

3650-3651

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Diag. Cht. No. 4115

<p>Form 504</p> <p>U. S. COAST AND GEODETIC SURVEY</p> <p>DEPARTMENT OF COMMERCE</p> <p>DESCRIPTIVE REPORT</p>	
Type of Survey	HYDROGRAPHIC
Field No.	Office No. H-3650 & H-3651 H-3651
<p>LOCALITY</p> <p>State HAWAIIAN ISLANDS</p> <p>General locality HAWAII ISLAND</p> <p>Locality</p>	
<p><u>194/14</u></p> <p>CHIEF OF PARTY</p> <p>J. B. Miller</p>	
<p>LIBRARY & ARCHIVES</p> <p>DATE MAY 18, 1914</p>	

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey

O. H. Tittmann, Supt.

HAWAIIAN ISLANDS

HAWAII ISLAND: HONOIPIU TO KUKUIHAELE

ORIGINAL HYDROGRAPHIC SHEET NO. ~~95~~ 3651.

Surveyed in March, 1914, by the party on the
U. S. C. & G. S. Str. PATTERSON.

SCALE 1: 20,000

Soundings in fathoms at mean lower low water.

James B. Miller, Assistant, C.&G. Survey, Chief of Party.

P. Herberger, Mate, C. & G. Survey, in charge of hydrographic
Party.

Plotted by

*cautiously
worked
only* { verified by *Colin R. Hand*
edges & curves inked by *Colin R. Hand*

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey,

O. H. TITTMANN, Supt.

Hawaiian Islands
HAWAII ISLAND.

Sheet 22

See report of T3422 & T4472

A DESCRIPTIVE REPORT ON HYDROGRAPHIC SHEETS 22 and 93.

Scale 1:20,000

No.22 Honoipu to Puako; No.93 Honoipu to Kukuihaele.

Surveyed in March, 1914, by the party on the C. & G.S. PATTERSON.

-----P-----
1. REPORT. LIMITS. METHODS. OBSERVER

I have the honor to report as follows on hydrographic sheets 22 and 93, which show inshore hydrography around the northwest point of Hawaii Island, between Puako and Kukuihaele as done in March, 1914, by a party from the Steamer PATTERSON. The Sounding was done in launch No. 47, with Paul Herberger, mate, in charge. Lines were run at intervals of 200 meters generally normal to the shore line. The hand lead only was used. Lines were run from as close to the shore as possible out to depths of 27 fathoms.

2. GENERAL DESCRIPTION

From Puako to Mahukona, the coast is mostly rocky, and low, except at Kawaihae, where there is a long sandy beach. The country back from the coast is barren, and irregular. From Mahukona to the Hoesa Mill, the country changes gradually from a barren waste to country covered with sugar cane fields. From Hoesa Mill to Pololu Gulch, the country is fairly regular and covered with cane fields. From Pololu Gulch to Kukuihaele the shore line is steep and rocky, in some cases the cliffs rise abruptly to a height of 1300 feet. The country is broken by deep gulches. The numerous waterfalls over the cliffs are a characteristic of this rocky coast. The country back from the cliffs is heavily wooded. Almost all the shore line on this coast is rocky and irregular.

3. DANGERS

There are no offshore dangers. Along the shore the bottom is generally very irregular and rocky, in some cases 300 meters off shore. The rocks found are shown on the sheets. Just south of Kawaihae, is a large rocky reef about 1 mile long and extending offshore 1/2 mile. This reef has many places that bare at low water. There are heavy breakers 300 meters off Kauhola Point in a northeasterly direction. 700 meters off shore from Honokane Iki Gulch is a sunken rock that is shown on the sheet. There are several rocky islands in this vicinity close to shore.

4. CHARACTER OF BOTTOM

4. CHARACTER OF BOTTOM

The bottom is sandy, except close inshore, where it is generally rocky.

5. Anchorage

There are several anchorages along the coast but weather conditions must be favorable to use them. Off Kawaihae, vessels may anchor in from 8 to 17 fathoms, hard bottom. The anchorage at Mahukona is not very good. There is an anchorage due west from Honoipu in from 14 to 20 fathoms, sandy bottom. Except where the prevailing trade winds are blowing, anchorages may be obtained in any of the three bights at the mouth of Pololu Gulch, Waimanu Valley or Waipio Valley in from 10 to 15 fathoms, sand and mud. All the boat landings are very poor, the best landing being at Kawaihae. Inside the reef at Kawaihae is an anchorage much used by Japanese sampans.

6. LIGHTS AND BEACONS

At Kawaihae is a fixed red light. At Mahukona is a fixed white light, which is near the south beacon. There are two prominent white beacons at Mahukona, one on each side of the bight. Two range lights for entering Mahukona, are lighted on the approach of vessels. At the end of Kauhola Point is a fixed white light. There is also an occulting light at Kukuihaele Landing.

7. GEOGRAPHIC POSITIONS

Geographic positions for locating the soundings are obtained from topographic sheets 3385, 3391, 3393, and 3422, executed by another party in 1913.

