

4457

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Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
State:	HAWAIIAN ISLANDS
11-5013	
DESCRIPTIVE REPORT.	
Hydrographic Sheet No. (1)	4457
LOCALITY:	
Molokai	
Kamalo Harbor	
1925	
CHIEF OF PARTY:	
R.W. Woodworth	

DESCRIPTIVE _ _ REPORT

to accompany

HYDROGRAPHIC SHEET # 1 .

of

KAMALO HARBOR

Molokai Island , Terr.of Hawaii

Scale = 1 : 5000

R.W.Woodworth , Jr.H&C.E.

Chief of Party.

PROJECT : Surveys of Anchorages.

INSTRUCTIONS : November 26, 1924.

DESCRIPTIVE REPORT - HYDRO. SH.#1.

DESCRIPTION of LOCALITY : Viewed from offshore, Kamalo shows a small wharf having a single shack at its outer end, a few wooden houses fronting the beach, with dense algeroba growth extending from the village back into the slopes of the nearby mountains.

The highest peaks of the Island are grouped to the north of Kamalo.

The harbor is a long pocket in the surrounding coral flats.

BAR at Entrance : The entrance to the harbor is its worst feature, as the extremely narrow opening carries but 14 feet over one-third its width, and but 19 feet at its deepest part.

This coral bar is of small extent, and might be readily blown and dredged to give a deeper entrance.

HARBOR : Inside the entrance bar deep water is to be had thruout the harbor. The deep water extends across the width of the channel to within a few yards of the visible coral reefs on either side.

The bottom is a soft, sticky mud of good holding qualities.

BUOYAGE : The harbor is well buoyed, with a gas buoy outside the entrance, and with spar buoys swivelled into heavy concrete bases to mark either side of the entrance and the line of the channel within. A permanent day beacon driven into the reef marks the turning point at the head of the harbor.

There are no ranges established.

WHARF : This is a small, but substantially-built structure having deep water along one face only. Two of the small motor schooners that visit this harbor can lay alongside at the same time.

WEATHER : The full force of the winds sweep across the harbor, but no swell is ever felt inside of the entrance.

SURVEY METHODS : Control was obtained by sextant angles to shore signals established by triangulation or topography. Better control, thru closer signals, might have been had during the summer by building water signals in the shallow waters of the surrounding coral flats. During the time of the survey this method was impracticable due to the surf across these flats in heavy weather.

Soundings were taken from a 24' whaleboat propelled by oars, the leadman sounding from a chair over the bow


Angles were taken within a meter of the leadman, when the lead was up & down.

SURVEY METHODS (cont'd) :

It was necessary for all hands to turn to the oars when heading into the strong winds prevailing during parts of the survey. For this reason sounding lines were run with the wind on these days, a steady speed being maintained by holding water with the oars, additional pressure being put on them to retard the boat over shoal water.

A re-survey of the entire harbor was made, as, due to insufficient care at the commencement of the work, angles were taken at a distance of 6 meters from the leadsman, and not enough attention was paid to obtaining the angles just as the lead was up & down. For these reasons all soundings up to 129.5g were rejected.

Respectfully submitted,


R. W. Woodworth, Jr. R. & G. E.
Chief of Party.

STATISTICS SHEET # 1.

<u>DATE</u>	<u>DAY</u>	<u>VOL.</u>	<u>POSITIONS</u>	<u>SOUNDINGS</u>	<u>MILES STAT.</u>	<u>BOAT</u>
Jan. 26, 1925	g	2	104	256	3.5	Whaleboat
" .27, "	h	"	198	417	6.0	"
" .29, "	j	"	131	245	4.0	"
Feb. 11, 1925	k	"	<u>30</u>	<u>43</u>	<u>1.5</u>	"
TOTALS -			463	961	15.0	

Unit for soundings = feet.

Location of tide gauge : Made fast to the west face of
Kamalo wharf ; lat.-21-03
long.-156-53

Plane of reference (MLLW), reading on gauge = 1.2'
Lowest tide observed - - - " " " = 0.80 '
Highest " " - - - " " " = 3.85 '

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND REFER TO No.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

August 25, 1925.

REPORT ON VERIFICATION OF
HYDROGRAPHIC SHEET No. 4457

The sounding records are complete and well kept.

The protracting and plotting of the soundings were
good.

The triangulation is not based on Hawaiian standard datum.

The drafting conforms to the requirements of the general
instructions.

The buoys as shown on this sheet have been cut in on the
topographic sheet.

The positions of all the shoal soundings were checked.



H. R. Edmonston.

June 29, 1925.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
1 volume of sounding records for

HYDROGRAPHIC SHEET 4457

Locality: Molokai Island, Territory of Hawaii,

Chief of Party: R. W. Woodworth in 1925.

Plane of reference is mean lower low water and is
1.2 ft. on tide staff at Kamalo Wharf, Molokai Island, T. H.

For reduction of soundings, 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 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.

4-VEC

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

September 14, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4457

Kamalo Harbor, Molokai, T. Hawaii

Surveyed in 1925

Instructions dated Nov. 26, 1924 and March 31, 1925

Chief of Party, R. W. Woodworth.

Surveyed by R. W. Woodworth.

Protracted and soundings plotted by J. D. Torrey.

Verified and inked by H. R. Edmonston.

1. The sounding records are defective in the following respects:

The word "Same" was used freely when there was no change in objects. This is not good practice, and in all cases the names of objects should appear at the top of each page. In this survey as many as eight consecutive pages failed to show the names of the objects used.

Throughout the survey 30 second intervals between soundings were maintained, although the depths were often shoal enough to have permitted 15 or 20 second intervals.

The pencil used was sometimes so hard that the record was almost illegible.

Boat's courses were omitted throughout.

2. The plan and character of development conforms to the requirements of the General Instructions, except for the omission of cross check sounding lines.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate and the information is sufficient for drawing the usual depth curves.
5. The usual field plotting was done by the field party. The smooth sheet was lost in the office before being inked and it was necessary, therefore, to replat the work in the office from the original records.

6. No further surveying is required.
7. The surveying is excellent, except for the defects noted in paragraphs 1 and 2.
8. Reviewed by E. P. Ellis, September, 1925.

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. (1)4457

State . . . Territory of Hawaii

General locality . . . ~~Molokai Island~~

Locality . . . Kamalo Harbor

Chief of party . . . R.W. Woodworth

Surveyed by . . . R.W. Woodworth

Date of survey . . . January, 1925.

Scale . . . 1 : 5000

Soundings in feet.

Plane of reference . . . MLLW

Protracted by J.D. Torrey ~~RWW~~ . . . Soundings in pencil by J.D. Torrey ~~RWW~~ . . .

Inked by H.M. Edmonstone Verified by H.M.E.

Records accompanying sheet (check those forwarded):

* Des. report, 1 Tide books, 1 Marigrams, 1 Boat sheets,

2 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: In order to more clearly differentiate between the sounding lines of the different days work in the congested area over the entrance bar, various colors were assigned to the days as protracted on the smooth sheet. The same boat was used thruout the survey.

RWW.