

# 3910

Diag. Cht. No. 8201-2

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey ..... HYDROGRAPHIC

Field No. .... Office No. H-3910

### LOCALITY

State ..... ALASKA

General locality ..... SOUTHEAST ALASKA

Locality ..... SUMNER STRAIT

1916

CHIEF OF PARTY

L. O. Colbert

LIBRARY & ARCHIVES

DATE ..... JANUARY 9, 1917.

B-1870-1 (1)

# 3910

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. 3910

State Alaska

General locality Sumner Strait, Southeastern Alaska.

Locality Off north coast Zarembo Island.

Chief of party L.O. Colbert

Surveyed by L.O. Colbert

Date of survey June 7, 1916 - Sept 14, 1916

Scale 1/20,000

Soundings in Fathoms

Plane of reference Mean Lower Low Water

Protracted by H.P.W. Soundings in pencil by

Inked by H.P.W. 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: **Only the Descriptive report is being mailed with the sheet,  
as the drag records will be shipped later.**

DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

E. Lester Jones.  
Superintendent.

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET NO (5) 3910.

SUMNER STRAIT;  
SOUTHEAST ALASKA.

by

WIRE DRAG PARTY No. 4.  
L.O.Colbert, Chief of Party.

- 1916 -

Scale. 1 - 20,000.

DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

Descriptive Report to accompany  
Wire Drag Sheet No. 3910

Sumner Strait, Southeast Alaska.

- 1916 -

Limit of sheet:-

This sheet covers a complete wire drag survey of the area in Sumner Straits, starting at the western limits, with approximately a boundary line from Point Craig, Zarembe Island, to the west side of the entrance to Blind Slough, on Mitkeff Island. From this line a clean sweep is made in the Strait toward the west to a line between Vichnefski Rock Light and White Rock.

A drag with an average effective length of 1000 meters, was made up Duncans Canal to a line about as far north as the northern end of Lung Island.

Also a drag, with an average effective length of 900 meters, was made up the southern entrance to Wrangell Narrows as far as Midway Light.

Depth Dragged:-

Throughout the drag with few exceptions, as in case of dragging over shoals, an effective depth of 45 feet or more was dragged.

Distance Off-Shore:-

Where ever possible the drag was run up to within three to four hundred meters of the shore. In order to dip into the indentations and bays of the abounding shoreline, a short drag of about 900 meters effective length was used on either side of the Strait. For a greater part of the distance it was found practicable to cover the ground with a long drag.

Currents, and their effect on the Drag:-

The tidal current over this area was sufficiently strong to make it impracticable to run against it's course with the drag. In the area between Vichnefski Rock and St Johns Harbor, very strong tide rips were found, and the greatest of care had to be exercised that the control of the drag was not lost.

Shoals:-

(a) A rocky shoal with 16 feet over it at mean lower low water, was found one mile west (true) of Little Baht Harbor. An effective depth of 13 feet was swept over it. This shoal is about 150 meters in diameter and is off the main line of the steamers. However, it is 600 meters off shore, and is a warning for vessels to keep well off the shore in this vicinity.

(b) A rocky shoal covered by 13 feet at mean lower low water, was located about 1200 meters northeast (true) of the point at the east side of the entrance to St. Johns Harbor. A drag with an effective depth of 14 feet covered this shoal.

(c) There is also a shoal marked on the sheet, on a line between Vichnefski Rock Light and Level Island, and about 1100 meters off the latter Island, a description of which will be found in the report for sheet No. 4.

Adjoining sheets connecting with this Survey:-

The limits of adjoining sheets are plotted with dotted lines, showing the continuity of the survey.

Control of the Survey:-

With few exceptions the signals used for this survey were determined by secondary or tertiary triangulation. The exceptions were located by the topographer.

Tide Reducers:-

The tide reducers for this sheet were taken from the gauge at St Johns Harbor. In case where St Johns Harbor had no tides for any one day, the tides at the Wrangell automatic gauge were used after a correction for St. Johns Harbor had been applied. A thorough comparison showed that the height of St. Johns Harbor mean high waters were one and four tenths feet lower than Wrangell, and the mean lower low water the same. St John's tides were fifteen minutes later than at Wrangell.

Coast Pilot Notes:-

Harbors. The only important harbor on this sheet is St Johns Harbor, in Zarembo Island. This harbor affords good shelter from a southeast or southwest gale, but is open to the Northerly winds. The latter are seldom above force three, but occasionally they exceed this and at such times a heavy sea piles into the harbor, such as would not be expected from the comparatively short sweep afforded. It is evident that the current and configuration of the harbor are the cause of this.

