel Inshore Hydrographic Survey of Oahu

Chief of Party Hubert A. Paton, Lieut. U.S.C. & G. S.

Surveyed by Lt. P. M. Reeve, Sgt. S. D. Jones and H. A. P.

Protracted by H. A. P.

Soundings penciled by H. A. P.

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, 19

Remarks: Surveyed in cooperation with the U. S. Army

DESCRIPTIVE REPORT TO
ACCOMPANY SHEET #25
NORTHEAST COAST OF OAHU
KANEHOE BAY TO KAHANA BAY

INSTRUCTIONS:

The work on this sheet was done in accordance with instructions dated July 14, 1931 and additional verbal instructions received from the U. S. Army.

The purpose of the survey was to locate possible landing sites for troops, assuming the use of motor boats with a draft of four feet.

LIMITS:

H-5289
H-5320 This sheet joins the work on #24 and #4834 on the south and #26 on the north. It extends from the beach out to a depth of 40 to 50 feet where it overlaps the area covered by #3252

METHODS:

Standard methods were employed as far as consistent with the purposes of the survey. Some of the coral reefs paralleling the shore were located by sextant fixes while wading at low tide.

WEATHER:

The progress of the survey was greatly delayed by weather. The northeast and east trade winds blow steadily most of the year. The party was ready to begin work on the sheet December 20, 1932 and the work was not completed until June 20, 1933. In that entire period there were only three or four days suitable for the survey of the shoaler entrances.

ENTRANCES:

The names given the more important entrances are in common use by the local inhabitants.

The Makaua Entrance is at the North edge of the sheet and is caused by a stream of like name flowing into the sea at this point. The best way to enter is from the north through the Kahana Entrance which is developed on Sheet #26. In normal weather the shoals northeast of the entrance break heavily but by keeping close to the reef northwest of the opening, the entrance can be reached safely. At low water, boats drawing

4 feet, will not be able to approach shore closer than 150 meters but the bottom is suitable for wading. ✓

The Kaaawa Entrance cannot be entered safely in normal weather; that is, when the northeast trade is blowing. The best route to follow is to approach the shore on a southwest course toward the wind-sock at the landing field, until the ~~30-foot~~ ^{deep water} ~~trough~~ ^{channel} parallel to the reef is reached. Then turn south between the lines of breakers until the entrance is reached. Unless care is taken two poor entrances 500 and 800 meters north of the Kaaawa Entrance may be mistaken for the proper route. Boats can be brought up to the beach in this entrance.

About 3/4 mile S. S. E. of the Kaaawa Entrance is a broad opening, with a least depth of about seven feet through the first line of breakers. Under favorable conditions boats can reach the shore at Latitude 21° 32.4', the south side of the Kaaawa Valley.

As a general rule, the entrances always are found near where a stream enters the ocean. An exception is found, however, in the Kualoa Entrance. Here a trough is found with a maximum depth of 38 feet which leads into a narrow bench at the foot of high cliffs. A least depth of about 19 feet can be carried through the first line of breakers, but shoal waters will be encountered about 400 meters off shore, at low water. At extreme high water, boats drawing four feet of water, could pick their way between coral heads until close to shore.

About 500 meters south of this entrance is a fair entrance which has a least depth of seven feet across the bar. It might be confused with the Kualoa Entrance in very favorable weather.

From here to the southern limits of the sheet is found a large area, from 4 to 12 feet deep that presents a very treacherous shore. Even under the very best of conditions occasional breakers will make up suddenly. In normal weather, a continuous line of breakers will be found.

However if the Waikane Entrance (on Sheet #24) can be entered, it will be found possible to pass on the northeast side of Mokolii Island behind the off shore breakers. The depth shoals gradually toward the north and west. In Latitude 21° 31', four feet can be carried to the beach at high water.

DISCREPANCIES:

The depths shown on Sheet #3252 all appear to be a little farther off shore than the soundings on the sheet. Between positions 17 and 18 "t" day, a small opening through the reef was overlooked. The soundings on "w" and "y" days were verified on "z" day. It is recommended that the single soundings shown between positions 17 and 18, "t" day be rejected.

Respectfully submitted

Hubert A. Paton
HUBERT A. PATON,
Lieutenant, H. S. C. & G. S.
Hydrographer.

