

4597 a & 4597 b

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Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

C. & G. SURVEY
L. & A
FEB 12 1927

State: Hawaiian Is. Acc. No. _____

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 9 4597a
4597b
2 Sheets

LOCALITY:

S. Coast of Kauai
~~Koloa Landing,~~

Maka huena Pt., Koloa Bay and
~~Kauai Island, T.H.~~

Kukuiula Bay

1926

CHIEF OF PARTY:

Lieut. Comdr. Clem L. Garner.

DESCRIPTIVE REPORT
to accompany

HYDROGRAPHIC SHEET NO. 9.

Koloa Landing, Kauai, T. H.

Commanding Officer's Instructions dated Nov. 23, 1926.

LIMITS: This sheet covers the inshore hydrography of ^{Makahuena} the south coast of Kauai, from Makawena Point on the east to ~~Kukui~~^{Kukui} Bay on the west. This survey makes a close development of Koloa Landing and approaches and is to be considered in conjunction with sheet No. 10, depicting the general survey of this coast, from Makawena Point to Waimea Bay. This sheet is plotted on the scale of 1:10,000 except for the close inshore development of Koloa Landing, which is protracted on a separate sheet on the scale of 1:5,000. All field work was done on a scale of 1:10,000.

SURVEY METHODS AND CONTROL: The control for this survey was obtained from recovered triangulation stations established by the Hawaiian Territorial Survey and also by the U. S. Geological Survey, which positions are based on the Independent Hawaiian datum. Intermediate control was established by a plane table survey of the coast line by a party from the ship. The close inshore hydrography or sounding out to about the 20 fathoms curve, was made with power launches and whaleboat. Soundings beyond that depth were made from the ship, using the Rude-Fischer sounding tubes. A portable automatic tide gauge was operated at Koloa Landing and a datum for the reduction of soundings determined by simultaneous comparison with a standard gauge at Waimea.

GENERAL DESCRIPTION OF COAST: This subject head is covered in the descriptive report accompanying Sheet No. 10, the hydrographic survey of the south coast of Kauai from Makahuena Point to Waimea Bay. Reference should also be made to reports accompanying topographic sheets of this region as surveyed by this party.

LANDMARKS: (a) Makahuena Point, the most southeasterly point of Kauai Island, is a long, flat, sandy and grass covered point with a rocky coast line, and is marked by a flashing white light. The land directly

back of the point is a gentle, even slope terminating about one fourth of a mile inshore in a small grassy knoll 132 feet high.

(b) Koloa Landing, $1\frac{1}{2}$ miles westward of Makahuena Point, is marked by a small dock with derrick thereon and a small old and dilapidated warehouse standing just above the landing. This landing is inconspicuous from seaward due to the heavy, dark growth of cacti and shrubbery close to shore. Probably the most conspicuous object in the vicinity is a new house on the beach (built after the completion of the survey, hence not shown on the topographic sheet) circular in shape and standing on supports well above the ground which is situated on the sand beach back of the point about 300 meters west of the landing.

(c) Triangulation station HORN, $1\frac{1}{2}$ miles west of Koloa Landing, marks the position of a prominent water spout on the shore, especially when there is any large ocean swells

INSHORE DANGERS: Except for the discrepancy to be stated in the following sentence, no dangers to navigation other than those shown on Chart No. 4117 were revealed by the present survey. The reef which fringes the coast from Makahuena Point to Koloa Landing extends out in places, further than indicated on the chart. More specifically this correction applies to the reef which makes off shore ~~0.5~~ ^{500m} mile east of Koloa Landing. In all cases the small boat hydrography was carried in to the edge of the breakers. Vessels when sailing along this coast should keep at least $\frac{3}{4}$ of a mile off shore. The close inshore hydrography of Makahuena Point does not reveal any extensive reef making off this point as indicated on the present chart. However, because of the shoal and irregular bottom, vessels should clear this point by $\frac{3}{4}$ of a mile.

