

5019

Diag. Cht. No. 8201-3

5019

Form 504
Ed. June, 1928

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

State: Alaska

DESCRIPTIVE REPORT

~~Topographic~~ }
Hydrographic } Sheet No. 5019

LOCALITY

Sumner Strait

South End of Duncan Canal

1929

CHIEF OF PARTY

E. W. Eickelberg

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5019

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. 5019

State S. E. Alaska.

General locality Sumner Strait

Locality South End of Duncan Canal

Scale 1-10:000 Date of survey Aug. 21 - Oct. 8, 1929

Vessel U. S. C. & G. S. S. EXPLORER LAUNCHES

Chief of Party E. W. Eickelberg, H. & G. Engr., Comdg.

Surveyed by L. C. Johnson, Jr. H. & G. Engr.

Protracted by L.C.J.

Soundings penciled by L.C.J.

Soundings in fathoms ~~fathoms~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by John G. Raack

Verified by J. G. L.

Instructions dated February 19, 1929

Remarks: 9 Sounding Vols. 1 boat sheet #14, 1 smooth sheet #14,

1 Descriptive Report, 1 topographic sheet "H"

DESCRIPTIVE REPORT

TO ACCOMPANY SHEET NO. 14, 5019

DUNCAN CANAL - S. E. ALASKA.

1929.

DESCRIPTIVE REPORT

TO ACCOMPANY SHEET NO. 14

DUNCAN CANAL - S. E. ALASKA

INSTRUCTIONS & LOCALITY:

The work on this sheet was done under instructions dated, February 19, 1929. It is a complete junction with work in Beecher Pass and Sumner Strait, joining with Sheets 9 and 13.

LIMITS OF SHEET:

Latitude 56° 32' to 56° 37',
Longitude 133° 01' to 133° 10'.

SURVEY METHODS:

The usual methods described in the Hydrographic Manual were used in this work. Eighteen pound lead with stranded wire for power sounding, and 8 to 10 pound lead with Samson Cord leadline for hand lead sounding were used throughout. Various launches were used on this work by Lieutenant L. C. Johnson, Jr. H. & G. Engineer, as the same launch was not always available or was wanted on some other special work. The method of surveying was to run cross channel lines.

DISCREPANCIES:

(29 "a"; 55° 33'.1, 133° 05'.5)
4 fathoms plots on 2-5/6, is close inshore and it is recommended the 4 fathom sounding be rejected.

(107 "b"; 56° 34'.2, 133° 05'.7)
Sounding of 7 fathoms plots inside low water line; fix is a swinger, and recommend this sounding be rejected. Another line furnished the necessary depth to replace this one.

(1 "r"-2 "r"; 56° 35'.5, 133° 02'.0)
The crossing of soundings with 50-51 "l" not very good. This is probably due to use of close and distant signals respectively, for these two lines. It is recommended that the shoaler soundings be maintained. The slope here is so steep that only a slight discrepancy in position would account for a comparatively large change in depth.

(54-58 "s"; 56° 34'.9, 133° 04'.5)
This line followed an irregular course and although there is no note in record as to doubtful signals the line appears doubtful on the sheet. There is no new information in the line at it stands, and it is recommended to be rejected.

Besides the above mentioned discrepancies it was found necessary to reject some inshore work which was run parallel to shore line, the control of which was inadequate, due to too large a distance between positions.

DANGERS:

1. A reef bare 9 feet at M.L.L.W., is located at triangulation station END, off the northwest end of Butterworth Island.

2. Two reefs off triangulation station FLAT, 166° distant 200 meters, and 180° distant 325 meters. The former bares 8 feet at M.L.L.W., the latter, 10 feet.

3. A sunken rock with 5 feet at M.L.L.W., lies 208°, 200 meters from triangulation station CAMP. This rock is marked by only a few streamers of kelp.

4. A reef of considerable extent on which triangulation station PIPE was located, lies in midchannel entrance to Beecher Pass, and is marked by kelp. The reef was outlined on topographic sheet at low water, a special effort being made to get its limits. This reef was inked in on smooth sheet by Mr. Johnson by mistake.