H-5321

STATISTICS
TO ACCOMPANY
SHEET #25

Number of Soundings	8399
Number of Positions	1616
Number of miles of Sounding Lines	121.1 (statute)
Area (square statute miles)	4.6

TIDAL DATA
TO ACCOMPANY
vac
SHEET #25

The soundings on this sheet were reduced by records of the Waikane Tide Station. (See Sheet #24)

Highest tide observed	4.2
Lowest tide observed	0.4
Mean Lower Low Water	1.06

APPROVAL OF RECORDS
TO ACCOMPANY SHEET #25

The enclosed sheets and records have been examined and are hereby approved.

Hubert A. Paton
HUBERT A. PATON,
Lieutenant, U. S. C. & G. S.
Chief of Party.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *H 5321*

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

Number of positions on sheet	<i>1616</i>
Number of positions checked	<i>37</i>
Number of positions revised	<i>3</i>
Number of soundings recorded	<i>8399</i>
Number of soundings revised	<i>289</i>
Number of signals erroneously plotted or transferred	<i>✓</i>

Date: *December 6, 1933*

Cartographer: *Paul N. Scherr*

Rae

Division of Hydrography and Topography:

October 28, 1933

Division of Charts:

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5321

Locality **Kahana Bay to Kaneohe Bay, Northeast Coast of Oahu, Hawaii**

Chief of Party: **H. A. Paton in 1933**

Plane of reference is **mean lower low water, reading**

1.1 ft. on tide staff at **Waikane**

4.5 ft. below B. M. **1**

Height of mean higher high water above plane of reference is **2.2 feet.**

Condition of records satisfactory except as noted below:


Acting Chief, Division of Tides and Currents

Field Records Section

Report of verification of Hyd. sheet no. 5321
 Naahua Bay to Kaneohe Bay, Hawaiian Islands.
 Surveyed in 1933.
 Chief of Party, - H. A. Paton

1. The field records are complete enough to give all the information necessary for the verification and they conformed with the requirements of the Hydrographic Manual.
2. The protracting was compared with that of the boat sheet. In several cases discrepancies were noted between protracted positions of the two sheets. However, excepting in two cases, the error was found to be on the Boat sheet. In the two cases where the smooth sheet was in error, the positions were off, due to the fact that wrong signals had been used in the protracting in one case and a one minute error setting of the protractor in the other.
3. For positions between 9g and 19g, and 25g and 33g, the tide reductions were changed apparently after the plotting of the soundings and therefore these soundings did not conform with those of the records. Aside from this however, with but one exception, the plotted soundings were identical with those recorded in the field records. Positions 27g to 36g (inclusive) were not within the range of the smooth sheet and could not therefore, be plotted. These positions are in deep water and therefore unimportant.
4. In several cases the field records referred to breakers which were not noted on the smooth sheet. At each occurrence of this, a pencil notation was put on the smooth sheet designating the position and the remarks. (Breaker areas developed later)
5. This report covers only the following positions which were verified, as per instructions to the verifier.

- | | |
|--------------|-----------|
| 1f-12f | 71g-85g |
| 14f-26f | 102g-122g |
| 31f-94f | 125g-134g |
| 1g-31g | 137g-147g |
| 69g-71g, 76g | 9w-12w |
| 4r-97r | 16w-20w |
| 100r-125r | 14x-22x |
| 127r-139r | 76x-89x |
| 141r-152r | |
| 155r-168r | 171y-181y |
| 171r-185r | 187y-228y |
| 53-85 | |
| 135-1465 | |

Irwin Miller

Section of Field Records.

Report on H 5321
Chief of Party. H. A. Paton

Protracted by H. A. Paton

Verified and inked by H. A. Paton

Surveyed. January-June 1933
Surveyed by H. A. Paton, Sgt. Jones
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 were drawn.
3. The field Plotting was completed to the extent prescribed in the General Instructions.
4. The office draftsman did over no part of drafting done by the Field party.
5. A junction with the South sheet H 5289 was made which was satisfactory. A junction with the north sheet H 5320 had been made on that sheet.

6. Remarks.

Breakers noted on lines 57f, 69f, 84f, etc. were omitted, as Lt. Paton, Chief of Party, informed us that in milder weather the party was able to complete survey in those areas.

