

5309

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

State: T. H.

DESCRIPTIVE REPORT

5309

~~Topographic~~
Hydrographic } Sheet No. 21

LOCALITY

Hawaiian Islands

Molokai Id.

West and Southwest Coasts

19 30-31

CHIEF OF PARTY

O. W. Swainson, H. & C. E.

5309

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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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. 21

REGISTER NO. 5309

State Hawaiian Is. ~~Islands of Hawaii~~

General locality S. W. Coast of Molokai

Locality Kahanui Pt., to Papohaku Roadstead

Scale: 20,000 Date of survey Nov. 1930 to Jan, 1931

Vessel U.S.C. & G.S.S. PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson, E. O. Heaton, P. L. Bernstein.

Protracted by J. R. Jahn, E. K. Burdick

Soundings penciled by E. K. Burdick

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by *Ralph E. DeKant + W H Bamford*

Verified by *Ralph E. DeKant + W H Bamford*

Instructions dated August 19, 1930, 19

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY SHEET #21, HAWAIIAN ISLANDS

PROJECT #69.

U.S.C. & G.S.S. PIONEER

O. W. SWAINSON, CMDG.

INSTRUCTIONS DATED

August 19, 1930.

LOCALITY

Popohaku Roadstead to Kahanui Point, Molokai Id.

SURVEY METHODS

The area was surveyed by the PIONEER, both launches, and skiff. The PIONEER used the fathometer, the launches and skiff the handlead, to obtain soundings. The control was visual fixes on triangulation, topographic and hydrographic stations. The topographic stations were checked by sextant cuts and when found in error changed to agree with the cuts, the location being shown on the sheet by blue circles, names in red. The hydrographic stations were located by sextant cuts, name and location shown in blue. For fathometer corrections and method of computation, see Season's Report, Project 55, 1930; and Season's Report, Project 69, 1930-31.

DISCREPANCIES

Signal Jo was not very well cut in as the ship checked the old location by a few cuts and used the location on the bromide in the field plotting. When the smooth sheet was plotted the few cuts seemed to give another position which was used. This position gave obvious errors in plotting the lines. A study was made of the sheet and a more probable location of Jo found. This position was very near the position as shown on the photostat and was arrived at by cuts and adjacent fixes so as to cause no jump when a change of fix was made. The position as shown on the smooth sheet is the most probable location and is believed to be without serious error.

DANGERS

Along the south coast of the island there is an extensive coral reef. The launch did not note the outside limits but ran its lines up to the reef as far as it could safely go. The danger line is from 50 to 100 meters inside the soundings. Several lines were run by the skiff in back of the breaker line. ✓

CHANNELS

The sheet covers part of the north side of Kalohi Channel. ✓

ANCHORAGES

The area covered lies on the lee side of Molokai Island. Ships will obtain protection from NE to SE winds in Papohaku Roadstead. The bottom is sand in from 7 to 9 fathoms, with coral and some sand outside and inside that depth. Ships may anchor offshore between Ililo Point and Kahanui Point in 14 to 18 fathoms. The bottom is coral with some sand. ✓

also Kolo Harbor

COMPARISON WITH PREVIOUS SURVEYS

Refer to tracing No. 1. This tracing shows soundings from photostat of sheet #4459 reduced to scale of 1:20,000. The soundings of the new survey check very well with the old. ✓
Papohaku

Refer to tracing No. 2. This tracing shows soundings from photostat of sheet #4460 reduced to scale of 1:20,000. The new survey checks the old very well. ✓
Kolo

Refer to tracing No. 3. This tracing shows soundings from sheet H-3433. The new survey checks the old in general very good. ✓ There are a few soundings of the old survey that are more than a fathom different and these are encircled in red on the tracing.

GEOGRAPHIC NAMES

No new geographic names were assigned on this sheet. ✓

STATISTICS

	Statute Miles Sounding Lines	Number of Soundings	Number or Positions
Ship	406.4	4221	859
Stbd. Launch	128.0	2846	948
Port Launch	56.5	1201	366
Skiff	<u>21.9</u>	<u>1689</u>	<u>199</u>
TOTAL	612.8	9957	2372

*O. W. Swanson
Chief of Party*

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5309*

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

Number of positions on sheet	<i>2372</i>
Number of positions checked	<i>.92</i>
Number of positions revised	<i>.11</i>
Number of soundings recorded	<i>9957</i>
Number of soundings revised	<i>.14</i>
Number of signals erroneously plotted or transferred	<i>0</i>

Date: *November 21, 1933*


Cartographer: *Ralph E. DeWent*

CHIEF OF PARTY'S REPORT OF INSPECTION
OF SMOOTH SHEET

The sheet was plotted by J. R. Jahn and E. K. Burdick. The soundings were pencilled by E. K. Burdick and all were verified from the record by J. R. Jahn. The plotting of the positions was verified by laying tracings of smooth sheet over the boat sheet.

