

3921

Diag. Chart No. 8201-2

C. & G. SURVEY
L. & A.
FEB 23 1917
Acc. No.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State *Alaska*

DESCRIPTIVE REPORT

Hydrographic Sheet No. *3921*

LOCALITY:

*Blake Channel
and Bradfield
Canal*

191*6*

CHIEF OF PARTY:

S. O. Colburn

3921

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. 3921

State S.E. Alaska

General locality Blake Channel, and Bradford Canal

Locality From Neptune Island, Blake Channel to Deer Island, Ernest Sound

Chief of party L.O. Colbert

Surveyed by L.O. Colbert

Date of survey Sept 28. to Oct 9

Scale 1/20,000

Soundings in Feet

Plane of reference Mean Lower Low Water

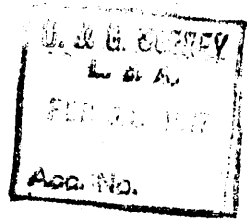
Protracted by N.P.W. Soundings in pencil by N.P.W.

Inked by N.P.W. Verified by A.L. Shalowitz
Lettered in pencil by A.J.

Records accompanying sheet (check those forwarded):

/ Des. report, _____ Tide books, _____ Marigrams, 2 Boat sheets,
 _____ Sounding books, 1 Wire-drag books, _____ Photographs.
 Data from other sources affecting sheet :

Remarks:



DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

E. Lester Jones,
Superintendent.

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET No. 3921

of

BLAKE CHANNEL and BRADFIELD CANAL, SOUTHEAST ALASKA.

by

WIRE DRAG PARTY No. 4.

L.O.Colbert, Chief of Party

1916

Scale 1 - 20,000

Descriptive Report
to Accompany
Wire Drag Sheet No. (9)
of

Page 1
L.O.C. 1916

Blake Channel and Bradfield Canal, Southeast Alaska.

Limits of the Sheet:

From a line spanning Blake Channel about one-fourth of a mile south of Neptune Island, a clean sweep was made with the drag down Blake Channel passing on both sides of Ham Island, and down Bradfield Canal to Ernest Sound as far as Southeast Cove, from which place the work continues on sheet No. (10) of 1916. The drag area extends one and one-half miles east of Ham Island toward the head of Bradfield Canal. The scale is 1 - 20,000.

Depth Dragged:

Except for the east and west passages at Ham Island, an effective depth of 47 feet or more was dragged over the whole area. Except for area very close inshore, 28 feet or over was dragged around Ham Island.

Distance off Shore:

In Blake Channel, owing to the bold shoreline, it was found possible to run the drag to within 100 to 50 meters of the shore in most cases. In Bradfield Canal, with few exceptions, the drag was run to within 100 to 300 meters off shore.

Currents and their Effect on the Drag:

There were two current stations on this sheet; one at a point in Blake Channel about two miles south of Neptune Island, and the other about one mile north, northwest of Ham Island. At the former the following results were obtained;

(1) Ebb tidal current 1.63 knots per hour and 185° (true) direction, and runs for a period of three hours.

Note:- It is likely that the current was from an ebb tide for six hours, and the other three hours from a flooding tide. However, the records do not state that this is so.

(2) Flood tidal current 0.70 knots per hour and 342° (true) direction.

These results do not check the values ^{as} given on chart 8200, however, a longer series of observations might make a material difference.

In dragging over most of this area it was found impractical to drag against the set of the current.

Shoals:

(1) In Blake C

Shoals:

In Blake Channel, in the passage on the west side of Ham Island, a rocky shoal with a least depth of 30 feet at mean lower low water, was found on the following bearings;

Southern tangent Ham Island bears 97° (true) S.E. $5/8$ E. (mag).
Narrow rocky point on Wrangell Island bears 165° (true)
S x W $3/8$ W. (mag), distant 430 meters.

This position plots a little west of the center of the reef, which extends across the channel in a magnetic north and south direction to both shores. An effective depth of 29 feet was dragged over this shoal.

(2) At the entrance to Blake Channel on the east side of Ham Island and about 200 meters from the shoreline of this Island, a rocky pinnacle was found with 7 feet over it at mean lower low water. There was no sign of Kelp. This pinnacle is sharp, with 20 fathoms surrounding it. By keeping a mid-channel course this danger can be avoided. However, it is recommended that the channel on the west side of Ham Island be used.

The pinnacle is located on the following bearing;

Southeast tangent of Ham Island bears 170° (true) S.E. $3/8$ S. (Mag)
The southern end of Ham Island is 300 meters distant.

Adjoining Sheets:

At the extreme northern limits of this sheet in Blake Channel the work is overlapped by sheet No. (8) of 1916, by Wire Drag Party No. 4.

The southern end is continued on down into Ernest Sound on sheet No. (10) by the same party in 1916.

Control of the Survey:

The signals used for this survey in Blake Channel were located by triangulation by Wire Drag Party No. 4. in 1916, while those in Bradfield Canal were located by triangulation by U.S. Steamer Patterson in 1916.

Tide Reducers:

The effective depths and soundings of this sheet were ~~taken~~ reduced ~~from~~ by the tides from the gauge at Wrangell, but corrected to agree with the tides at Ham Island, where simultaneous observations on a tide staff were made for over forty-eight hours. The following relations were observed from simultaneous observations:-

Ham Island low water same in time and height as Wrangell low water.

Ham Island high water same in height and 20 minutes later than at Wrangell.

Coast Pilot Notes:-

While the work was being accomplished the power schooner King and Winge, chartered by Wire Drag Party No. 4, anchored at Ham Island off the marble quarry deck on the west side in 10 fathoms of water. While this small bay at the quarry furnishes good holding ground, it is quite small, and ~~also~~ a vessel has to go in fairly close to the shore to get anchorage, care being taken to keep off the reef extending out from the southeastern point of the bay. There is good protection here from southeasterly or southwesterly storms.