ANCHORAGES: (a) Koloa Bay, $1\frac{1}{2}$ miles west of Makahuena Point affords a fair anchorage, sheltered from the Northeast winds. Anchorage can be had in 11 - 12 fathoms, sand and coral bottom, outside of the reef which fringes this coast, ~~20 degrees true from the landing,~~ ^{bearing} about 550 meters distant. *20° true and*

(b) Kukuiula Bay is a small bight $1\frac{1}{2}$ miles west of Koloa Landing which affords shelter for small boats during all except southerly weather. It is used by a considerable number of Japanese fishing boats. It breaks across the entrance during rough weather.

Respectfully Submitted:

Approved and forwarded:

Clem L. Garner
Lieut. Comdr. Clem L. Garner

Jack Senior
Lieut. Jack Senior.

STATISTICS SHEET
to accompany

HYDROGRAPHIC SHEET NO. 9.
Koloa Bay, Kauai, T.H.

1926.	(Letter)	(Volume)	(Positions)	(Soundings)	(Stat. Miles)	(Vessel)
April 9	A	1	72	188	16.7	DISCOVERER
" 10	B	1	48	97	12.4	"
" 8	a	1	141	382	15.0	Port H. Sailer
" 9	b	1	126	216	17.3	"
" 10	c	1&2	59	162	6.0	"
" 9	a	2	<u>25</u>	<u>71</u>	<u>0.6</u>	Stbd. Wh. Boat.
Totals:			471	1116	68.0	

Scale 1:10,000 & 1:5,000.
Area:- 4.5 sq. Stat. miles.

March 11, 1927.

11

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4597A and B

Locality: HAWAIIAN ISLANDS

Chief of Party: C. L. Garner
Plane of reference is M L L W
2.2 ft. on tide staff at Koloa Landing.

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.



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-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON October 18, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheets Nos. 4597^a and 4597^b

South Coast of Kauai

Surveyed in 1926

Instructions dated Nov. 23, 1926

Chief of Party, C. L. Garner.

Surveyed by J. Senior, R. W. Knox, and T. B. Reed.

Protracted and soundings plotted by H. K. Brickey.

Verified and inked by F. B. Kelly.

1. The records conform to the requirements of the General Instructions except that bottom characteristics are not very frequent.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. Sheet 4597b is a development of Kaloa Landing and is plotted on 1:5000 scale.
4. There are no crossing lines and with few exceptions all apparent shoals were developed.
5. The usual depth curves except those inshore were drawn in the field.
6. One hundred thirty-two fixes were checked and 4 found slightly in error.
7. There are no junction sheets.
8. Field drafting - ~~very~~ ~~good.~~ *fair*
9. Report by F. B. Kelly, October, 1927.

Approved:

Chief, Section of Field Records (Charts)

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

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-DRM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 20, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4597^b

Surveyed in 1926

Chief of Party, Clem L. Garner.

Protracted and soundings plotted by F. B. Kelly.

Verified and inked by H. E. MacEwen.

1. The records conform to the requirements of the General Instructions except that the heading of the boats in many cases seems to be recorded by someone other than the recorder for the day. This work was plotted on the 1/10,000 scale boat sheet which is almost valueless, hence any courses taken from the boat sheet would be misleading rather than helpful in plotting the smooth sheet. Attention is called to the note opposite fix No. 37 in the compass course column, page 18, Vol. No. 2. It is the opinion of the writer that this practice should be discontinued because courses recorded in this way are of no practical value in clearing up doubtful points on the sheet where a good compass course would help.
2. The plan and character of the development do not fulfill the requirements of the General Instructions in that there is no systematic development.
3. The plan and extent of the development satisfy the specific instructions.
4. There was no system of sounding line crossings used in this development.
5. The usual depth curves could be completely drawn with the exception of the one fathom curve and the two fathom curve.
6. This sheet was replotted in the office because of the poor agreement of soundings in important areas as plotted by the field party.
7. There are no surveys adjacent to this work requiring an overlap of soundings to be shown.