There was no doubt as to the recovery of the topographic station relocated by sextant cuts. Triangulation stations were used in the fixes locating the objects wherever possible, and the other fixes were either topographic stations done on larger scale around Kalo, or topographic stations checked by cuts.

The writing of the Descriptive Report was done by C. J. Wagner, Jr. H. & G. Engineer. All changes in the record were the result of careful consideration and are noted in colored pencil therein. The sheet and accompanying records are recommended for approval with exception of additional work believed necessary around Laau Point on a larger scale as the bottom is very irregular, and the currents strong and erratic. The Lighthouse at Laau Point should be located by triangulation.


O. W. Swainson,
H. & G. Engineer,
Commanding PIONEER.

Nov. 1933

Section of Field Records
Report on Hydrographic Sheet No 5309

Kalauni Pt. To Papahaku Roadstead

S. W. Coast of Molokai

Hawaiian Islands.

Surveyed in 1930-31

Instructions dated — Aug 19, 1930

Chief of Party — O. W. Swainson

Surveyed by — O. W. Swainson, E. O. Heaton, P. L. Berstein

Protracted by — J. R. Sahn, E. K. Suddick

Soundings plotted by — E. K. Suddick

Topography sketched by — R. C. DeMent

Verified & inked by — R. C. DeMent.

- 1 The Records conform to the requirements of the Hydrographic Manual
- 2 The plan and character of development satisfies the specific instructions
- 3 The plan and character of development fulfill the requirements of the hydrographic manual.

- 4 Sounding crossings are adequate and in general agreement ✓
- 5 The 2, 3, 5, 10, 20, 50, 100, 200 fathom curves are shown. ✓
- 6 The field plotting was completed to the extent prescribed in the Hydrographic manual. ✓
- 7 No field drafting was redrawn. The topography was inked in the office. ✓
- 8 No adjacent sheets are verified, so no junction was possible.
- 9 Remarks.

(a) Soundings from 23-25 M day, beginning at Long $127^{\circ}18'$; Lat $21^{\circ}10.3'$ and running N.E. were not inked. The soundings seem to be slightly irregular

(b) Soundings from 44-49 N day, beginning at Lat $21^{\circ}11.4'$; Long $127^{\circ}18.5'$ and running S.W.

were likewise not inked because of irregularities.

- (c) Lat $21^{\circ}-11.4'$, Long $127^{\circ}-17.7'$, a sounding of 25 fathoms is shown in a 43 fathom group. This sounding is questioned in the record and is not plotted for that reason.
- (d) No dangers or shoals were found. The long reef on the south coast is marked principally by the breaker line as the launch could not get in closer.
- (e) The group of soundings at Lat $21^{\circ}-04.5'$ Long $127^{\circ}-15'$ show no irregularities or shoals.

Respectfully submitted,

Ralph E. DeWent.

The following soundings were left
unverified & unmarked

Vol 3 P-74-79
 P 98-100
 Q 10-12
 Q 16-20
 Q 24-28
 Q 30-40 } Red letter

Vol 7 H & J days }
 K-47-111 } - Blue letter

Vol 8 a, b, c, days, - Green letter

R.C.M.
These soundings verified and marked by W.H. Bamford
R.C.

SECTION OF FIELD RECORDS
Review of Hydrographic Sheet No. 5309.
Kahanui Pt. to Papohaku Roadstead, S. W. Molokai,
Hawaiian Islands.
Surveyed November 1930 to Jan. 1931.
Instructions dated August 19, 1930 (Pioneer).

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson, E. O. Heaton, P. L. Bernstein.
Protracted by - J. R. Jahn and E. K. Burdick.
Soundings pencilled by - E. K. Burdick.
Verified and inked by - R. E. De Ment and W. H. Bamford.

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development conform to the regulations and satisfy the specific instructions.
3. Soundings are generally in good agreement at crossing of lines. A heavy swell (2 fathoms) was running on N day and soundings from Pos. 44N to 49 N were omitted. The area was adequately developed on other days. Coral reef borders the shore and breakers generally show during moderate weather.
4. Depth curves can be drawn satisfactorily. The lesser curves (less than 5 fathoms) are necessarily incomplete.
5. Junction with H. 5299 is satisfactory. Sheet H. 5310 has not yet been completely inked. The overlap to westward on H. 3433 (1913 and 1926) has been carried to a satisfactory agreement; also to northward on H. 4542 (1915-16).
6. Comparison. Previous surveys in this area were in the nature of a very few reconnaissance lines of soundings in 1915-16 and special developments of Kolo Harbor (H. 4460 in 1925) and Papohaku Roadstead (4459 in 1925). The agreement with 1925 work in general is good but more detail is shown on the 1925 surveys. Chart 4116 and the plans on 4121 do not show anything in conflict with this survey.