5. A ledge makes out from shore, 160 meters, 270° from PET, and is marked by kelp.

6. A reef marked by kelp, lies ~~260~~ meters, 34° true from triangulation station PET.
430

7. A reef marked by kelp, lies 270 meters, 190° true from triangulation station POLE.

*absolutely unmarked
to be 340° J.S.P.*

CHANNELS:

The main channel up Duncan Canal, as far as surveyed is clear of obstructions, except as noted above. A five fathom reef of considerable extent is located in midchannel opposite Harvey's Gold Mine. This reef comes within 200 meters of the deepest sounding (58 fathoms) obtained on this sheet.

The channel east of Butterworth Island is used by some small launches at high tide, but is not recommended.

Launches with tows bound for Petersburg from inside of Level Island, sometimes use Duncan Canal and Beecher Pass.

Beecher Pass has two entrances, the northern one being used by the EXPLORER. Launches with tows use the southern passage which is slightly deeper, but more difficult to navigate. Local knowledge is necessary for both channels. With local knowledge, 10 feet can be taken through either channel at M.L.L.W.

ANCHORAGES:

Small fishing vessels have been seen to anchor in the entrance to Little Duncan Canal, and also in the southern entrance to Beecher Pass, where good protection is afforded from south-easterly weather.

Anchorage can be found at the latter place in 15 fathoms, sand and mud bottom, 400 yards north (magnetic) from the beacon. An effort was made to develop an anchorage west of station YEW for ships coming in to the mine. This however, is not recommended, due to offlying dangers. Also in the winter time there are severe north-west blows which come down from Little Duncan with a clear sweep.

GEOGRAPHIC NAMES:

* Names were obtained in most part by the topographer as he came in contact with the local community. The name of Little Duncan, the arm extending off to the north-west from triangulation station SHORT, was given us by Mr. E. E. Harvey, who has been a resident in Duncan Canal for the past 25 years.

CURRENT AND TIDE RIPS:


In Duncan Canal and Beecher Pass the current runs with the channel, the flood in northerly and the ebb in southerly direction, obtaining a velocity of from 1 to 2 knots.

At the south end of Duncan Canal the current appears to obtain its maximum velocity of about 2-1/2 knots, making it necessary to increase the sounding interval considerably in order to make some headway.

Heavy swirls and tide rips were encountered north of Lung Island, and also in immediate vicinity of the 5 fathom reef opposite Harvey's Gold Mine.

SAILING DIRECTIONS:

Mid-channel courses should be followed to beacon at entrance of Beecher Pass. Local knowledge is necessary for the navigation through Beecher Pass.


E. W. Eickelberg,
Hydro. & Geod. Engineer.

* The following names were added to the sheet by decision of U.S.G.B.

BIG SALTARY ISLAND	in BEECHER PASS	LAT 56°-36'	LONG 133°-01'
LITTLE SALTARY ISLAND	" " "	LAT 56°-35.7'	LONG 133°-01.6'
LITTLE DUNCAN BAY		LAT 56° 35'	LONG 133°-10'
PEARL ISLAND	in BEECHER PASS	LAT 56°-36'	LONG 133°-02.7'

G R B
10/15/34

STATISTICS FOR FIELD SHEET NO. 14.

Total number of positions	3583
Total number of soundings	11,707
Total statute miles sounding lines	263.1

TIDAL NOTE TO ACCOMPANY SHEET NO. 14,
DUNCAN CANAL, S. E. ALASKA.

The Duncan Canal portable tide gauge was used throughout, the end of this sheet being equally distant from Keene Island and Duncan Canal gauges.

Location of portable automatic tide gauge #137:

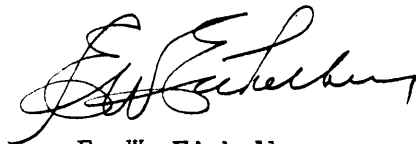
Latitude 56° 33.8
Longitude 133° 04.1

M.L.L.W. on staff at Duncan Canal taken as 10.3 feet.