Soundings on lines 30^bA-31^bA (P19, Vol I) and 39^bA-40^bA (P20, Vol I) were omitted as Lt. Paton, Chief of Party, advised in his notes on these pages. Lt. Paton described to us that the current hit the boat as it crossed the Makaua Entrance, changing the speed of the boat between positions.

The large number of soundings changed (182) was largely due to reductions for tide being made after the penciling of the smooth sheet.

III

O day which consisted of zero soundings taken while walking on the low water line was left uninked, as the indication of the low water line runs through these soundings.

Positions 27, 28, 29, 30 F; ~~34~~, 35, 36, 37, 38, 39, 40 G; 65, 66 Q; and those lines which fall off the sheet were projected on adjoining ^{ing} paper by us, verified by R. Dement, and transferred to H. 5320. Positions 8, 9, 10, 11 D were plotted on H. 5320 by Mr. Dement as the controls for those positions are on that sheet.

7. The field drafting was very well done.

Respectfully Submitted,

Paul H. Scherr.

December 6, 1933.

SECTION OF FIELD RECORDS
Review of Hydrographic Sheet No. 5321.
Northeast Coast of Oahu, Hawaiian Islands.,
Kaneohe Bay to Kahana Bay.
Surveyed in 1933.
Instructions dated July 14, 1931 (Paton).

Chief of Party - Hubert A. Paton.
Surveyed by - P. M. Reeves, S. D. Jones and H. A. Paton.
Protracted and soundings plotted by - Hubert A. Paton.
Verified and inked by - I. Miller and P. H. Scherr.

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development satisfies the requirements of the specific instructions. To satisfy the requirements of the Hydrographic Manual some additional development of doubtful soundings would be required.
3. A complete system of cross lines was not run. The crossings that were made, check fairly well considering the character of the bottom.
4. The zero curve could not be drawn, and the one fathom curve is not complete. The two, three, and five fathoms curves were drawn.
5. The field plotting was completed to the extent prescribed by the Hydrographic Manual.
6. The verifiers had to change 182 soundings, due to changes in tidal and lead line reducers. For some of the work, these reducers were entered at first to integral feet. These were changed to one foot reducers which changed some of the depths by one foot.
7. The junction on the south with Sheet No. 5289 was satisfactory. The junction on the north with Sheet No. 5320 is discussed in the review of the latter sheet.
8. Comparison with old surveys.

A comparison was made with H. 3252 (survey of 1910) and in general the depths on the latter survey seem to be from 1 to 3 feet shoaler than the present survey. This difference might be accounted for by the fact that the work in 1910 was done during heavy seas and rain squalls (see notes in g' day H. 3252) and it is quite likely that the leadsman in most cases read the trough of the sea. Only a few of the more important soundings have been carried forward to the new survey.

The present survey (H. 5321) with the indicated additions from other surveys should within its limits supersede all previous surveys for charting purposes.

9. Remarks. All zero soundings on coral reefs were omitted to prevent being confused with rocks.

H. 5321 - 2.


The 1 foot sounding between pos. 17 and 18, "t" day was adequately disproved by the work on "w", "y" and "z" days and was therefore rejected.

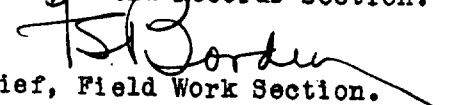
The field work was done under varying conditions of weather. A great deal of the area was covered by breakers when the offshore work was being done. The notes contain frequent references to breakers in-shore. Most of these areas were developed on days when conditions were more favorable, and consequently the breaker symbol is omitted.

On "b" day between positions 30 and 31 and between 39 and 40, a few soundings were omitted. The sounding vessel was running across Makaua Entrance and the current reversed between the fixes. Sufficient information was obtained by other lines to draw the depth curves.

10. Reviewed by H. A. Paton, January 4, 1934.

11. Inspected by A. L. Shalowitz.


L. O. Colbert,
Chief, Field Records Section.


Chief, Field Work Section.

Examined and approved:


Chief, Division of Charts.


Chief, Division of H. & T.

NAUTICAL CHARTS BRANCH

SURVEY NO. H. 5321

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
11-15-67	4110	G.H.E.	<i>Used to supplement H.O. chart 5351 in declassified area.</i> Before After Verification and Review <i>mea.</i> <i>3m6</i>
			Before After Verification and Review
			Before After Verification and Review
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			Before After Verification and Review

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.