Kolo Harbor on chart 4121 is based on H. 4460 and BP 19853 and 21655. The surveys were made before the dredging operations were completed and the Chief of Party (U.S.C. & G. S.) states that he furnished a tracing of the smooth sheet to the engineer in charge (Libbey, McNeill & Libby) presumably showing a 6 foot sounding near the area proposed to be dredged. A report by Libby, McNeill & Libby in Nov. 1927 (Letter 548/1927) states that "The basin outlined by pipes and the channel as shown by the buoys, are dredged to nine feet below M.L.L." No survey is available of the area after dredging and there is some uncertainty as to the continued existence of the 6 foot spot shown on the sheet H. 4460.
7. Field drafting was satisfactory.
8. Recommendation. This sheet (H. 5309) should supersede previous information for charting the area represented by it, except the two large

H. 5309 - 2.

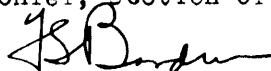
scale developments H. 4459 and H. 4460 which should be retained and also BP 19853 which shows the dredged area in Kolo Harbor.

No further surveys are deemed necessary at this time except that the 6 foot spot in Kolo Harbor (H. 4460 and plan on chart 4121) should be investigated. See letter 548/1927.

9. Reviewed by - R. J. Christman - February 6, 1934.



L. O. Colbert,
Chief, Section of Field Records.



Chief, Section of Field Work.

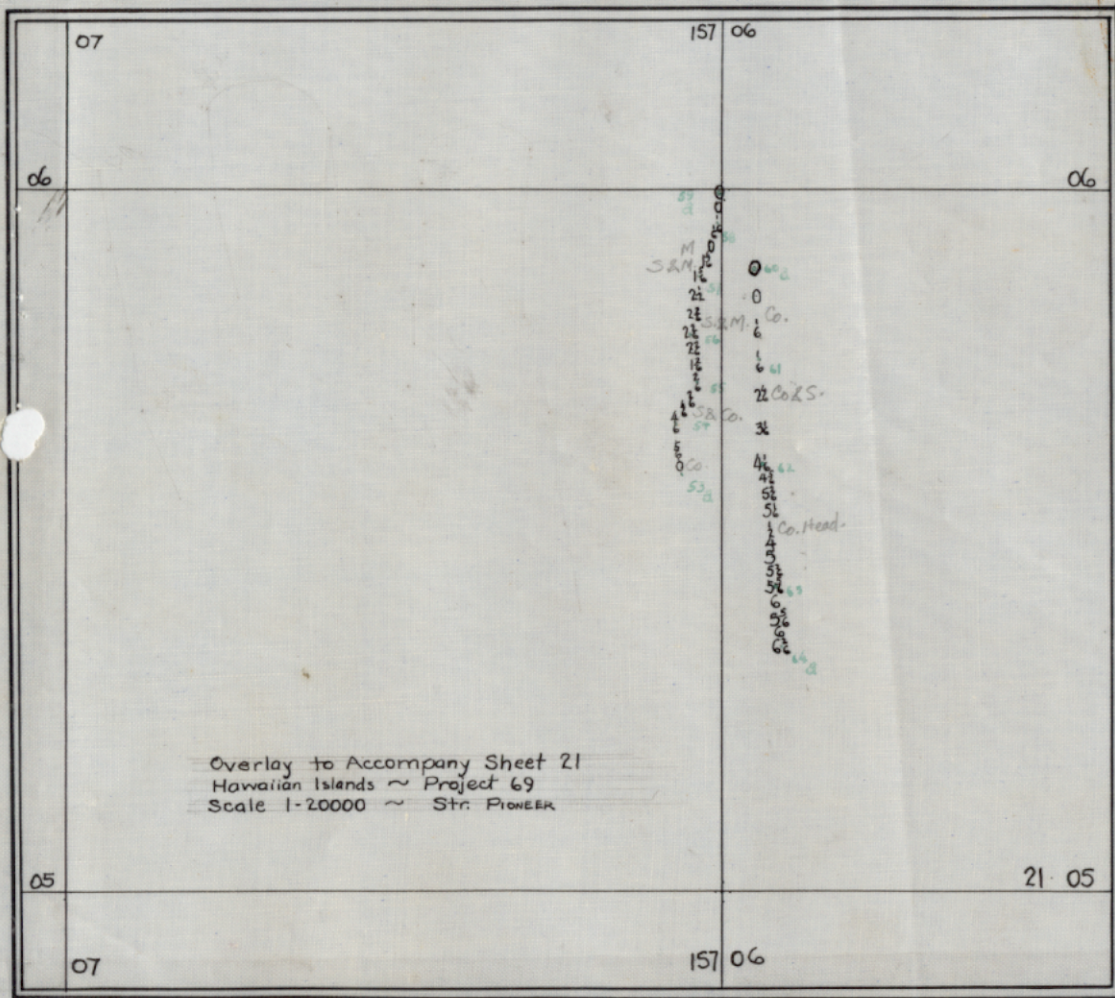
Examined and approved:



Chief, Division of Charts.



Chief, Division of H. & T.



To accompany H-5309

Applied to new chart 4120 - Mar. 6, 1941 - J.W.