8. No further surveying is required within the limits of this sheet.
9. Remarks: Considerable difficulty was experienced in verifying this sheet because of the method of the field party employed at turns in the sounding lines. Insertion of additional fixes at some points would have established beyond doubt the location of several important soundings. There seems to have been at some points confusion in the use of signals Lad and Gay. Though used in plotting the smooth sheet in the field, Lad did not exist as a signal at the time Lt. R. W. Knox was in charge and although in existence and in use later when Lt. J. Senior and Lt. T. B. Reed had taken over the work the signal did not appear on the boat sheet used.

Following are some points that caused difficulty:

- (a) Between positions 30a and 32a in the vicinity of Lad it is impossible to locate position 31a due to mixup in signals. Spacing the soundings by time on the course between 30a and 32a, a 31 foot sounding (at fix 31a) falls between a 22' and a 26' sounding.
- (b) Soundings between 39a (blue) and 40a were plotted on a wide arc for better agreement of the depths obtained. A fix taken at the completion of the turn would have fixed beyond doubt the direction of the line between these two positions. The compass course recorded shows a sharp turn and a straight course between 39a and 40a, but since these courses were scaled from the boat sheet after the work was completed and poor agreement in the depths occurs on this course, the compass course was disregarded.
- (c) Between 20a and 21a (red) omission of a fix at the beginning and end of the turn in the line leaves doubt as to the correct location of a 22 foot sounding. Distances are recorded of the proximity of the dock (Lad) and the shore of the Bay but accurately scaled these distances show the line close to shore and the 22 foot sounding within the low water limit as shown on the topographic sheet. For this reason the distances shown were ignored and a short natural arc plotted to agree with the swinging radius of the boat used. This plotting shows a better agreement of the depths.
- (d) Between 44a and 45a (blue) the 29 foot sounding appears somewhat offshore. No irregularity shows in the record, although at this point the recorder went over the side. Recovering him may have changed the course of the boat although no break in the line was recorded.
- (e) Sounding of 11 feet within position 34a (red) should have been established with a three point fix. The note in the remarks column locating this sounding is in error and its position

is therefore doubtful. The sounding was rejected.

(f) Opposite position 15a (red) and also opposite position 19a (red) the record states that each position is 10 meters from rocks. These rocks were not shown on the boat sheet or the smooth sheet submitted by the field party.

10. Rocks noted in sounding records at 15 and 19a (red) have been omitted from the sheet as it is assumed that the rocks are a part of the reef alongshore. The plotting of positions 20 and 21 indicate that the estimated distances are not sufficiently accurate to be used.

11. Rating of work:

- (a) Character and scope of surveying: Fair.
- (b) Field drafting: Fair.

12. Reviewed by H. E. MacEwen.

Inspected by _____

Approved:

Chief, Section of Field Records (Charts)

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. ^{4597a} ~~4597~~ ^b

State . . . ~~Territory of Hawaiian Is.~~

General locality . . . ~~Kauai Island~~ S. Coast of Kauai

Locality ~~Koloa Bay~~ Makahuena Pt., Koloa Bay and Kukuiula Bay

Chief of party . . . Lieut. Comdr. Clem L. Garner.

Surveyed by . . . ^{J.} Mr. Senior, ^{R.W.} Mr. Knox and ^{T.B.} Mr. Reed.

Date of survey . . . 1926.

Scale ^b 1:5,000 and ^a 1:10,000

Soundings in . . . Fathoms

Plane of reference . . . MLLW

Protracted by ^{HKB} . . . Soundings in pencil by ^{HKB} 4597^a only
 " " ^{F.Kelly} " " " " ^{F.K.} 4597^b

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, Boat sheets,
 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks:

Applied to chart 4100

11/7/58

0120 ~~0120~~