Anan Lagoon:

Humpback On chart 8200 there is a mistake in the position of Anan Lagoon, which should be in the head of ~~Hempstead~~ Bay instead of Anan Bay. This lagoon has a flat muddy bottom strewn with large boulders. It is used at present as a place to moor large cannery barges. The lagoon goes nearly dry at low water.

Owing to the deep depth in ~~Hempstead~~ *Humpback* Bay, little if any anchorage could be had, unless a vessel gets in very close to the shoal extending out from shore, and which borders deep water.

At the Point Ward Cannery there is a good dock, and fresh water can be obtained here. However, this wharf is exposed to the southwest and vessels would not be able to lie along-side during a blow from that direction.

Conclusion:

This survey represents a clean sweep of the area of Blake Channel and Bradfield Canal between a point one-fourth mile south of Neptune Island, and Southwest Cove on Wrangell Island.

Statistics of Sheet No. 9

<u>Day</u>	<u>No. Angles</u>	<u>No. Miles</u>	<u>No. Of retained Soundings.</u>
A	252	7.5	2
B	178	4.9	
C	192	10.5	
D	21	1.0	
E	<u>192</u>	<u>4.3</u>	<u>1</u>
	835	28.2	3

Area 20.5 Square (statute) Miles.

Approved

L. O. Robert.

Assistant, C. & G. Survey.
Chief of Party

A. Joachims

Assistant, C. & G. Survey
Compiler.

RIL

REFER TO NO.

5-LAC

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

September 27, 1917.

Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 3921

Blake Channel, S. E. Alaska
L. O. Colbert in 1916.

Plane of reference is
Mean lower low water, reading
4.6 ft. on the tide staff at Wrangell*.

*Allowance made for difference in
the tide at the place of sounding.

L. P. Shidy

Acting Chief, Section of
Tides and Currents.

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

April 14, 1921.

Verification of Hydrographic Sheet No. 3921.

By A. L. Shalowitz, Hydrographic and Topographic Draftsman.

The records for this sheet were clear and distinct and no trouble was encountered in interpreting them. A slip was made in naming stations TIDE and KUN. These correspond to stations LID and KEEN on the smooth sheet and in the triangulation records.

It is observed that in entering the end launch positions in the guide launch records, the positions are not numbered. It is the writer's opinion that the practice of numbering each end launch position when it does not agree with the guide launch position would facilitate the verification, particularly in checking the tide changes.

While the smooth sheet was kept very clean, yet the plotting was not too carefully executed. On "C" day in many cases 67 meters was used for the towline length in plotting instead of 97 meters. Only at critical places did the verifier change the plotting, as for instance the strip from 10 C to 14 C. In general the smooth sheet plotting was accepted as the difference was not great enough to really matter.

In plotting the bight of the drag whenever a tide change occurred, the plotter was not very careful in connecting the guide launch position with the corresponding end launch position as regards time. The position immediately preceding or following was usually used. The verifier did not change it on the smooth sheet as it was not considered worth while since the present practice is to show only tide changes of every five feet over an effective depth of 50 feet.

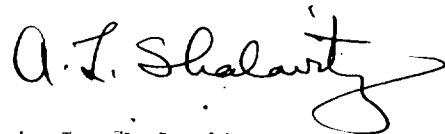
In verifying the strip from 18 E to 27 E a discrepancy was noted between the plotted positions and the verified positions. The difference was constant and an examination revealed the fact that another location for Δ ANY was used; shown on the smooth sheet in pencil. The two locations for the same point was occasioned by the difference in the triangulation of Captain Colbert which was carried down Blake Channel and Captain

Quillian's triangulations carried up Ernest Sound. The two schemes connect on a line \triangle AID --- \triangle ANY. The difference in determination was probably due to the carrying of the azimuth through a series of narrow passages. The plotter used Captain Colbert's location for \triangle ANY and the verifier used Captain Quillian's determination. The maximum difference was 30 meters and after a consultation with the Chief of Field Records and Captain Colbert it was not considered worth while changing particularly since we do not know exactly which location is correct.

At the point where 20 E crosses 11 C there is a very small overlap and since the discrepancy caused by the difference in the triangulation occurs around this section, it is the writer's opinion that an additional strip should have been run across this area.

At position 2 A the records note that the engine stopped and the line ends. At position 3 A the line begins. The smooth sheet does not show a continuous line. However, since the drag was not taken up it drifted while the engine was being overhauled and moreover the distance between 2 A and 3 A being so small we can consider 2 A and 3 A joining in a straight line, although the launches may have followed a zigzag course. The verifier joined these two positions on the smooth sheet in order not to indicate a split.

A very small split occurred in Blake Chamel about 1500 meters northwest of the northern end of Ham Island. No mention of this is made in the Chief of Party's descriptive report.



A. L. Shalowitz,
Hydrographic and Topographic Draftsman.

8.0.8.

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 OF WIRE DRAG SHEET No. 3921.

Surveyed in 1916.

Chief of Party: L. O. Colbert.

Surveyed by L.O. Colbert, Instructions dated Feb. 26, 1912.

Protracted and inked by N. P. White.

Verified and Area and depth sheet by A. L. Shalowitz.

1. The extent of dragging satisfies the specific instructions, although from an inspection of the sheet and chart it would seem that between TAR and UNG the drag could have been run a little closer inshore.
2. The least water was found on all shoals discovered.
3. The overlaps are sufficient except as shown on the A. & D. sheet.
4. The split shown on the A. & D. sheet is of too small extent to necessitate any additional work in this vicinity, so that the area included in this survey may be considered as entirely complete.
5. Reviewed by A. L. Shalowitz, June, 1922.