

4959

Diag. Cht. No. 4115

4959

Form 504

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

Hawaiian Is.
State ~~Ter. of Hawaii~~

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 14 **4959**
Hydrographic }

LOCALITY

Punaluu, Hawaii, U.S. Harbor
(Southeast coast) Hawaii Island

1929

CHIEF OF PARTY

K. T. Adams, H & G E

GOVERNMENT PRINTING OFFICE

Descriptive Report
to accompany

Hydrographic Sheet No. 14

Punaluu, Hawaii, T.H.

Scale 1/2,500

Date of Instructions: June 17, 1929.

Note on Scale Used: The instructions for this survey called for a 1/5,000 scale. This fact was inadvertently overlooked and the survey made on a scale of 1/2,500, the scale that had been used on a number of other small harbor surveys about this island.

Limits: From approximately 0.9 miles SSW of the Punaluu dock to approximately 0.8 miles E of the dock. It extends from the shoreline out to the inner limits of sheet #13.

Control: The usual types of small signals were used. They were located by the topographic party of Lieut. (jg) W.H. Bainbridge on sheet "L". Three triangulation stations within the limits of the sheet were also used.

Survey Method: Three parties were operated in order to take advantage of the unusually favorable weather conditions. Two of these were the whaleboat parties of Lieut(jg) F.B. Quinn and Ensign V.M. Gibbens, and the third was a launch party in charge of Lieut. (jg) G.E. Boothe.

Each whaleboat party consisted of: one officer in charge taking right angle and plotting; one officer taking left angle and steering; one recorder; and four men alternating between rowing and sounding. Hand-lead soundings were taken to approximately 20 fathoms.

The launch party consisted of: one officer in charge, taking right angle, and plotting; one officer taking left angle and steering; one recorder; one launch engineer; and three leadsmen. A standard Navy motor-sailer equipped with a hand sounding machine was used. This party picked up the work at the limits of the whaleboat work and extended it out to the inside limit of sheet #13.

Both whaleboat parties ran two lines parallel to the shore and as close to the shoreline and reef-lines as was possible. Notes were made of sunken rocks and reef-lines. A distant rear range was then picked up and a system of parallel lines was run normal to the general trend of the shore line.

The narrow channel up to the dock was carefully sounded with lines 10 meters or less apart. Several detached soundings were taken to get least water.

A line of soundings was taken with the leadsman standing on the dock and the shoreline adjacent to it.

The lines run by the launch party were made approximately parallel to the lines on sheet #13.

With all three parties instructions for spacing were closely followed.

General Information:

The one fathom curve at the southwest side of the narrow channel marks the edge of the reef that extends in a southwesterly direction. Swells and breakers that sweep in across this reef mark its limits.

During rough weather the swells and breakers reach completely across the channel to the shoreline on the northeast side, and passage through becomes impossible.

The two rocks near the entrance to the channel - - 140 meters 228° true from "RIK" and 170 meters 119° true from "RIK" respectively - - are marked by occasional swells and breakers. The former bares with a light swell. The latter does not bare. At times the swells over these rocks are intermittent, fifteen minutes elapsing at times without any activity. At other times they break almost continuously.

In the vicinity of signal "LON" patches of sunken reef make out around the point. Their outer limits are well defined by the heavy swells that make up just outside of them and break over them. The inner line of soundings was taken as close to the reef line as was possible without being swamped. Care had to be taken to avoid being caught inside swells that made up suddenly at irregular intervals.

SE of signal "HUT" several lines were run through small breakers along the edge of the heavy breakers.

Breakers across the entrance to the fishpond west of "TOP" prevent an approach to shore there.

Note:

It is reported that the dock at Honuapo, 4 miles SW of Punaluu, will be used in preference to that at Punaluu. The survey of Honuapo appears on sheet #12, 1929. The oil tank and dock warehouse at Punaluu were being torn down at the time of this survey.

Dangers

The only dangers on this sheet are those that affect the small boats approaching the narrow channel to the dock. The reef leading from the SW side of the channel is defined by breakers and swells that make up just outside.

The rock "awash at half tide", 140 meters 228° true from "RIK", should be avoided. The swells make up over it at irregular intervals. It remains unexposed occasionally for several minutes and then bares suddenly.

The sunken rock 170 meters 119° true from "RIK" does not bare, but has an occasional small breaker over it with a moderately smooth sea.

Anchorage:

The best anchorage is in the vicinity of the 20-fathom curve, 150° true from the dock. The Inter-Island Steamers that took cargo here anchored approximately on the 6-fathom curve 160° true from signal "RIK" and secured a stern line to the buoy just SW of Signal "RIK".

Landmarks:

For landmarks the black cliff at Honuapo, 4½ miles southwest of Punaluu, holds first prominence. It is 236 feet high and a quarter mile long. It shows up black against the light brown background of sloping hills. It is the first definite object that shows up along that section of the coast.