8. SHIP'S SOUNDINGS

H-3652 A portion of the ship soundings taken from the records of Sheet F, have been plotted on sheet 22, and others should be plotted on sheet 93.

Respectfully submitted,

G. C. Mattison

Aid, C. & G. Survey.

APPROVED:

James B. Miller
Assistant, C. & G. Survey,
Commanding.

Honolulu, T. H.

April 28, 1914.

VEC
July 20, 1914

HYDROGRAPHIC SHEET 3650.

Hawaii Island, T. Hawaii, by Assistant J. B. Miller,
in 1914.

TIDES.

	Hilo ft.
Mean lower low water, or plane of reference on staff	0.1
Lowest tide observed " "	-0.9
Highest " " " "	3.5
Mean range of tide	1.5

S T A T I S T I C S

SHEET NO. 22

HAWAII ISLAND, T. H.

Date	Boat	Letter	Vol.	Hours	Pos.	Sdgs	Stat. miles

1914							
Mar. 7	Launch #47	<i>a</i>	1	9.0	152	450	21.2
" 9	"	<i>b</i>	1	10.0	67	207	9.5
" 10	"	<i>c</i>	1	11.0	10	22	1.0
" 11	"	<i>d</i>	1	7.0	107	312	16.0
" 12	"	<i>e</i>	2	9.5	122	369	15.9
" 13	"	<i>f</i>	2	11.0	137	711	23.5

				57.5	595	2071	87.1

AREA SQ. STAT. MILES _____

Hyd^c 3650.

The work on this Hyd^c Sheet shows the hydrography around the N.W. point of Hawaii Island.

Soundings were plotted in the field and partly inked in by the party. The work was verified and the inking completed in the office.

Stations "Stone" and "Roof" were transferred wrong (See Top^c Sheet 3393) This necessitated replotting and reinking of all positions and soundings determined by observation on these stations.

On transferring the shore line from the Top^c a number of rocks on the Top^c were not shown on the Hyd^c.

A number of positions, e.g. V_f^{47} , V_A^{33} , V_A^{43} , V_B^6 , V_B^{46} + V_K^6 were plotted wrong.

With the exception of the above inaccuracies the work was well executed and these records throughout the work kept in good shape.

J. B. Shklar.

December 24-14.

Hydrographic Sheet 3650

The names of the principal geographic features should be added.

Transfer to 3650 all the overlapping hydrography on 3651.

Transfer to 3650, from 3098, all the hydrography outside of the 20 fathom curve.

There is doubt as to the correctness of some of the reduced soundings. The following are a few doubtful cases:-

\sqrt{c} to \sqrt{c} *

\sqrt{c}^{10} to \sqrt{c}^{13} 4 fms. stray line should have been added. *

\sqrt{c}^{20} to \sqrt{c}^{25} " " " " " " " " *

\sqrt{c}^{25} to \sqrt{c}^{27} 1 fm. was added to tube readings. Why? *

See underscored soundings \sqrt{c}^{37} to \sqrt{c}^{45} .

At intervals of 20 or 30 minutes so-called "check-casts" were made with the lead. In no case was a simultaneous sounding made with the tube, therefore the term "check cast" is misleading and has no value as such.

E. P. Ellis

12-28-15

* Descriptive report of sheet 3652 states "the soundings from 27 to 100 fathoms were made with Tanner-Blish pressure tubes, to which 4 fms is to be added for stray line".

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey,

Sheet 93

O. M. TITMANN, Supt.

Hawaiian Islands
HAWAII ISLAND.

A DESCRIPTIVE REPORT ON HYDROGRAPHIC SHEETS 22 and 95.

Scale 1:20,000

No. 22 Honolulu to Puako; No. 95 Honolulu to Kukuiaele.

Surveyed in March, 1914, by the party on the U. S. S. PATTERSON.

1. REPORT. LIMITS. METHODS. OBSERVER

I have the honor to report as follows on hydrographic sheets 22 and 95, which show inshore hydrography around the northwest point of Hawaii Island, between Puako and Kukuiaele as done in March, 1914, by a party from the Steamer PATTERSON. The sounding was done in launch No. 47, with Paul Herberger, mate, in charge. Lines were run at intervals of 200 meters generally normal to the shore line. The hand lead only was used. Lines were run from as close to the shore as possible out to depths of 27 fathoms.

2. GENERAL DESCRIPTION

From Puako to Maunakona, the coast is mostly rocky, and low, except at Kawaihae, where there is a long sandy beach. The country back from the coast is barren, and irregular. From Maunakona to the Moea Hill, the country changes gradually from a barren waste to country covered with sugar cane fields. From Moea Hill to Pololu Gulch, the country is fairly regular and covered with cane fields. From Pololu Gulch to Kukuiaele the shore line is steep and rocky, in some cases the cliffs rise abruptly to a height of 1500 feet. The country is broken by deep gulches. The numerous waterfalls over the cliffs are a characteristic of this rocky coast. The country back from the cliffs is heavily wooded. Almost all the shore line on this coast is rocky and irregular.

