

# 4789

Diag. Cht. No. 4115

Form 504					
DEPARTMENT OF COMMERCE					
U. S. COAST AND GEODETIC SURVEY					
..... Director					
<table border="1"><tr><td>S. &amp; G. SURVEY</td></tr><tr><td>L. &amp; A.</td></tr><tr><td>JUN 18 1928</td></tr><tr><td>Acc. No.</td></tr></table>		S. & G. SURVEY	L. & A.	JUN 18 1928	Acc. No.
S. & G. SURVEY					
L. & A.					
JUN 18 1928					
Acc. No.					
State: Hawaiian Is.					
DESCRIPTIVE REPORT					
<del>Topographic</del> Hydrographic	} Sheet No. <sup>4</sup> 4789				
LOCALITY					
West Coast of Hawaii					
Keauhou Bay					
1928					
CHIEF OF PARTY					
T.J. Maher					

GOVERNMENT PRINTING OFFICE

# 4789

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SHEET NO.4 4789  
Scale 1-2,500

Keauhou Bay  
Hawaii

March and April  
1928

Thos. J. Maher,  
Chief of Party.

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SHEET NO.4  
Scale 1:2,500

AUTHORITY: Instructions of Director dated November 3, 1927.

LIMITS: The limits on this sheet include Keauhou Bay and its approaches to one-half mile on either side and out to thirty fathoms.

DESCRIPTION: Keauhou Bay is a small indentation in the regular trend of the coast which makes into this narrow bay between two low lava points. There is a small native settlement here which supports a small wharf or landing situated at the northeast end of the bay. Only small boats drawing two feet or less can come alongside this wharf. There is good shelter in this bay for boats of light draft, but the scattering of coral heads foul the area to such an extent that it is dangerous for more than two or three foot draft boats to come inside the bay. These coral heads are scattered pretty well through the bay and have only about four or five feet over them, while a depth of three fathoms and more can be obtained in the immediate vicinity of these rocks.

The approach from the south is deep and clear of dangers, while caution must be observed in approaching the bay from the north. There is quite an extensive reef which makes off from the mouth of the bay along the coast on the north side. A small bight indents the regular trend of the coast line just north of the bay. A sand beach fringes the north east end of this bight. In most all weather it breaks across the mouth of this bight, making it impossible to enter. In moderate weather a line of heavy breakers extends from the mouth of this bay along the north shore about 150 or 200 meters off. These breakers quite clearly define the more dangerous depths of the reef.

CONTROL: The control for this survey was furnished by triangulation done by this party and the topography ~~was~~ done by Lieutenant Francis L. Gallen.

METHOD: The hydrographic work inside the bay was accomplished by a party in the whaleboat under oars. The party consisted of one officer in charge, plotting and right angle; another officer steering and left angle; one recorder, one leadsman, and three men at the oars. North and south lines were run on ranges at in-

tervals of twenty five meters. Additional soundings were taken on shoal spots and rocks. On two occasions on calm days, when the bottom could be clearly seen, soundings were taken on top of shoal spots and rocks, and positions taken simultaneously to accurately locate these rocks.

Outside the bay lines were run east and west on ranges at 50 meters intervals. An outboard motor "Johnson Standard Twin" was installed on the port side of the whaleboat and this motor used to propel the boat. It was necessary to tow a large canvas drag in order to reduce the speed to properly space the soundings. It was not possible to use this motor close inshore because of the difficulty in controlling the boat. While working in the breakers oars were depended on for propulsion.

Soundings were taken out to twenty fathoms with the whaleboat. Beyond this depth to the limit of the sheet the motorsailer was used, a hand sounding machine having been installed in it for this purpose. The party in the motorsailer consisted of one officer in charge, right angle and plotting; one officer steering and left angle; one recorder, one motor engineer, and two leadsmen.

The tidal data for this survey was obtained from a portable automatic tide gauge installed at the wharf at Napoopoo in Kealakekua Bay.

Respectfully submitted,

*H. C. Warwick*  
H. C. Warwick,  
Jr. H & G Engineer,  
Coast & Geodetic Survey.

FORWARDED:

*T. J. Maher*  
Thos. J. Maher,  
Chief of Party,  
Commanding Steamer GUIDE.