Next in view in the vicinity of Punaluu is the stack at the sugar mill of the Hawaiian Agriculture Company at Pahala. It is the easterly of two tall white stacks about 3 miles inland. It is 800 feet above sea level. The height above sea level and the group of white buildings surrounding it make it especially prominent as a land mark.

The church at Punaluu is the best landmark close to the dock. It is a rectangular yellow building with a green roof and steeple. It is just south of the village.

Statistics:

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

Respectfully submitted,

FBQ/o

Forwarded, Approved,

K.T. Adams

K.T. Adams, H & G E
Chief of Party.

Glendon E. Boothe
Glendon E. Boothe, Jr. H & G E

Francis B. Quinn
Francis B. Quinn, Jr. H & G E

V.M. Gibbens
V.M. Gibbens, Jr. H & G E

Statistics for Sheet, field #14, 1929
Punaluu, Hawaii, T.H.

<u>Date</u>	<u>Day</u>	<u>No. of Positions</u>	<u>No. of Soundings</u>	<u>Statute Miles</u>
<u>Motor - Sailer (hand machine)</u>				
1929				
Oct. 21	a	116	116	7.0
22	b	69	69	3.4
Total for boat		185	185	10.4
<u>Whaleboat (brown) (hand lead)</u>				
Oct. 20	a	168	593	7.1
<u>Whaleboat (green) (hand lead)</u>				
Oct. 19	a	190	828	6.7
20	b	201	747	7.2
21	c	78	225	3.3
Total for boat		469	1800	17.2
Total for sheet		822	2588	34.7

Tidal Note

Sheet No. 14, Punaluu, Hawaii, T.H.

A portable - automatic tide gauge was established at Honuapo, Hawaii and used in connection with both Honuapo and Punaluu. Punaluu is 4 miles from Honuapo.

This data was forwarded to the Washington office with package #47, Transmitting Letter dated January 7, 1930.

List of signals used
on Hydrographic Sheet #14.

BAK	W.W. rock, topo. 1929
BEN	W.W. rock, " "
BILL	Flag, " "
BOO	flag, " "
CAP	W.W. rock " "
CEN	flag on sisal plant, topo, 1929.
CHIEF	W.W. rock, topo, 1929
DIE	W. diamond target, topo, 1929
DOK	Derrick mast on dock, topo., 1929
ERN	W.W. boulder, topo. 1929
GAL	W.W. rock & flag, topo. 1929
GIB	W.W. rock, topo, 1929
HAY	W.W. rock, topo. 1929
HUT	flag, topo 1929
LON	flag, " "
LOVE	W.W. cairn, topo. 1929
LUU	tripod & flag, triangulation, 1929
NED	W.W. & flag, topo. 1929
NEST	W.W. rock " "
PAN	W.W. on cemented pillar, topo 1929
PUN	tripod & flag, Triangulation, 1929
RED	outer gabled red-roofed house, topo. 1929
RIK	derrick mast, topo. 1929
RUN	flag & W.W., topo 1929
SEE	flag & W.W. " "
SOT	W.W. cairn, topo. 1929
STEEP	steeple, Punalum Church, triang., 1914
TIN	square tin house, topo. 1929
TOP	flag, topo. 1929
WHITE	center & top of oil tank, topo. 1929

Verification Report
Sheet #14

Punaluu, Hawaii, T.H., 1929

I hereby certify that I examined the completed records and smooth sheet.

More than the usual supervision over the field work was had. The parties were working from the ship and the sheet was examined each evening and the work discussed with the officer in charge.

This sheet was inadvertently laid out on a 1:2,500 scale instead of a 1:5,000 as called for in the instructions. It was an error made by me, on account of the paragraph in the instructions which called for this survey to be similar to those made by this party last season.

K.T. Adams
.....
K.T. Adams, Chief of Party.

Section of Field Records.

Report on Sheet No. 4959
Chief of Party K T Adams
Protracted by G. W. Lovesee
Verified and Indexed by
J. Walker

Surveyed in 1929
Surveyed by G. E. Boothe
V. M. Gibbens, F. B. Quinn
Soundings plotted by
G. W. Lovesee

The sounding records were neat and complete except; very few notes were put in the remarks column as to turns in the line.

The protracting was good except in a few cases. Apparently the field plotter did not watch the boat sheet closely, as he plotted, as several mistakes were picked up which were quite obvious on the boat sheet. Position 183 and 184 b look wrong but no other position could be determined for them.

The soundings were not plotted very carefully. Some 68 soundings were not plotted according to time. The wrong fraction (quarters below $6\frac{5}{6}$) was used 191 times. Other soundings revised for miscellaneous reasons totaled 52.

The sheet was clean and the work was legible.

The drafting conformed to General Instructions for field work.

The overlap sheet (Field No. 13) has not yet been received and diagrammed in the office.

Respectfully submitted
J. W. Walker

March 19, 1930.