3. DANGERS

There are no offshore dangers. Along the shore the bottom is generally very irregular and rocky, in some cases 300 meters off shore. The rocks found are shown on the sheets. Just south of Kawaihae, is a large rocky reef about 1 mile long and extending offshore 1/2 mile. This reef has many places that bare at low water. There are heavy breakers 300 meters off Kauhola Point in a northeasterly direction. 700 meters off shore from Honokane Iki Gulch is a sunken rock that is shown on the sheet. There are several rocky islands in this vicinity close to shore.

4. CHARACTER OF BOTTOM

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6. LIGHTS AND BEACONS

At Kawaihae is a fixed red light. At Mahukona is a fixed white light, which is near the south beacon. There are two prominent white beacons at Mahukona, one on each side of the bight. Two range lights for entering Mahukona, are lighted on the approach of vessels. At the end of Kanohala Point is a fixed white light. There is also an occulting light at Kukuihaele Landing.

7. GEOGRAPHIC POSITIONS

Geographic positions for locating the soundings are obtained from topographic sheets 3385, 3391, 3393, and 3422, executed by another party in 1913.

8. SHIP'S SOUNDINGS

A portion of the ship soundings taken from the records of Sheet F, have been plotted on sheet 22, and others should be plotted on sheet 93.

Respectfully submitted,

APPROVED:

Aid, C. & G. Survey.

Assistant, C. & G. Survey.
Commanding.

Honolulu, T. H.

April 28, 1914.

S T A T I S T I C S

SHEET NO. 93

HAWAII ISLAND, T. H.

Date	Boat	letter	Vol.	Hours	Pos.	Sdgs	Stat. miles
Mar. 18	Launch #47	<i>a</i>	1	11.0	145	436	24.7
" 19	"	<i>b</i>	1	9.0	111	318	17.3
" 20	"	<i>c</i>	1	6.0	75	175	12.5
" 21	"	<i>d</i>	1&2	9.0	148	404	23.4
" 23	"	<i>e</i>	2	10.5	196	518	29.2
" 24	"	<i>f</i>	2	8.0	116	285	18.8
				53.5	791	2136	125.9

AREA SQ. STAT. MILES _____

VEG
July 20, 1914.

HYDROGRAPHIC SHEET 3651.

Hawaii, Island, Territory of Hawaii, by Assistant J. B.
Miller in 1914.

TIDES.

	Hilo ft.
Mean lower low water, or plane of reference on staff	0.1
Lowest tide observed " "	-0.9
Highest " " " "	3.5
Mean range of tide	1.5

Report on Hydrographic Sheet 3651.

Nov. 1915.

The plotting of the inshore hydrography (20 fm. curve) and the drawing of the curves concerned, were verified by me.

Taking into consideration the difficulties encountered by the launch party—steady N.E. breeze, troublesome swell, and dangerous breaker line—the work must be considered as creditably done. The inshore ends of lines are not tied in by fixes as often as might be desired (being often located by bearings and estimated distances from shore) and this expedient was obviously not in all cases made necessary by lack of signals plotted and described; however the method adopted may have been deemed advisable since, because of lack of time, or inability to land, the signals required were not dressed large enough to be available for the purpose.

The offshore work was plotted by me, and the curves drawn. This work was recorded in two volumes concerned with hydrographic sheet 3652, but nearly all of it was plotted on sheet 3650 and this sheet, 3651. The positions of those few soundings not possible to plot on the sheets just mentioned, were verified on the original 3652, the which sheet will serve the compiler (for those few sds) as a smooth sheet, in accordance with note written thereon.

A number of the signal names differed on sheets 3652 and 3651. This would have caused confusion had I not been familiar with the names and positions of the signals in question.

There is an annoying vagueness in the notes of the offshore sounding records which made it difficult to determine the movements of the ship, and to plot its curve of turning: it was sometimes puzzling to decide whether or not a certain course was held BEFORE or AFTER a position was taken. It is assumed that, in turning, the helm is put over immediately after the position is taken, but it would aid to know if the helm was "hard over" or not, and also in how many ship's lengths the ship would turn, with the helm hard over, both port and starboard.

I believe it was intended by the Chief of Party to have the tube (pressure) soundings plotted by means of the rather elaborate table (see hyd. sheet 3433) which had as arguments the depth, and the angular distance of tube, on bottom, from the ship. The method appeared to offer inconsistencies, and was especially confusing when the interspersed up and down soundings came to be plotted, so it was not followed on 3651 though I believe it was followed on sheet 3650. For this reason there will be noticed a very slight discrepancy in the positions of the intermingled soundings at left edge of this sheet.

The only variant considered in plotting was that made by the distance between the bridge (angle locus) and sounding machine, about 39 metres.

The work on the sheet, excepting offshore curves, was inked by me.

Colin R. Land.

A
H. 3650 applied to compilation 4167 J.M.A. Mar. 1941.
" " " " 4140 J.M.A. May 1941
H. 3651 " " " " " " " "