The anchorage<sup>used</sup> by the power schooner " King & Winge " was in 12 fathoms soft bottom about equal distances from the southeast end of Southerly Island, the northern point of the small island south of Southerly Island, and the low water line on the eastern side of the harbor.

Baht Harbor; or "Little Baht Harbor, so called by this party to distinguish it from the large indentation on the north side of Zarembe Island, is frequently used by small craft during southeast gales, which lie here to wait the abatement of the winds before crossing Stikine Strait. The anchorage was used by the King & Winge on several occasions. There is seven fathoms soft bottom with just enough swinging room off the mouth of the small creek shown on the topographic sheet. There is considerable current flowing through. This is caused by eddies from the current out in the Strait. Drift logs were noticed to circle the larger Island again and again. For this reason, and because the eddies appear to collect much heavy timber among the drift, it is not recommended for an anchorage except in case of emergency. AC

The bight called Baht Harbor on Chart 8200 was not used by this party. A rocky shoal with 16 feet over it was found in the eastern part of this bight, (see under shoals.)

Woodpecker Cove is a small indentation on the south side of Mitkef Island used by small launches. Anchorage can be had in twelve fathoms well inside the entrance, or for small craft in less water close to the flat at the head. It is too deep for good anchorage except as shelter for small craft from the Stikine winds. See topographic sheet.

Conclusion:-

This survey required a deal of detail work. Other channels opening into Sumner Straits made it necessary to do a great deal of overlapping. The force and counter direction of the tidal currents in the vicinity of Vichnefski Rock explains the necessity for using a short drag that could be controlled so as to cover the area desired. Even in some instances with a short drag, it was necessary to make special drag strips that overlapped that could not well be avoided.

The scale of the sheet is 1 - 20,000.

The area swept over amounts to 38 square statute miles.

There were <sup>65.4</sup> statute miles of drag lines, <sup>3147</sup> total angles, ~~retained~~  
13 retained soundings.

Approved

*L. O. Colbert*

Assistant C. & G. Survey  
Chief, Wire Drag Party No. 4

*J. J. Joachim*

Assistant, C. & G. Survey  
Compiler

STATISTICSWIRE DRAG SHEET NO. 3910

SUMNER STRAIT SOUTHEAST ALASKA.

Day	No. Angles.	Miles	Retained Soundings.
A	90	2.1	
B	.96	2.4	
C	422	10.0	2
D	239	7.9	
E	372	10.2	
F	221	.5.0	1
G	315	7.8	
H	218	6.0	4
I	348	8.9	2
K	199	8.5	2
L	150	4.6	
M	■	■	
N	25	0.8	
O	331	7.2	2
P	66	2.2	
	<hr/>	<hr/>	13

Area 38 Sq. Miles (Statute)

VEC  
Sept. 17, 1917

HYDROGRAPHIC SHEET 3910.

Summer Strait, S. E. Alaska by L. O. Colbert in  
1916.

LIBRARY  
Place with descriptive report  
of hydrographic sheet No. 3910  
Drawing Section.

U.S.S.U.  
R.S.  
H.C.

TIDES.

	St. John Harbor Feet.	*Wrangell Feet.
Mean lower low water, or plane of reference on staff	4.2	4.6
Mean range of tide	12.5	13.8

\*Height allowance made for difference in the tide at  
Wrangell and at the place of soundings.



## Verification Report of Wire Drag 3910.

The whole area within the working limits of this sheet was well covered. All the records were in good order.

On "A", "B", "L" and "M" days a correction in the tide indexes changed the effective depths by one foot. As this change was not deemed of sufficient importance the value of the depths as originally plotted were left uncorrected.

The depth diagram at position 45° T day was corrected.

An area (north west of St. John's harbor) which on "K" day was swept by 30 ft. shows that on "O" day two soundings, 70 and 77 ft. were discovered. This apparent discrepancy may be due to weakness in plotting from the distance angles.

Respectfully submitted,  
Don. Bae,  
Lieutenant

802

ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO.

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

SECTION OF FIELD RECORDS.

Report on Wire Drag Sheet No. 3910

Surveyed in 1916.

Chief of Party: L. O. Colbert

Surveyed by L. O. Colbert  
Instructions dated Feb. 26, 1916.

Protracted and inked by Field Party

Verified and Area and Depth Sheet by A. Baer.

1. The depth and extent of dragging satisfy the specific instructions.
2. The least water was found on all shoals discovered.
3. The supplemental hydrography is suitable for application to the charts.
4. The overlaps are sufficient.
5. No splits were discovered, hence within the geographic limits of this survey no further dragging will be required.
6. Reviewed by A. L. Shalowitz, July, 1922.