STATISTICS FOR HYDROGRAPHIC SHEET NO.4

DATE	LETTER	VOL	POSITIONS	SOUNDINGS	STAT.MILES	BOAT
1928						
March 20	a	1	80	393	2.8	whaleboat
21	b	1	120	441	5.1	whaleboat
22	c	1	133	372	6.9	whaleboat
23	d	1	44	153	2.0	whaleboat
24	e	1	55	132	3.4	whaleboat
April 3	f	2	112	385	5.7	whaleboat
4	g	2	32	103	1.0	whaleboat
5	h	2	38	272	1.6	whaleboat
March 24	a	1	45	45	1.7	motorsailer
April 6	b	1	34	34	1.7	motorsailer
7	c	1	68	68	3.5	motorsailer
9	d	1	56	56	2.6	motorsailer
TOTAL	12	3	817	2454	38.0	

Copy for Section of Field Records files.

June 28, 1928.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide reducers are approved in  
3 volumes of sounding records for

HYDROGRAPHIC SHEET

4789

Locality: WEST COAST OF HAWAII.

Chief of Party:

Plane of reference is E. J. Maher, 1928.

0.7 ft. on tide staff at M. L. L. W.  
Hapoopepe\*

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.

*H. J. H. H.*  
Chief, Division of Tides and Currents.

\*See note for H.S. 4787.

Hydrographic Sheet 4789, West coast of Hawaii  
Sounded by T. J. Maher, H. B. Warwick & M. Gibben  
Mar-Apr. 1928. Keauhou Bay.

The records were good  
The protracting of the smooth sheet good.  
49c (red) was replotted; was correct on boat sheet.  
The position numbers were badly located,  
in all directions from the positions and with  
too few letters.

In several cases positions were wrongly  
numbered and the intermediate soundings  
consequently in the wrong place, notably  
35h to 36h (red) and one or two other cases.

Irregular intervals were disregarded  
and soundings had to be re-spaced to agree  
with time intervals.

The same ground was covered several  
times in a very unsystematic manner,  
especially in the bay. Some bad crossings  
are indicated in pencil on the smooth sheet.  
I would consider it rather a poor sheet.

Chas. A. Bowman

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-DRM

WASHINGTON

January 25, 1929.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4789

Keauhou Bay, West Coast of Hawaii

Surveyed in 1928

Instructions dated Nov. 3, 1927 (GUIDE)

Chief of Party, T. J. Maher.

Surveyed by H. C. Warwick, V. M. Gibbens.

Protracted by V. M. Gibbens.

Soundings plotted by G. W. Lovesee.

Verified and inked by C. A. Bowman.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate. There are a few bad crossings, but on the whole the agreement is good. Where a bad crossing was obtained it is just as likely as not that the condition exists as the bottom is very irregular.
5. The 2 fathom curve and the trend of the 1 fathom curve can be drawn in the bay but outside of the bay the 3 fathom curve and higher can be drawn.
6. The usual field plotting was done by the field party and was found to be good.
7. The following comprises the drafting that had to be done over by the office draftsman:
  - a. A few positions that had been plotted wrong and the soundings to correspond.
  - b. A few positions that had been numbered erroneously and the soundings had to be changed for the corrected positions (30h to 36h, red).

- c. Position 59 a was found to be indeterminate, being on the circumference of a circle. It hadn't been plotted on the smooth sheet to agree with the boat sheet and as it happened to be in the congested area of the bay and wasn't detected until after the sheet was inked, it caused considerable delay to have it changed to agree with the boat sheet.
8. This sheet joins 4798 which is unverified. No connection has been shown.
  9. No further surveying is required to develop the area within the limits of the sheet. There are no outstanding dangers offshore and inshore the area is generally foul. Very good work was accomplished in getting fixes over the rocks, as they could be seen through the water on calm days (as noted in the descriptive report). The report also gives a good description of conditions in the bay.
  10. Soundings were taken at 4 foot intervals on the north and south sides of the dock in Keauhou Bay, but were not shown on the smooth sheet.
  11. Reviewed by J. M. Smook, December, 1928.

Approved:

---

Chief, Section of Field Records (Charts)

---

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

*Note:- Additional 'rocks awash,' 'sunken rocks' and 'Breakers,' have been transferred from the B.S. to the smooth sheet by J.F. - 8/19/31.*

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

He 2  
C. & G. SURV  
L. & A  
JUN 11 1928  
Acc. No.

REG. NO. 4789

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. 44

REGISTER NO. **4789**

State ~~Territory of Hawaiian Is.~~

General locality West Coast of Hawaii

Locality Keahou Bay

Scale 1:2,500 Date of survey Mar. 20~~th~~ Apr. 9, 1928.