Highest tide observed 17.5 feet at M.L.L.W. Aug. 5, 1929.

Lowest tide observed -4.2 feet at M.L.L.W. Aug. 6, 1929.

NOTE: The above location of gauge is correct. The longitude position sent in with report of tide station was given as 133° 02.5 which is in error. The same applies to the longitude given in "Comparison of Simultaneous Observations" sheet. This error was discovered in my review of this sheet.



E. W. Eickelberg,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

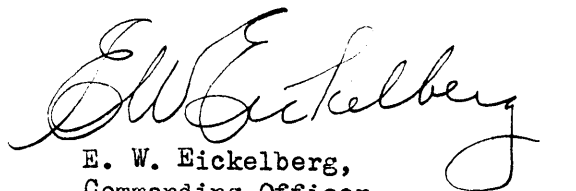
APPROVAL SHEET TO ACCOMPANY HYDROGRAPHIC SHEET 14.

This work was done by the various ship's launches as they became available. The same officer was in charge throughout and it was therefore decided to use all one color for the different days.

This was the first hydrographic sheet done by Mr. Johnson and in general the work is complete. On the inshore end more work was done than necessary as the shores are normally very steep. On the lines run parallel to shore he made the mistake of allowing too much time between positions. This enabled the launch to wobble off course giving poor control to location of soundings. Where discrepancies occurred they were usually in unimportant areas.

This sheet has been pretty thoroughly gone over by Mr. Weidlich, Mate, after Mr. Johnson was ordered away. Depth curves are by Mr. Weidlich. Where discrepancies occurred I have personally examined records and sheet and have made appropriate notes in records.

The descriptive report was written by me because both officers who were on this work were ordered detached before the sheet was completed.


E. W. Eickelberg,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

(FOR THE FILES OF THE FIELD RECORDS SECTION)

ecm
#42

June 24, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 5019

Locality: Southeast Alaska (Duncan Canal)

Chief of Party: E. W. Mickelberg, in 1929
Plane of reference is mean lower low water, reading
10.3 ft. on tide staff at Duncan Canal
16.7 ft. below B. M. 1

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.

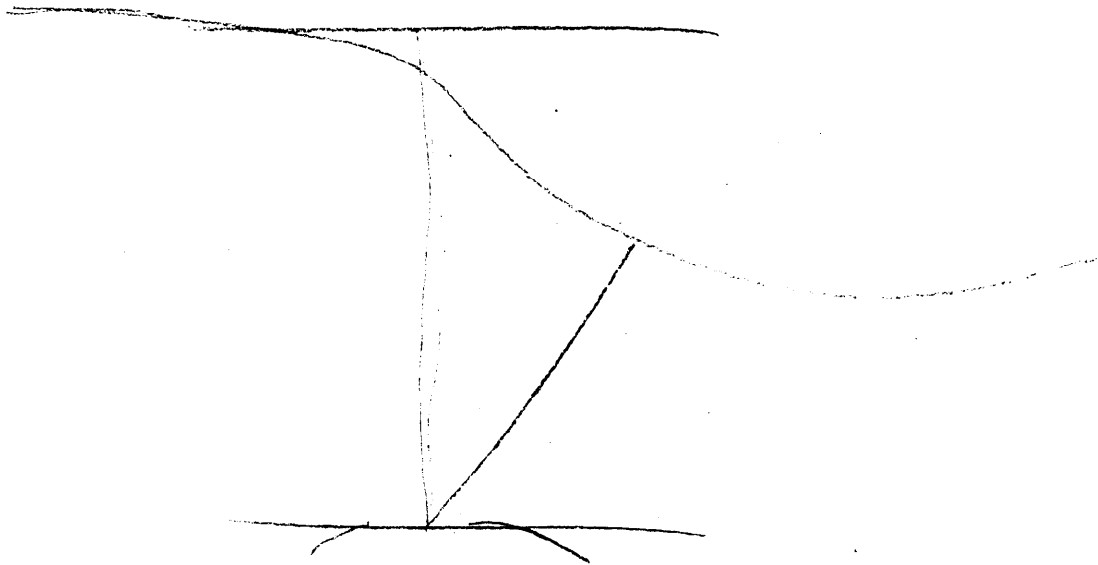
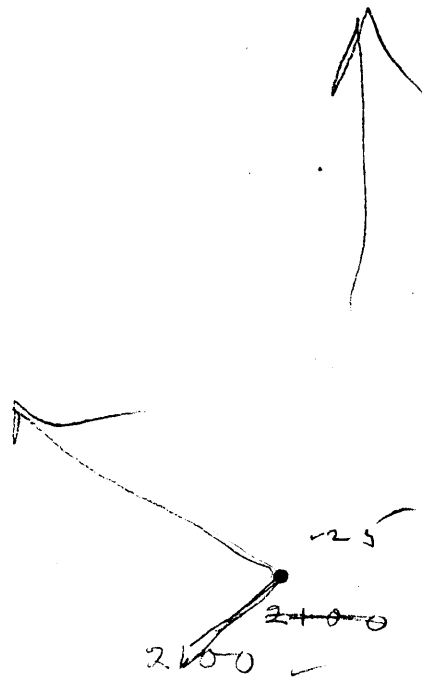
RAW