(COPY FOR FILES OF FIELD RECORDS SECTION)

March 6, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4959

Locality: Punahoa, Hawaii I., T. H.

Chief of Party: K. T. Adams, in 1929
Plane of reference is mean lower low water, reading
1.2 ft. on tide staff at Honapa
~~ft. below B. M.~~

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.

Paul C. Whitney

Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-WSW

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

August 27, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4959

Punalun Harbor, Southeast Coast of Hawaii

Surveyed in 1929

Instructions dated June 17, 1929. (Guide)

Director's letter of May 22, 1929

Hand lead and Machine soundings

Chief of Party, K. T. Adams.

Surveyed by G. E. Boothe, V. M. Gibbens, F. B. Quinn.

Protracted and plotted by G. W. Lovesee.

Verified and inked by J. T. Walker.

1. The records conform to the requirements except that in most cases, changes of course were not recorded.
2. The plan, character and extent of the survey satisfy the general and specific instructions except that a scale of 1/2,500 was used instead of a 1/5,000 scale.
3. Considering the broken character of the bottom, the sounding line crossings are satisfactory.
4. The information is sufficient for drawing the usual depth curves.
5. There are no junctions with contemporary work except the junction with the offshore sheet, which has not yet reached the office. This junction will be reported in the review of that sheet.
6. The usual amount of field plotting was completed by the field party and was neatly but not accurately done.
 - a. The protracting was fairly well done with the exception of two erroneous positions which would have been easily detected if the smooth sheet had been compared with the boat-sheet.
 - b. The soundings were poorly spaced and fractions were not expressed in conformity with paragraph 152 and paragraph 154.

of the Hydrographic Manual.

c. The shoreline and features outside the shoreline were not accurately transferred from the topographic sheet (T.4469). The low water line on the topographic sheet was shown as the high water line on this sheet. This was corrected in the office.

7. Character and scope of surveying --- good.

a. Within the limits of the work the survey is detailed and comprehensive.

8. No additional work is necessary.

9. Reviewed by R. L. Johnston, April 15, 1930.

Approved:

A. M. Sobieralski
Chief, Section of Field Records (CHARTS)

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4959

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. 14

REGISTER NO. 4959

State Territory of Hawaiian Is.

General locality Island of Hawaii

Locality Punaluu (S.E. coast) Harbor

Scale 1/2,500 Date of survey October 19-21, 1929

Vessel GUIDE

Chief of Party K.T. Adams, H & G E

Surveyed by G.E. Boothe, Jr. H&GE, F.B. Quinn, Jr. H & G E. V.M. Gibbens, Aid.

Protracted by G.W. Lovesee, Aid

Soundings penciled by G.W. Lovesee

Soundings in fathoms - feet

Plane of reference MLLW

Subdivision of wire dragged areas by -----

Inked by J.T. Walker } March 1930

Verified by J.T.W. }

Instructions dated June 17, 1929

Remarks: -----

August 27, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4959

Punalun Harbor, Southeast Coast of Hawaii

Surveyed in 1929

Instructions dated June 17, 1929.

(Guide)

Director's letter of May 22, 1929

Hand lead and Machine soundings

Chief of Party, K. T. Adams.

Surveyed by G. E. Boothe, V. M. Gibbens, F. B. Quinn.

Protracted and plotted by G. W. Lovesse.

Verified and inked by J. T. Walker.

1. The records conform to the requirements except that in most cases, changes of course were not recorded.
2. The plan, character and extent of the survey satisfy the general and specific instructions except that a scale of 1/2,500 was used instead of a 1/5,000 scale.
3. Considering the broken character of the bottom, the sounding line crossings are satisfactory.
4. The information is sufficient for drawing the usual depth curves.
5. There are no junctions with contemporary work except the junction with the offshore sheet, which has not yet reached the office. This junction will be reported in the review of that sheet.
6. The usual amount of field plotting was completed by the field party and was neatly but not accurately done.
 - a. The protracting was fairly well done with the exception of two erroneous positions which would have been easily detected if the smooth sheet had been compared with the boat-sheet.
 - b. The soundings were poorly spaced and fractions were not expressed in conformity with paragraph 152 and paragraph 154,

of the Hydrographic Manual.

c. The shoreline and features outside the shoreline were not accurately transferred from the topographic sheet (T.4469). The low water line on the topographic sheet was shown as the high water line on this sheet. This was corrected in the office.

7. Character and scope of surveying --- good.

a. Within the limits of the work the survey is detailed and comprehensive.

8. No additional work is necessary.

9. Reviewed by R. L. Johnston, April 15, 1930.

Approved:

Chief, Section of Field Records (CHARTS)

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

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4959

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

Number of positions on sheet . . 822
Number of positions checked . . 283
Number of positions revised . . 10
Number of soundings recorded . . 2588
Number of soundings revised . . 3!!
Number of signals erroneously
plotted or transferred 0

Date: - March 19, 1930 -
Cartographer: - J. T. Walker -