Vessel Steamer GUIDE

Chief of Party Thos. J. Maher

Surveyed by H.C. Warwick- V.M. Gibbens

Protracted by V.M. Gibbens

Soundings penciled by G.W. Lovesee

Soundings in fathoms ~~feet~~

Plane of reference MLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated November 3, 1928

Remarks: Work on this sheet included in 2 volumes whaleboat,  
1 volume motorsailer.

ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-DEPT

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

January 25, 1929.

WASHINGTON

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4789

Keaunoh Bay, West Coast of Hawaii

Surveyed in 1928

Instructions dated Nov. 3, 1927 (GUIDE)

Chief of Party, T. J. Maher.

Surveyed by H. C. Warwick, V. N. Gibbens.

Protracted by V. N. Gibbens.

Soundings plotted by G. W. Lovesee.

Verified and inked by C. A. Bowman.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate. There are a few bad crossings, but on the whole the agreement is good. Where a bad crossing was obtained it is just as likely as not that the condition exists as the bottom is very irregular.
5. The 2 fathom curve and the trend of the 1 fathom curve can be drawn in the bay but outside of the bay the 3 fathom curve and higher can be drawn.
6. The usual field plotting was done by the field party and was found to be good.
7. The following comprises the drafting that had to be done over by the office draftsman:
  - a. A few positions that had been plotted wrong and the soundings to correspond.
  - b. A few positions that had been numbered erroneously and the soundings had to be changed for the corrected positions (30h to 36h, red).

- c. Position 59 a was found to be indeterminate, being on the circumference of a circle. It hadn't been plotted on the smooth sheet to agree with the boat sheet and as it happened to be in the congested area of the bay and wasn't detected until after the sheet was inked, it caused considerable delay to have it changed to agree with the boat sheet.
8. This sheet joins 4798 which is unverified. No connection has been shown.
  9. No further surveying is required to develop the area within the limits of the sheet. There are no outstanding dangers offshore and inshore the area is generally foul. Very good work was accomplished in getting fixes over the rocks, as they could be seen through the water on calm days (as noted in the descriptive report). The report also gives a good description of conditions in the bay.
  10. Soundings were taken at 4 foot intervals on the north and south sides of the dock in Keauhou Bay, but were not shown on the smooth sheet.
  11. Reviewed by J. M. Smock, December, 1928.

Approved:

---

Chief, Section of Field Records (Charts)

---

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

ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-1128

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

January 25, 1929.

WASHINGTON

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4789

Keauhou Bay, West Coast of Hawaii

Surveyed in 1928

Instructions dated Nov. 3, 1927 (GUIDE)

Chief of Party, T. J. Maher.

Surveyed by H. C. Warwick, V. M. Gibbens.

Protracted by V. M. Gibbens.

Soundings plotted by G. W. Lovesee.

Verified and inked by C. A. Bowman.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate. There are a few bad crossings, but on the whole the agreement is good. Where a bad crossing was obtained it is just as likely as not that the condition exists as the bottom is very irregular.
5. The 2 fathom curve and the trend of the 1 fathom curve can be drawn in the bay but outside of the bay the 3 fathom curve and higher can be drawn.
6. The usual field plotting was done by the field party and was found to be good.
7. The following comprises the drafting that had to be done over by the office draftsman:
  - a. A few positions that had been plotted wrong and the soundings to correspond.
  - b. A few positions that had been numbered erroneously and the soundings had to be changed for the corrected positions (30h to 36h, red).

c. Position 59 a was found to be indeterminate, being on the circumference of a circle. It hadn't been plotted on the smooth sheet to agree with the boat sheet and as it happened to be in the congested area of the bay and wasn't detected until after the sheet was inked, it caused considerable delay to have it changed to agree with the boat sheet.

8. This sheet joins 4798 which is unverified. No connection has been shown.
9. No further surveying is required to develop the area within the limits of the sheet. There are no outstanding dangers offshore and inshore the area is generally foul. Very good work was accomplished in getting fixes over the rocks, as they could be seen through the water on calm days (as noted in the descriptive report). The report also gives a good description of conditions in the bay.
10. Soundings were taken at 4 foot intervals on the north and south sides of the dock in Kaunohou Bay, but were not shown on the smooth sheet.
11. Reviewed by J. M. Smock, December, 1928.

Approved:

---

Chief, Section of Field Records (Charts)

---

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

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