Chief, Division of Tides and Currents.

H-5019

Chief of Party - E. W. Eichelberg
Surveyed by - L. C. Johnson
Protracted by " " "
Soundings Reduced by " " "
Verified and checked by John G. Lead

1. The records conform to the requirements of the general instructions.
2. The sounding line crossings are adequate.
3. The usual depth curves could be drawn.
4. The field plotting was complete to the extent prescribed in the general instructions.
5. No part of the work had to be done over by the office draftsman. The major part of the shore line had to be added by the office draftsman from the latest existing topographic sheets in the office, which were on a different scale than was H-5019.
6. Junctions with adjacent sheet were satisfactory.



7. The 4th sounding on 29a was not plotted and ink as it fell on a $2\frac{5}{6}$ fath. on another line.

107b was not plotted as it had been rejected by the field party, also positions 54 to 58 s were not plotted as the recommendation of the field party was accepted and the positions rejected.

8. As the scale of this sheet and the chart covering this area is so great a comparison was impossible, a negligible number of soundings appearing on the chart within the area of this sheet.

9. The field plotting was very accurately done, as was the penciling of the soundings.

John S. Peck

jr. Coast Eng.

Jan 7, 1931

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

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

AND REFER TO No. 82-DRM

January 28, 1933.

Memorandum regarding the review of Hydrographic Sheet No. 5019.

This sheet was reviewed by R. L. Johnston in January, 1931, but before being typed the manuscript was lost.

Mr. Johnston spent six days in reviewing the sheet, and there is no doubt that it is an accurate interpretation of the field records.

Comparison with H. 1808, the only older survey, shows that it should be completely superseded by H. 5019 in charting. A single sounding of one fathom one-third mile east of Emily Island has been transferred from H. 1808 to the new sheet. An examination of the original sounding record leaves no doubt of the authenticity of the one fathom sounding.

The area included within H. 5019 is completely surveyed, the leadline development on most shoal indications being sufficient. There are several spots, however, which are indicated by the 5, 10 and 20 fathom curves, which should be dragged. The junctions with contemporary surveys on the east and south are adequate. No recent surveying has been done to northward.

E. P. Ellis.

January 28, 1933.

Approved:

A. M. Solieralaki
Chief, Field Records Section.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5019....

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

Number of positions on sheet	.3583..
Number of positions checked	..567.
Number of positions revised	...10.
Number of soundings recorded	!!707.
Number of soundings revised	..128.
Number of signals erroneously plotted or transferred	..None.

Date:.... Nov. 14, 1930

Cartographer:..... John G. Reed